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Bridging the Tiber: Movement, Space and Experience

By Catherine Hoggarth

A thesis submitted to
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Doctor of Philosophy

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ABSTRACT

This thesis details the development of the Tiber bridges of Rome up to the first century BC. It is the first study of the bridges which has applied a new methodology, based on philosophical and spatial theories, to augment the existing literary and archaeological evidence in order to move beyond the study of form and function. It establishes that the bridges spatial development was founded on patterns of movement and access, which over the *longue durée* resulted in bridges becoming tools of urban development.

Through the application of embodied perception and meshwork, this thesis demonstrates how the bridges' materiality was appropriated to create a temporal flow of correspondence which reflected Roman cultural values and was able to bring the past into the physical present. The mutability of Rome's monumental bridges created familiarity of form which became part of the physical and embodied framework of the city for its inhabitants.

This thesis redefines the relationship between the bridges and the city of Rome, transforming them from the merely functional into meaningful elements of the socio-cultural life and urban development of Rome.

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1. Introduction

This thesis is about bridges; specifically, the bridges built up to the first century BC, which crossed the Tiber River within the urban and peri-urban city of Rome. It is about the movement and social interaction which those bridges created, and their role within the processes of the city's spatial production over the *longue durée*. It seeks to demonstrate the transformative and communicative aspects of the bridges through their temporal alteration of movement and rhythm, habit and perception. This thesis asks new questions of the bridges, questions which encourage their consideration beyond their structural and functional form and act to reposition them within the study of the ancient city of Rome. In short, this thesis will explain why the Tiber bridges were not just functional structures or the extension of roads and will argue that they changed concepts of near and far, became a technology of urban production, facilitated the continuation of social identity and were employed in the creation of new political ideologies. The Tiber bridges of Rome were monumental and legendary structures which represented the experience of Rome from both land and river; this thesis will show why they should no longer be ignored within the study of the ancient urban landscape of Rome.

The bridges of Rome have been overlooked in almost every major study of the Roman Empire's capital city, and while there has been a general recognition that they were important structures from a technological and engineering perspective, there has been little attempt to gauge and explain their social and cultural significance within the city.¹ This thesis will redress this disparity by looking to sensory, spatial and urban studies to create a new understanding of the role of the bridges within the urban morphology of Rome. To do this effectively, it will situate the bridges within their temporal and contextual landscape and focus on the 'lived' experience of Rome. It will identify the connection between the people, things (in this case bridges), and the world.²

¹ The exception is Galliazzo, 1995, who attempts to situate the bridges within their wider context but is hampered by the volume of material he is attempting to deal with; nine hundred remaining Roman bridges. The observation about amassing evidence and not gauging its significance comes from Morris, 2005, 45, which was highlighted by Laurence, 2011b, 400-401, in his discussion about the future of the study of movement and mobility in the ancient world.

² Ingold, 2010, 4, following Heidegger 'The Thing' describes the thing in relation to the object; an object is presented in our perception as complete and related to thought and study. A thing is an interaction, a gathering

This thesis will employ a set of interconnected phenomenological and spatial theories, based on an embodied and holistic approach in order to move beyond the traditional Cartesian subject-object dichotomy, which promotes empirical analysis of structures. Studying the bridges from an empirical perspective limits analysis to materials and form, telling us little about their social and cultural impact; for example, it cannot tell what effect the addition of a stone bridge may have had on the city's inhabitants or why a wooden bridge was retained into the fourth century AD. The challenge for this thesis is to demonstrate that the bridges were more than functional static objects which did not change over time, but meaningful 'things' within the context of their corresponding temporal relationships. The bridges were things created and experienced by many different generations in a multiple of different ways.

This thesis will focus on the meaningful aspects of the bridges' sensescape through a consideration of Lefebvre's 'lived' space and Merleau-Ponty's embodied perception which will be drawn together through a meshwork of correspondence to trace the bridges' meaning through time.³ These sensory approaches will demonstrate that bridges were more meaningful to the Roman city than previously recognised. It will show that they had a role in the creation and continuity of the shared social and cultural identity of the city. Meaning exists, Merleau-Ponty contends, 'in the space between people'; it is not in the things themselves or even in the people but in the ever-present flows of meaning which swirl around them.⁴

Movement acts as the connecting element and is at the centre of the 'bridges' function and meaning. Across disciplines, attempts to understand the relationship between people and things have resulted in new ways to recognise and trace Rome's correspondence with its bridges.⁵ When setting foot on a bridge a myriad of signals, not limited to the visual and aural,

of flows which is in correspondence with other flows or threads, it has fluidity which an object does not. Referring to a bridge as an object also returns to the subject object dichotomy this thesis is trying to move away from, therefore the term 'thing' will be used to refer to the bridges to reflect a more dynamic and interconnected approach, as well as the multiple roles the bridges can have over time. See also Knappett, 2005, and Hodder, 2012, 7-8.

³ For a discussion of the theory and methodology used by this thesis see chapter 2. The main references are Lefebvre, 1991; Merleau-Ponty, 2012; Ingold, 2010.

⁴ Matthews, 2006, 66.

⁵ See chapter 2 for the theories that inform this thesis.

are transmitted through the body, creating a kinaesthetic experience which informs the body that the bridge stepped upon is different from the road travelled. In a recent experiment, sensors were attached to the Clifton Suspension bridge in Bristol to record the movement of the bridge. The vibrations recorded were then translated, by a specially built harp, into sound. The music of the bridge encompassed every different vehicle, walker, jogger, or animal that crossed the bridge. It was an innovative way of translating the experience of the bridge, moving into a new medium which brought it out of the subconscious.⁶ Crossing a bridge is not the same as walking along a road; irrespective of their materiality they all suspended the traveller in the between; the experience is registered and translated with every step into signals which determine the bridge experience. These signals tell us if the bridge is safe to step onto, they also create a liminal experience, which ensured that bridges became natural magnets for the deposition of votive offerings.⁷

It is also essential to demonstrate that bridges can have meaning beyond their functional role. The Stari Most bridge which crosses the river Neretva in the city of Mostar in Bosnia and Herzegovina, connects the two halves of the city, the Croatian west and the Bosnian east. During the Bosnian war in 1993, the sixteenth-century Ottoman bridge was destroyed by Croatian military forces. The bridge had provided a 'dependable passage' temporally and between cultures and its loss constituted 'a terrible violation of memory' for the inhabitants of the town.⁸ The bridge represented more than a connection: it embodied a shared heritage, a reminder that peace and co-existence were possible between multiple cultures. The town which had been split politically by war was physically divided by the loss of the bridge; its destruction altered the perception of the town and the possibilities for a continued multicultural living; it robbed the people of Mostar of their identity as 'bridge keepers.'⁹ After the war, the reconstruction of the bridge was deemed so vital to healing the 'economic and social damage of the war' that a coalition including UNESCO and the World Bank were created

⁶ Gunner, et. al., 2017. The project sought to analyse the way the bridge moved under the impact of pedestrian and vehicular traffic. <https://www.bristol.ac.uk/news/2017/october/harp-bridge.html> which also has links to the audio recordings from the bridge.

⁷ See chapter 4, section 4.

⁸ Petrovic, 2012.

⁹ Forde, 2016; Petrovic, 2012 and the UNESCO world heritage site <http://whc.unesco.org/en/list/946> for detailed information on the project.

to facilitate and oversee its reconstruction. Echoing the multiple re-constructions of the Pons Sublicius, the bridge was rebuilt to mimic its original form. The people of Mostar fought for the reconstruction of the bridge using as much of original materials and techniques as possible in order to retain its authenticity.¹⁰ The Stari Most bridge, like the Pons Sublicius, transcended its functionality to become an important part of a town's cultural identity; through their materiality and re-construction both bridges became an authentic part of peoples experience and understanding of both their own identities and of the spaces which they inhabited, both bridges bought the past into the present.¹¹

The bridges represent more than a single entity: they are at the centre of a totality of things which form a meshwork stretching far beyond the riverbanks and roads to which they connect. In Rome, the central and enduring role of the bridges within these wider networks created socially constructed patterns of movement which were critical to an expanding city undergoing a spatial transformation. Therefore, an analysis of the process of spatial creation is of primary importance within this thesis; cities are spaces of movement, how people move through and adapt city space tells us much about how they understood and related to their world. The alteration of bridges from the functional to the monumental represents a change of focus and identity within the context of the wider city and its development.

1.1. Research Questions

This thesis aims to advance the study of bridges within the city of Rome by engaging with several key questions which examine the significance of movement and change in relation to the bridges within the urban morphology of the city:

¹⁰ Forde, 2016.

¹¹ For references to the re-building of the Pons Sublicius see chapter 3, section 1. For the experience of the Sublicius see chapter 4.

- Can the bridges of Rome be approached as a technology of urban production?¹² (Chapter 3)
- What role, if any, did Rome's bridges fulfil within the socio-cultural life of Rome?¹³ (Chapter 4)
- Did the monumentalisation of bridges in Rome help to frame and alter the perception of the city? (Chapter 5)

1.2. Structure of the Thesis

This thesis uses philosophical and spatial theories to assist in the articulation of new ideas and concepts, but all observations are underpinned by the evidence of literary sources, epigraphy and archaeology; theory is used to expand our understanding of the bridges but does not determine the questions which direct this thesis.¹⁴ The biggest challenge for any study of the bridges of ancient Rome is the paucity of new archaeological data. The construction of the Tiber embankments at the beginning of the twentieth century made the discovery of further archaeological material very unlikely. In order to gain new insights into the bridges, it is necessary to take a holistic approach to the evidence and contextualise it within its wider landscape.¹⁵

This rest of this chapter will situate the bridges within their current research context and provide an introduction to each of the structures which will feature in this thesis. Chapter 2 will provide a detailed discussion of the theory which informs the methodological approach

¹² The definition of urban is an extremely complex which reflects the variety of influences and differences in the urban form across time and cultures. This thesis reflects a Western definition as detailed in Hall and Barrett, 2012, 30-54 derived from the notable thinkers on Urban form; pre-industrial urban elements: densely packed often surrounded by fortifications often walls. Multiple use and reuse of plots and buildings for both residential and commercial (workshops, residents and shops all in one). Trading centres with space for exchange and storage of goods. Monumental buildings. Urban form is made up of socio-economic and cultural forces and is always changing usually within a persistent plan. See also Vance, 1990; Carter 1983.

¹³ The discussion of the socio-cultural life of Rome will focus on the shared values, traditions and identity of the inhabitants of the city and the wider Roman community.

¹⁴ For a summary of the main evidence for each bridge see section 4 in this chapter.

¹⁵ However, hope remains for the spaces which the bridges occupied and in the archaeological excavations and coring conducted over the course of the last thirty years which is steadily increasing the knowledge of Rome's early riverside history in the area around the Forum Boarium; the implications of these findings will be discussed in detail in chapter 3.

which underpins this thesis. Chapter 3 will focus on the role of bridges in the production of urban space. It will analyse the different processes of spatial production for two of the city's bridges and discuss the ramifications for its urban development. This chapter will also highlight the importance of the landscape and rhythm change to any discussion of bridges within an urban environment. Chapter 4 examines two of Rome's bridges within the socio-cultural life of the city; focusing on the meaningful aspects of the bridges through consideration of 'lived' space and embodied perception, both of which will be drawn together by a temporal meshwork of correspondence.¹⁶ Taking a sensory approach to the material and literary evidence, it will demonstrate how studying the bridges within their contextual and sensory landscape can reveal how they played a role in the creation and continuation of Roman collective values and identity.¹⁷ In summary, this chapter will identify traces of how the bridges were perceived and how they fitted into the inhabited spaces and places of the city.

Chapter 5 focuses on how the monumentalisation of bridges helped to frame and alter the perception of the city. The unity of perception experienced by the embodied experience is critical to this chapter in order to demonstrate how the addition of inscriptions and statues changed the perception and the meaning of the bridges. The rebecoming of the bridges through the alteration of their conceived spaces assisted in the creation of a new identity for the city of Rome and its inhabitants, re-defined their social understanding and allowing for new expressions of power and celebration. This chapter will argue for the inclusion of bridges within the study of the monumental *urbis*.

1.3. Research Context: The Current Research on Rome's Bridges

The study of Rome's ancient bridges entails all the archaeological challenges of accessing a city buried beneath two thousand years of continued occupation, with the additional

¹⁶ The term *sensescape* is detailed in chapter 2 but for the purposes of clarity it replaces *landscape* in the sensory sections of the thesis. *Landscape* has predominantly visual characteristics giving *sensescape* a more holistic representation of the spaces around the bridges which encompasses embodied perception. See chapter 2 for more detail.

¹⁷ See chapter 2 for a detailed discussion of the methodology for this thesis.

challenge of river-based archaeology.¹⁸ The surviving stone bridges have been the subject of multiple rebuilds and repairs along with the loss of ramps, adornments, arches and inscriptions.¹⁹ Archaeological evidence of the wooden bridges has proved even more elusive in a river which has been dredged and modified.²⁰ Identification of artefacts which can be conclusively associated with the bridges, such as statuary or votives, is difficult due to the possibility of the river moving artefacts downriver or deposition from the banks, to which we can also add artefact loss from rivercraft.²¹ Finally, in the late nineteenth century, the introduction of the Tiber embankments (*muraglione*) fundamentally altered the Tiber banks precluding any further opportunities for archaeological excavations of the banks around the bridges. Despite these challenges, the bridges have still provided ample material for analysis.

A study of the Tiber bridges was undertaken in the late nineteenth and early twentieth century as a result of the construction of the Tiber embankments, in what we would describe today as rescue archaeology. Large areas of the banks were removed and sections of the Tiber diverted to facilitate the work which offered archaeologists a chance to examine the areas

¹⁸ Ammerman, 1990, on the difficulties of accessing the lowest layers in Rome under the water table. Vos, 2011, 116-121 describes the difficulties and challenges in locating and accessing the remains of bridges in busy urban rivers. Lanciani, 1897, on the problems even when the river was diverted.

¹⁹ See the sections in this chapter on the individual bridges for specific details. There is also a note of caution to be added here; the remains of Roman bridges should not be approached as being in their original form (see O'Connor, 1993, 40 on the Pons Fabricius). We can be reasonably certain about pier remains and the size and arches of a bridge but the adornment and even look of the bridge is open to interpretation. The term 'original' has to be qualified; in the case of the Pons Fabricius we know it was damaged early on in the floods of 21 BC, but we do not know the extent of the rebuild. This is the same for any of the other bridges, the form we see now has been patched and repaired repeatedly like the infamous ship of Theseus. The Theseus Paradox relates to the Greek preservation of the ship of Theseus (a Greek hero) which was preserved by having all its decaying planks replaced by new wood. This spawned the philosophical debate (Mentioned in Plutarch in the first century AD) is spawned the debate about whether an object or thing can still be considered as the same or original if it has had many of its component parts replaced (Plut. *Thes.* 23); in Britain this is often referred to as the 'Trigger's broom' conundrum. While bridges in Rome may be very close to their original form (Pons Fabricius) caution is needed when making such statements.

²⁰ See chapter 3, section 1.

²¹ Discussed in chapter 4, section 4. The material layers of the river do not have the stability of land-based archaeology as the banks and bed of the river are continually shifting due to natural and man-made erosion. This means that the resting place of artefacts could be far from their original deposition place making it difficult to connect them conclusively to the bridges. Laurence, 2011, 401. Lanciani, 1897, in exceptional circumstances it is possible to connect the bridge to artefacts as was the case with the superstructure of the Pons Valentinian which had fallen in a whole section consisting of the balustrade and commemorative arch. Inscriptions and placement directly connected the finds to the bridge.

around the banks and bridges.²² The archaeological reports from this period were published in the *Notizie degli scavi di antichita (Not. Scav.)* and the *Bullettino della Commissione Archeologica Comunale di Roma (Bull. Com. Arch.)*. Italian archaeology as a discipline was in its infancy when both the *Not. Scav. and Bull. Com. Arch.* were set up to document new archaeological finds in Italy and Rome. The publication represented a step forward in the publication of archaeological sites/finds but was still a long way from the systematic archaeological reporting of today. Rather than listing finds by single sites or structures, finds were published in monthly reports which gave short and descriptive entries and drawings of finds. However, this method fractured the understanding of single sites and the connection between finds. Today, searching for individual information on the bridges in those early journals is still a time consuming and challenging task. In the case of the bridges, the journals demonstrate a focus on the larger objects such as statuary and marble and the short descriptions reflect the limited stratigraphic analysis so critical in modern archaeology. However, the journals did reflect the thoughts and experience of the archaeologist on site, which while (with hindsight) not always accurate added a valuable element of subjective supposition and sensory reflection which is often missing from modern factual and objective reporting.²³

During the same period, Rodolfo Lanciani published several works including *Ancient Rome in the light of recent discoveries* and *The ruins and excavations of ancient Rome* which gave a detailed overview of the archaeological sites of Rome, including the city's topographic features which included the Tiber and its bridges.²⁴ His most famous work is the *Forma Urbis Romae*, a detailed archaeological map of Rome made up of forty-six separate maps and included both modern and ancient details and find references.²⁵ Despite being over one hundred years old, the map is still a valuable source of reference for the river and its banks. It is the only complete representation of the city which maps all the riverside archaeology including the footprint of the bridge piers and the riverside *cippi* before the creation of the

²² Lanciani, 1897.

²³ See Lanciani, 1888 and 1897, who frequently added his subjective experience of Rome to the excavations and archaeological artefacts.

²⁴ Lanciani, 1888 and 1897.

²⁵ Lanciani, 1990-2007.

Tiber embankments.²⁶

Samuel Bell Platner and Thomas Ashby's *Topographical Dictionary of Ancient Rome* was published in 1929 and included a biography of each of the Tiber's urban bridges with relevant literary references. The Pons Aemilius listing is a typical example: 'According to Livy (40.51.4) M. Fulvius Nobilior when censor in 179 B.C. contracted (undoubtedly with his colleague M. Aemilius Lepidus) for the placing of '*pilas pontis in Tiberi*', and P. Scipio Africanus and L. Minucius, the censors of 142 B.C., built arches..on these piers.'²⁷ This topographical format was updated and expanded in 1992 by L. Richardson's *A New Topographical Dictionary of Ancient Rome* and again between 1993-2000 with Eva Margarete Steinby's *Lexicon Topographicum Urbis Romae (LTUR)*.²⁸ These topographical dictionaries are the first point of reference for anyone starting research on the city of Rome. However, they do have limitations for the study of the bridges. Rome's structures are listed in alphabetical order, placing the bridges together rather than within the context of their surrounding landscapes. They treat the bridges as isolated elements furthering the disassociation from their surrounding spatial and social context. The dictionaries also take the area of Rome to be that which falls within the immediate proximity of the Aurelian walls which excludes the Pons Mulvius, however, the *Lexicon topographicum urbis Romae: Suburbium* does cover the bridge.²⁹ The topographical books are essential reference works, but they create a fractured perspective of Rome which fits into typologies of monuments, infrastructure, buildings and fixed boundaries rather than a contextual, holistic and connective view of the city. To this end, Amanda Claridge and Filippo Coarelli's archaeological guides of the city provide an overview of the different sections of the

²⁶ A *cippi* is a boundary marker. The map is now 100 years old and does not reflect the multitude of discoveries which have been uncovered during that time or the reassessment of site identification based on advances in archaeological techniques. For the purposes of the study of bridges, little has changed in terms of the finds, which still make it a very valuable tool if used with caution and with updated topographical information to hand. It is still the only detailed archaeological map of Rome which can be easily spread out on the floor or wall in order to observe the whole city.

²⁷ Platner & Ashby 1929; a section of the entry of the Pons Aemilius.

²⁸ Platner & Ashby 1929; Richardson 1992; Nash, 1968. This series also includes a number of supplements including M.A. Tomei and P. Liverani's *Lexicon topographicum Urbis Romae. Supplementum. I, Carta archeologica di Roma* which details, on maps, archaeological find spots for the city.

²⁹ Steinby *Lexicon Topographicum Urbis Romae* omits it, and it is in La Regina's *Lexicon Topographicum Urbis Romae SUBURBIUM* M-Q, 76-77.

city which situates the bridges within their urban context.³⁰ Marion Elizabeth Blake's work on Roman construction also provides a detailed assessment of Roman construction practices across the city. While some of her assumptions have been challenged, such as her dating of concrete, it is still an invaluable work for comparison of building techniques and dating.³¹ Lugli's *Fontes ad topographiam veteris urbis Romae pertinentes* provides a dated but still an invaluable list of literary and epigraphic references for the structures of Rome.³²

The most recent topographic work to cover the whole city is Andrea Carandini's *The Atlas of Ancient Rome Biography and Portraits of the City*, which employs a regional and interpretive approach to the city. The bridges are considered as part of their surrounding landscape and set within their historical context. However, the commentaries relating to the bridges in the Forum Boarium rely heavily on the literary information and reconstruction of the bridges from their depictions on coins.³³ The updated maps provide useful references for the bridges and in particular the reconstruction of the Tiber banks and the Temple of Portunus with its multiple layers. The choice to include the maps within a book rather than as separate maps, as with Lanciani, limits their use, making it difficult to map areas which cross pages; the planned web version of the atlas should greatly reduce this issue.³⁴

There are three works which make up the primary references for any study of Roman bridges.³⁵ Piero Gazzola's 1963 two volume *I Ponti Romani* which included a systematic study and cataloguing of Roman bridges and an in-depth study of the Ponte Pietra in Verona. Colin O'Connor's 1993 *Roman Bridges*, and the 1994 and 1995 two volume *I Ponti Romani* by Vittorio Galliazzo. Gazzola, an architect, led the way and was the first to attempt a catalogue of Roman bridges from across the Roman world. Gazzola understood that the value of the bridge resides not just in its architecture but as part of a network of roads connecting to the wider landscape. O'Connor included a brief overview of each of the most notable Roman

³⁰ Coarelli, 2007; Claridge, 2010.

³¹ Blake, 1947-1973. On Concrete Davies, 2014 and Mogetta, 2015.

³² Lugli, 1952-1962.

³³ Carandini, 2017, Vol. 2 Tab. 254.

³⁴ Carandini, 2017 is a revised and updated English version of the Italian Carandini, 2012, for a discussion updated sections and issues with translations see the BMCR review, Smith, 2018.

³⁵ It should be noted that these works are pulling information from the earlier work of the Italian journals as listed above but also work by Delbrück, 1907 and Jordan, 1907.

bridges from across the Roman empire. He was a self-confessed admirer of Roman bridges, many of which he visited for his study.³⁶ The work included biographical information for each bridge and informative sections on arch construction and the development of bridge from wood to stone, but the analysis was restricted to form and structural detail. It is the only English work which focuses on Roman bridges outside of Britain, and like Gazzola provides a valuable text for locating and comparing architectural data on Roman bridges.

Galliazzo's work is by far the most comprehensive analysis of Roman bridges to date. Split over two volumes, it provides a summary of over nine hundred bridges split by country. In the first volume, the focus is on bridges within their regional and temporal context and covers early wooden bridges through to the stone and combination bridges.³⁷ It also includes sections on bridge building through time from European prehistory to the Roman period including valuable overviews on the creation of wooden and stone bridges. Alternative ways to cross rivers such as fords, ferries and swimming are also examined to demonstrate the impact of adding a bridge to the landscape. Galliazzo also recognised as objects which were used as symbols of power and control by the Romans.³⁸ Bridges in both urban and rural context and recognises the social aspect of bridges.³⁹ Many of the bridges with extensive remains he covers in detail interpreting the process from planning to completion including the Pons Aemilius. Crucially he acknowledged that the bridges were not static structures but were continually changing both physically and experientially within their environment. Due to the expanse of material and the size of the subject tackled his discussions are generalised rather than focused on specific examples, but this work represents the critical first step toward a more contextual understanding of the bridges.⁴⁰

Louise Holland's *Janus and the Bridge* primary focus is linking the deity of Janus to the city's first bridge, which she argues was not the Pons Sublicius but a structure crossing the Tiber

³⁶ O'Connor, 1993.

³⁷ Galliazzo, 1994-1995 though it the hardest to gain access to with only five copies currently available to the public in the UK. He also included aqueducts, which have a different function to bridges, moving water rather than traffic; though some do have dual capacity.

³⁸ Galliazzo, 1995, Vol.1.

³⁹ See note 31.

⁴⁰ Galliazzo, 1994-1995. Galliazzo's work does not gain the recognition it deserves, partly due to the difficulty in obtaining a copy of the work, in England there are currently only three available library copies.

island.⁴¹ Holland's work is invaluable to any consideration of the Tiber and its early bridges as she approaches the bridge indirectly from a spatial perspective. She argues for its placement based on movement between the hills and the river and places the bridge within the ritual context of the city. Arguing that the bridge represented a Janus which allowed the crossing of the Tiber without individual votive offerings.⁴² Together with her husband, Holland undertook a raft trip down the Tiber to consider the problems of sailing and landing along the riverfront; this was an experiential journey which raised the issues of the difficulties of landing a boat along the Tiber and the challenge of its currents. While this thesis disagrees with her conclusions about the Tiber island being the first bridging point and her assessment that the Tiber was a barrier to trade rather than a facilitator, it agrees that the first bridge was a principal element in the movement of trade in early Rome.⁴³

Alison Griffith's article on the transformation of the Pons Sublicius from architecture to a symbol of the Roman state is, like Holland, one of the few articles which approach the bridge within the social and ritual aspect of the city. She argued that the retention of the bridge in wooden form maintained social meaning in a similar way to the hut of Romulus and discussed the importance of the exclusion of iron from the bridge. Griffith also provides a comprehensive analysis of the evidence for the construction and placement of the Pons Sublicius situating it in the context of Julius Caesar's Rhine bridge.⁴⁴

Pier Luigi Tucci attempts to reconstruct the placement of the Pons Sublicius based on a study of the fragments of the *Forma Urbis Romae (FUR)*, the Severan marble plan, between the Aventine and the Capitoline. His argument is used in this thesis to demonstrate how a spatial and sensory approach can add significantly to the study of maps and literary sources when the evidence is sparse and ambiguous. Tucci is one of the few scholars who have attempted to place the bridge based on the known road system of the city.⁴⁵

⁴¹ Holland, 1961. See also river crossing chapter 3 and 4.

⁴² Holland, 1961.

⁴³ Holland & Holland, 1950 and Holland 1949. Principally on the premise that the river could not be forded on foot and the banks were difficult to overcome to reach land. She does not recognise that this is a different Tiber to the one which ran through ancient Rome, though the observation about the banks is well founded. Holland's trip and its implications will be discussed further in chapter 3.

⁴⁴ Griffiths, 2009; Edwards, 1996.

⁴⁵ Tucci, 2011.

In 1953, Joël Le Gall published the first comprehensive study of the Tiber *Le Tibre: Fleuve de Rome dans l'antiquité* and *Recherches sur le culte du Tibre* which focused on the river's religious history, he aimed to study the relationship between the Tiber and both the people and the morphology of Rome.⁴⁶ Le Gall utilised the '*les Verbali manuscrits conservés au Musée des Thermes*' which recorded the artefacts found during the construction of the Tiber embankments. He was the first person to put all the Tiber finds into context, questioning early assumptions and providing a solid platform for future analysis. He was able to reconstruct several phases of river development and documented all the *cippi* found along the banks of the Tiber to build a picture of river management during different periods of Rome's history. What makes Le Gall's work significant for this thesis was his discussion and interpretation of the evidence for each of the Tiber's bridges, which he recognised were an integral part of the relationships between the city and the river.⁴⁷ Despite Le Gall's focus being on the Tiber rather than the bridges, his work is the first port of call for studies of the Tiber and one of the most referenced works in the study of the bridges of the city.⁴⁸

Following Le Gall, Gregory Aldrete's *Floods of the Tiber in ancient Rome* provides a comprehensive insight into how the city dealt with the threat of the Tiber. He connected the addition of the bridges to the problems of flood management in the city and highlighted the connection between serious floods and the destruction of the Pons Sublicius (the wooden bridge).⁴⁹ Brian Campbell, like Aldrete, focused on the Roman relationship to rivers, which includes a detailed section on the Tiber which included its bridges. Following Le Gall, he discusses the role of rivers in the socio-cultural world of Rome, providing a valuable reference for rivers in Roman life.⁵⁰

Robert. B. Lloyd's paper on *The Aqua Virgo, Euripus and the Pons Agrippae* traces the path of

⁴⁶ Le Gall, 1953a and 1953b.

⁴⁷ Le Gall's work is not without its flaws; his location for the *Navalia* is problematic and failed to include the most up to date work on the river at the time including Holland 1961 and Blake, 1947. He is still one of the primary references for the study of the Tiber and its infrastructure in Rome, suggesting that a re-evaluation is long overdue.

⁴⁸ For example, O'Connor, 1993; Galliazzo 1994-1995; Taylor, 2000; Tucci, 2011; Davies, 2017; Carandini, 2017.

⁴⁹ Aldrete, 2007.

⁵⁰ Campbell, 2012, in particular 215-219, 309-320.

the waters of the Aqua Virgo after the Thermae Agrippae.⁵¹ His analysis of bridges is focused on the Pons Agrippae which he linked to the ruined piers upstream of the Ponte Sisto, allowing the bridge to carry the Aqua Virgo across the Tiber. Rabun Taylor also provides a detailed analysis of the water distribution system and links it to the city's urban development, successfully demonstrating the importance of the aqueduct system in Rome.⁵² He has referenced the bridges on several occasions and provided a detailed topographical examination of the Farnesina bridge and the Pons Valentinian in order to determine which bridge carried the Aqua Virgo into the Transtiberium. It is the first work since Le Gall to examine the Tiberscape in such detail, but as with Lloyd, Taylor only considers the bridges in their role as possible carriers of aqueducts.

In *The trophy on the bridge and the Roman triumph over nature*, Fred Kleiner connects the monumentalization of the bridges in Rome to that of the provinces through the analysis of coin images. Uniquely, he recognises the bridges could be perceived as a triumph over nature as well as demonstrating the power and technical capabilities of Rome in the provinces. It is currently the only work which situates the bridges within the city's monumental urban morphology.⁵³

Two pieces of work which studied bridges in a different context were particularly influential for this thesis. The Museum of London monograph on the history of the London bridge crossing provided the first comprehensive study to document the different iterations of a bridge from the pre-Roman period until the modern day.⁵⁴ This monograph situated the bridge within its wider context and analysed how it transformed the early Thames landscape and facilitated movement to and through the growing settlement of London. It also illustrated how the location of the bridge was the key factor for the retention of its social meaning despite numerous rebuilds. Richard Haw's book on Brooklyn Bridge is a masterful study of the social and cultural history of a bridge.⁵⁵ The work outlined how the changing temporal experiences of the bridge shaped the way the city perceived and understood itself within a

⁵¹ Lloyd, 1979.

⁵² Taylor, 2000; 2002; 2014.

⁵³ Kleiner, 1991,

⁵⁴ Watson, Brigham, and Dyson, 2001.

⁵⁵ Haw, 2005.

changing political and social landscape.

1.4. The Bridges of Rome

This thesis covers the bridges constructed up to and including the first century BC; this was a conscious decision based on the effect of the construction of each bridge within the urban spaces of the city; by the end of the first century BC, the bridges of Rome were established elements of the riverine city; the Pons Sublicius was the first bridge to facilitate unrestricted movement across the river; the Pons Aemilius became a technology of urban production and the first conceived monumental bridge; the Pons Fabricius demonstrated the role of written spaces on the bridges and the Pons Mulvius showed how the monumentalisation and adornment of bridges enable the bridge to become representative of a new political ideology. Restricting this thesis to bridges of the first century BC does not preclude forays into their Imperial history, when literary sources are available to provide important evidence for the changing social and cultural understanding of the bridges themselves. Unfortunately, the addition of bridges built during the Empire would have required an expanded discussion of bridge building by Emperors outside the city of Rome; a task which this thesis could not hope to accomplish within its time and word count restrictions.⁵⁶

The following section introduces the six Tiber bridges which were built during the period covered by this thesis; the Pons Sublicius, Pons Aemilius, Pons Mulvius, Pons Agrippae, Pons Fabricius, and the Pons Cestius.⁵⁷ As the aim of this thesis is to avoid studying the bridges for their form and function it will not include the standard references which widely covered detail in the works such as O'Connor, Galliazzo, Richardson and *LTUR IV*. Instead it will position each

⁵⁶ The first bridge to be constructed in Rome after the first century BC was the Pons Aelius in AD 134.

⁵⁷ It is possible that more bridges spanned the Tiber prior to the first century BC; Cassius Dio's (48.33) reference relating to a colleague of Julius Caesar provides a good example 'he had been so greatly advanced by Caesar as to be made consul without even being a member of the senate, and his brother who died before him had been laid to rest across the Tiber, after a bridge had been constructed for this very purpose.' 'ἔς τοσοῦτον δὲ ὑπὸ τοῦ Καίσαρος προήχθη ὥστε αὐτόν τε ὕπατον μηδὲ βουλευόντα ἀποδειχθῆναι, καὶ τὸν ἀδελφὸν αὐτοῦ προαποθανόντα διὰ τοῦ Τιβέριδος, γεφύρας ἐπ' αὐτὸ τοῦτο ποιηθείσης, ζέξενεχθῆναι.' However, it should be noted that the Tiber ran from the Apennine Mountains down to Rome and onto Ostia, it is possible that the bridge he is referring to was not in the bounds of the city. It is more likely that the bridge in question was a temporary wooden bridge which was erected for the funeral and promptly removed. This was a feat which could have been undertaken quickly, especially in the summer months, as Caesar demonstrated with his Rhine bridge. See chapter 4, section 5 on the *Pontifex Maximus*.

bridge in relation their place in this thesis and provide only the information relevant to that aim. Epigraphic references have been added where they do not appear in full elsewhere in the thesis. As the time span is limited to the Roman period, the thesis will not discuss medieval naming conventions or the history of the bridges, unless pertinent, of that period.

As one of the research questions for this thesis is focused on the socio-cultural aspect of the bridges, therefore it is pertinent to establish the experience of a bridge in the western world within the context of the fourth to the first century BC. In the pre-Roman Iron Age period, bridges were often causeways, low-level wooden trackways across marshy ground, or pile structures covering relatively short distances as seen in the evidence for the early bridges found in Britain or the Celtic bridges from the late La Tène period (mid-sixth century BC to first century BC) found in Switzerland.⁵⁸ These types of structures, due to their ease and simplicity of construction, would still have been found across the rural landscape in the archaic period. The East Mediterranean was considerably more advanced in their bridge building capabilities; early stone arch bridges dating from the Mycenaean period include the Arkadiko bridge in Greece are thought to date from between the fourteenth and twelfth century BC, though the Greeks themselves were not notable bridge builders.⁵⁹ The earliest wood and stone bridge to appear in the written records was a wooden superstructure on stone and brick piers over the Euphrates at Babylon built by Nebuchadnezzar between 625-605 BC.⁶⁰ The Persians also built many arched bridges; a twenty voussoir arch with a span of 1250 feet dating from between 350 BC and 400 AD is still standing in Khuzistan at Dizful.⁶¹ The Etruscans were erecting bridges with stone abutments along roads in South Etruria in the sixth century BC, influencing Roman construction through their use of the stone arch.⁶² The

⁵⁸ H. Schwab, 2003. Galliazzo, 1995, 44-45.

⁵⁹ O'Connor, 1993, 1-3 and on timber bridges 141-142. Arch construction had been attested since around 4000 BC in the Tigris-Euphrates valley and was featured at Ptsephon and the Ishtar Gate at Babylon. The Egyptians were including arches within their constructions by the 2475 BC. Bennett, 2008, 1-3.

⁶⁰ Herodotus, 1.186; Dio. Cass. 2.8.2; Galliazzo, 1995, 14-15.

⁶¹ In Iran. Parke & Hewson, 2008, 2-3.

⁶² Ward-Perkins, 1957; O'Connor, 1993; Izzet, 2007; Backe Forsberg 2005, 53-54. It is difficult to estimate how much of an influence the Etruscans had on Roman bridge building as roads and bridges were reused by the Romans, and as with stone bridges, they are difficult to date from their materials alone.

Romans, however, took bridge building to a new epoch, constructing upward of nine hundred bridges across the empire; many of which are still in use today.⁶³

The inhabitants of Rome would have experienced wooden bridges in many forms and they may even have encountered bridges with stone abutments, but wood was still the most familiar bridge material until the second century BC.⁶⁴ Soldiers who travelled with the Roman army campaigning in the east would have had more experience of stone bridges (see above); the censors responsible for building Rome's first bridge the Pons Aemilius had all been campaigning in the east before returning to Rome and commissioning the new bridge.⁶⁵ Their experience of imposing and technically advanced bridges may have been a catalyst for the creation of Rome's first stone bridge and would have certainly changed their perception of how a bridge could be constructed and the effect it had on the experience of a riverine city.

By the first century BC, six bridges crossed the Tiber at Rome from the Pons Mulvius in the north to the Pons Sublicius in the south (see fig. 1) during the period covered by this thesis six bridges were built to cross the Tiber. The Pons Sublicius was the only bridge within sight of the main city for over two hundred years before being joined by the Pons Aemilius in the second century BC. The Pons Mulvius was constructed sometime in the third century BC and reconstructed in stone in the second century BC, but it could not be seen from the city situated within the Servian walls but could be seen from the Janiculum.⁶⁶ During the first century BC, a further three bridges were constructed the Pons Fabricius, Pons Agrippae and the Pons Cestius.⁶⁷ What follows is a directory of each of the bridges and where they feature

⁶³ Galliazzo, 1994, 18-20; O'Connor, 1993, 193. Parke & Hewson, Bennett, 2008, 2-3, the Romans developed the cofferdam enabling them to build piers across rivers before they began adding stone arches. Large piers restricted the width of the river which increases the speed of flow past the piers increasing scour. To counter cutwaters were built to break the water and reduce scour. Roman bridges which are in use today, Pons Aelius and Pons Fabricius for example, have been rebuilt multiple times and bear only a basic resemblance to their predecessors, however, many still stand on the original piers and still retain elements of the early bridges.

⁶⁴ See chapter 4, section 1.

⁶⁵ See chapter 3, section 2, chapter 5, section 1.

⁶⁶ It was, and still is, over two miles along the Via Lata and the Via Flaminia from old Servian walls to the north to the Pons Mulvius. Martial. 4.64 who observed the bridge from the Janiculum.

⁶⁷ To complete the set the Pons Aelius was built in AD 134 in conjunction with Hadrian's Mausoleum. A further two stone bridges were constructed over the Tiber within the city's limits the Pons Probi and the Pons Valentinian in the third and fourth centuries respectively. These bridges fall outside of the time constraints of this thesis and will only be used for reference purposes. In an inscription from AD 365 the management of the banks of the Tiber is referenced along with 13 bridges *CIL* 06, 40793 = *EL*Ostia 138 = *AE* 1975, 00134 [A]<v=B>ei

in this thesis.⁶⁸ All the bridges, with the exception of the Pons Mulvius (which features in the *LTUR Suburbium*, 2001), feature in the topographical dictionaries; Lugli, 1952-69; Platner & Ashby, 1929; Nash, 1968; Richardson, 1991; *LTUR IV*, 1993-2000; Carandini, 2017. Works focused exclusively on Roman bridges and analysed their archaeology and construction in detail are Delbrüeck, 1907-12; O'Connor, 1993; Gazzola, 1963; Galliazzo, 1994-1995. Blake also includes all the bridges in her work on Roman construction 1947-1959 as does Le Gall, 1953.

The Regional Catalogues are two fourth century AD documents, the *Curiosum Urbis Romae* and the *Notitia Urbis Romae*, which give a description of Rome which includes structures and statistics, for each of the fourteen Augustan regions of Rome.⁶⁹ Unfortunately, the bridges were consigned to the appendix along with other general categories such as features of the landscape and obelisks, so they do not provide evidence for the location of the individual bridges. Both sources list eight bridges, and with the exception of the Pons Aurelius, all are securely assigned to a known location or area. The eight listed bridges were; Aelius, Aemilius, Aurelius, Molvius, Sublicius, Fabricius, Cestius et, Probi.⁷⁰ Polemius Silvius the fifth century AD

Tiberis ripas / et pontes tredecim / [q]uos dissimulatio / longa corruperat / et publica dispen/dia requirebant / dd(omini) nn(ostr)i Valentinianus / et Valens triumff(atores) / semper Augg(usti) constitui / fierique iusserunt / regente urbi praefectura / Ceonio Rufio Volusiano v(iro) c(larissimo) / ex praef(ecto) praet(orio) praef(ecto) urbi / iudice iter(um) sacr(arum) cogn(itionum). Based on the Regional catalogues we know that at the beginning of the fourth century there were only eight bridges which did not include the Valentinian; Regional Catalogues: *Aelius, Aemilius, Aurelius, Molvius/Mulvius, Sublicius, Fabricius, Cestius et, Probi*. In the fifth century Polemius Silvius again listed eight bridges two of which have unfamiliar spellings. Polemius Silvius 545.4 Pontes VIII: *Aelius, Aurilius, Aemilius, Milvius, Staricius, Ercius, Gratiani, Probi et Adriani*. The two unfamiliar spellings are either mistakes from copying the earlier calendars or more likely they reflect the language or the area of Gaul in which he resided. For a detailed discussion of Polemius use of unique language see Adams, 2014, 295-300. Polemius also misses the Valentinian bridge which as it was added late could be a simple omission from copying the calendar and not being in Rome. This gives us a maximum of nine bridges. The source refers to thirteen bridges along the Tiber banks must cover the whole Tiber or at least the area of the Tiber from Rome to Ostia and a number of unspecified bridges which are as yet unidentified.

⁶⁸ The details will only include information on the bridges which is relevant to the Roman period.

⁶⁹ Jordan, 1907 for a comprehensive analysis. The date which each catalogue was compiled is unknown but thought to be in the later reign of Diocletian (AD 284 - 305) at the beginning of the fourth century AD or during the reign of Constantine (AD 312 - 337). There is also debate about which catalogue is the older see Merrill, 1906; Jordan; Nordh, 1949; Chastagnol, 1996 for the *Curiosum* and Reynolds, 1996, 211 for the *Notitia* as the older document. There is considerable debate about the veracity of both these catalogues, see Storey, 2002, for a balanced discussion; caution should be applied to their use especially when using numbers quoted in the regionaries. Wallace-Hadrill, 2003, 195-196 on reliability.

⁷⁰ Jordan, 1907 provides the text: Both list the same bridges and toponym, with the exception of the Mulvius/

author of a Julian calendar included a list of bridges but again did not assign them to regions; *Aelius, Aurilius, Aemilius, Milvius, Staricius, Ercius, Gratiani, Probi et Adriani*. The two unfamiliar spellings are either copying mistakes or more likely reflect the language of the area of Gaul in which he resided.⁷¹ Polemius also omits the Valentinian bridge, which as it was added late in the fourth century AD could have been added later than the work or be a copying omission.⁷²



Figure 1: The Digital Augustan Rome map (<http://digitalaugustanrome.org>) depicting the Augustan city with the placement of the bridges annotated in red.

Molvius which is spelt with an 'o' in the *Curiosum* and the more familiar 'u' in the *Notitia*.

⁷¹ For a detailed discussion of Polemius use of unique language see Adams, 2014, 295-300 and note 65.

⁷² *Pol. Sil. 545.4*.

1.4.1. The Pons Sublicius

The Pons Sublicius was Rome's first and most socially and culturally influential bridge and the most elusive in terms of its archaeological presence. Constructed entirely of wood, it connected the Forum Boarium to the Janiculum for over seven hundred years, through its exact placement is contested and is the subject of detailed analysis in chapter 3. By the first century BC the bridge was considered sacred; all repairs were overseen by the college of *pontifices*, and the ritual of the *argei*, performed every year on the *Ides* of May, concluded on its roadway (discussed in chapter 4, section 4 and 5). The Pons Sublicius was also the stage for one of the city's most famous acts of *exempla*; the defence of Rome by Publius Horatius Cocles (covered in detail in chapter 4, section 2). The retention of the bridge and its proximity to the Pons Aemilius transformed it, in the perception of the city, into 'the' authentic bridge; a representation of the past in the present which will be the subject of discussion in chapter 4.

No archaeological remains of the wooden Pons Sublicius have been identified, which can be explained by their position (in a busy and well dredged urban stretch of river) and erosion, but it is also worth keeping in mind that, if we accept the sources, the bridge was constructed without iron, which may have extended to the tips of the wooden piles which would usually be driven into the river covered with iron shoes; a completely wooden bridge would be even harder to locate than one which had the standard iron shoes.⁷³ All other information known about the bridge has been gained from literary, numismatic and epigraphic sources (discussed in detail in chapter 4).

A single representation of the bridge appears on a Medallion of Antoninus Pius minted between AD 140-143 is discussed in both chapters 3 and 4.

There is also an epigraphic reference related to the bridge, which features in chapter 3:

CIL VI, 1693: [---] / praeff. Prae[torio], / codicari nav [iculari] / infra pontem S[ublicium] / foti auxil[io eius] / patrono pe[c(unia) sua?].

⁷³ See Watson, Brigham and Dyson, 2001, 35-36 for a comparison of remains from the wooden London Bridge.

1.4.2. The Pons Aemilius

The Pons Aemilius was Rome's first monumental bridge; it connected the east bank of the Tiber at the Forum Boarium to the Transtiberium /Janiculum (Trastevere) on the west bank.⁷⁴ In the first century BC Livy recounted that a bridge was constructed in two phases; the piers sunk in or around 179 BC followed by the construction of the arches in 142 BC, but he does not refer to the bridge by name.⁷⁵ The only topographic references we have for the Pons Aemilius are from Varro (first century BC) who referred to the Temple of Portunus as being near the Tiber harbour, 'The *Portunalia* 'Festival of Portunus' was named from Portunus, to whom, on this day, a temple was built at the portus 'port' on the Tiber,'⁷⁶ and the *Fasti Allifani*, dating from the reign of Tiberius (first century AD), referring to the festival of the *Portunalia* (17th August), which located the bridge '*Portuno ad pontem Aemilium*' within the vicinity of the Temple of Portunus.⁷⁷ The two sources connected the Temple of Portunus, the first century BC Tiber harbour and the Pons Aemilius; archaeological evidence for the Temple of Portunus dates the earliest sections to the end of the fourth and third century BC, which fits with the evidence for the *Portunalia* and the existence of a temple in that area (for a discussion of the evidence for the Temple and the harbour see chapter 3, section 2.1). Sources also suggest that the *Portus Tiberinus* (the old Roman harbour near the Forum Boarium) was increasingly reduced and its facilities moved down river, which is inferred the shift in location between the two sources, from the earlier '*in portu Tiberino*' and the later '*ad pontem Aemilium*', altering the landmark focus from the port to the bridge.⁷⁸

Until the late nineteenth century, the bridge known as the Ponte Rotto had connected the east and west bank of the Tiber at the Forum Boarium.⁷⁹ Analysis of its remaining piers and the early phase of the arch, by Delbrüeck and Blake, confirmed a Roman structure but identified two stages of building; an earlier stage oriented slightly to the north comprised of

⁷⁴ The Pons Aemilius was the first stone bridge recorded in Rome.

⁷⁵ Livy, 40.51; 41.27.

⁷⁶ Varro. *Ling.* 6.19. '*Portunalia dicta a Portuno, cui eo die aedes in portu Tiberino facta et feriae institutae.*'

⁷⁷ *Fasti*, XVI Kal. Sept, Allif., ad.d. 17th August CIL I, p217; *Kal. Vall.*, ad d. 17 Aug. CIL I p240; *Kal. Amit.*, ad. D. 17 Aug. CIL I p.244. Degrassi, *Inscr. Ital.* 13.2, 181, 191. *Port(unalia). NP. Fer(iae) / Portuno ad pontem Aemilium, / Iano ad theatrum Marcelli.* Fowler, 1899, 202-203.

⁷⁸ See note above.

⁷⁹ Platner & Ashby, 1929; Nash, 1968; Lugli, 1952-69; Richardson, 1991; *LTUR IV.*

a *Grotta Oscura tufa* core, and the other included a stone spur of *peperino* faced with Travertine. Delbrüeck associated the two phases with the 179 BC and 142 BC dates while Blake suggested the abutment is that of the 179/142 BC bridge, with the arch structure dating from an Augustan reconstruction of 12 AD.⁸⁰ The evidence for an Augustan refurbishment of the bridge was based largely on an arch inscription found in the vicinity of the eastern bridgehead but it did not specifically mention a bridge restoration;

[IMP.] CAESAR DIVI F. AUGUSTUS PONT[IFEX] MAX[IMUS] EX S[ENATUS] C[ONSULTU] REFECIT⁸¹

The addition or restoration of an arch in the locality of a bridge does not equate to a bridge refurbishment, as demonstrated by the addition of an arch to the Pons Mulvius as discussed in chapter five, section 3; therefore, an Augustan rebuild cannot be proven.⁸² Le Gall correctly challenged Delbrüeck hypothesis of two phases of building, pointing out that the larger pier and orientation he observed could simply be down to difficulties in construction (remember that this was the first stone Tiber bridge – see chapter 3, section 2), or the poor state of the remains. Therefore, all that can be confirmed for certain is that the remains are those of a Republican era bridge. The evidence which connects the Temple of Portunus, the bridge remains and the location of the ancient harbour to the Forum Boarium makes the identification of the Republican remains of the Ponte Rotto with the Pons Aemilius relatively certain, or as definitive as possible where no inscription directly linking the structure to the name exists.⁸³

⁸⁰ Delbrüeck, 1907; Blake, 1947, 178.

⁸¹ *CIL*. 6.878.

⁸² *CIL* VI.878; Blake, 1947; Delbrück, 1907; Frank, 1924, 139-141; Coarelli, 1988; Taylor, 2000, 149-150; *LTUR* IV; Palombi, *LTUR* II on the *Fornix Augusti*. Lancaster, 2005, 113-114, states that clamps were routinely used during construction in the late first century BC. There is no evidence of clamps being used in the construction of the Pons Aemilius which adds to the probability of the bridge structure being a Republican structure.

⁸³ As with the Pons Fabricius which still has its inscription in situ, see chapter 5, section 1. For an reconstruction of the Pons Aemilius with its ancient elements see Galliazzo, 1994, 19.



Figure 2: The remaining arch of the bridge known as the Ponte Rotto. The only ancient elements of the Pons Aemilius are part of the foundations and interior of the eastern side of the arch (within the area highlighted in green). The photo above was taken from the Tiber Island facing downriver. Image: Author.

It is widely accepted that the Pons Aemilius had a wooden superstructure fixed to its stone piers between the two phases of building (179 BC and 142 BC) mentioned by Livy above. This assumption is based on an ambiguous passage from the mid-fourth century AD writer Julius Obsequens, who when referencing a flood of 156 BC mentions the destruction of '*pontificis maximi tectum cum columnis in Tiberim deiectum*' which has been read as the upper structures of the Pons Aemilius being thrown down into the Tiber during a storm; this assumption is challenged in chapter 3.⁸⁴

The creation date of the bridge in the mid second century BC has been challenged by Filippo Coarelli, who argued that the date should be pushed back to the third century BC, to take account of the creation of the Via Aurelia (to which the Pons Aemilius connected on its Transtiberium side) and the Pons Mulvius (which was in place by 207 BC – see below), his

⁸⁴ *Obsequens*. 16. See chapter 3, section 2 for a discussion related to this source; Platner & Ashby, 1929; Nash, 1968; Richardson, 1991; *LTUR IV*.

argument is challenged in detail in chapter 3, where the process of production for the bridge will also be considered.⁸⁵

At this juncture a note of caution needs to be added; along with the Pons Fabricius, the Pons Aelius and the Pons Mulvius, the remains of the Pons Aemilius are often represented as the bridges of ancient Rome; as if the remains which stand today are the same as those which stood upwards of two thousand years ago. While elements of the bridge may still retain pieces of their ancient predecessors, the current bridges are the result of multiple rebuilds. The remaining arch of the Ponte Rotto (the Pons Aemilius) was largely constructed in the sixteenth century and still bears the inscription from that period. While the arch still sits upon the Roman piers and has the core of its Roman predecessor, the rest of the arch was extensively reconstructed in later periods. It is also likely that the bridges were altered (in terms of adornment at least) during the Roman period itself (as with the Pons Cestius – see below) meaning the first century BC Pons Aemilius and the fourth century AD Pons Aemilius may have looked markedly different.

The remains of the bridges do enable a degree of reconstruction, with the ancient piers of the Pons Aemilius giving an approximation of the size and form of the ancient bridge, and providing a focal point for its existence.⁸⁶ Based on the surviving piers, Galliazzo estimated that the bridge was 135 meters long and 8.83 meters wide and consisted of five piers 5.36 meters wide and 9 meters long.⁸⁷ One of the remaining piers is significantly wider due to its reinforcement during the sixteenth century after a collapse. The width of the arches were approximately 16.50 meters to 14.50 meters toward the banks; the arches toward the banks

⁸⁵ Coarelli, 1988, 141 – 142. The earliest reference to the Pons Mulvian is from Livy 27.51 relating to events in 207 BC.

⁸⁶ Platner and Ashby, 1929, 397-8; Delbrüeck, 1907, 12-22. Richardson, *LTUR IV Pons Aemilius*, Blake, 1947, 178. Karmon, 2011, 171-198. The eastern arches of the bridge collapsed during the middle ages and despite many attempted repairs, the remaining western arches of the bridge were removed in 1887 to make way for the Ponte Palatino, leaving the solitary arch which is visible today. The bridge was damaged many times but notably in 1557 and reconstructed but the eastern half was destroyed in Rome's worst ever flood in 1598. It then remained broken until 1853 when a suspension bridge reconnected the existing arches to the eastern bank. During the three-hundred-year period in which the bridge was disconnected from the east bank it was used as a pier for fishing see below and chapter 4, section 3 for fishing around the bridges during the Republic and Empire.

⁸⁷ Galliazzo, 1994, the size of the bridge has been estimated from the remaining structural archaeology and, as Galliazzo stated, images from Renaissance drawings (Piranesi in particular).

were designed to enable tow paths. The pier cores are of *Grotta Oscura* with an external covering of stone mixed with *tufo dell'Aniene (o peperino) as opus quadratum* with a Travertine facing; it is likely that the bridge had floodways to reduce the pressure on the bridge, similar to those of the Pons Fabricius.⁸⁸

1.4.3. Pons Mulvius

The Pons Mulvius was situated outside Rome's urban centre but was still considered a vital part of the city's infrastructure; it crossed the Tiber Rome's northern access point, controlling the flow of traffic into Rome from the Via Flaminia, Via Cassia and the Via Clodia; it was the second of Rome's bridges to be built in stone.⁸⁹ How the bridge came to be named is unknown and any attribution to a *Mulvia* gens is unproven, and no inscription survives to assist with identification.⁹⁰ A bridge is likely to have been in place by the time a colony was established in Rimini in 268 BC, but it is also probable that due to its position a bridge spanned this strategic point of the river much earlier. Livy, writing in the first century BC, understood the bridge to be in place in 207 BC when he stated that a column of people 'reached all the way to the Mulvian Bridge' during the rush to receive the news of the Roman victory over Hasdrubal.⁹¹ However, as the bridge was a vital element of the Via Flaminia it is almost certain that it was in place by the time the Via Flaminia was constructed in 220 BC.⁹²

Reconstruction date of the bridge in stone is also a mystery but we know from Ammianus Marcellinus, writing in the fourth century AD, that Marcus Aemilius Scaurus either restored or rebuilt the bridge in 109 BC.⁹³ As the Pons Aemilius was considered to be Rome's first stone

⁸⁸ Galliazzo, 1994; Frank, 1924, 139-141; Delbrück, 1907.

⁸⁹ It was not included in the Augustan regions but appears in the regional catalogues, see above in this chapter, section 4. For the Via Flaminia (220 BC) see chapter 5, the Via Cassia and Via Clodia are not securely dated. Wiseman, 1970, 136-137 and 140, argues for the Via Clodia as the oldest of the three roads and dates it to the early-third century BC and the Via Cassia as the youngest around the mid-second century BC.

⁹⁰ D'Onofrio, 1980, 166-174, who suggested the fourth century BC based on the conquest of Veii in 396 BC, however routes back to Rome could have still crossed via fords during this period, see chapter 3, section 1 for a discussion of the Tiber fluctuations on movement across the river; *LTUR Suburbium II*, 50-54; Galliazzo, 1994, 32. A detailed surviving inscription may offer further elements of the dedicators name and enable a better chance of identification.

⁹¹ Livy, 27.51. '*Ad Mulvium usque pontem continens agmen pervenit.*'

⁹² On the Via Flaminia see Ashby and Fell, 192; Radke, 1981, 188-239; Laurence, 1999, 21-23. Livy. 32.29; 22.11; Stra. 5.2.10; *LTUR Suburbium II*, 50-54.

⁹³ O'Connor, 1993, 65-65.

bridge, a tentative *terminus post quem* of 142 BC and a *terminus ante quem* of 109 BC can be offered as the period in which the bridge was reconstructed.⁹⁴ Therefore, the Pons Mulvius was a monumental Republican bridge which was in place by the time Augustus added his statuary in 27 BC.⁹⁵

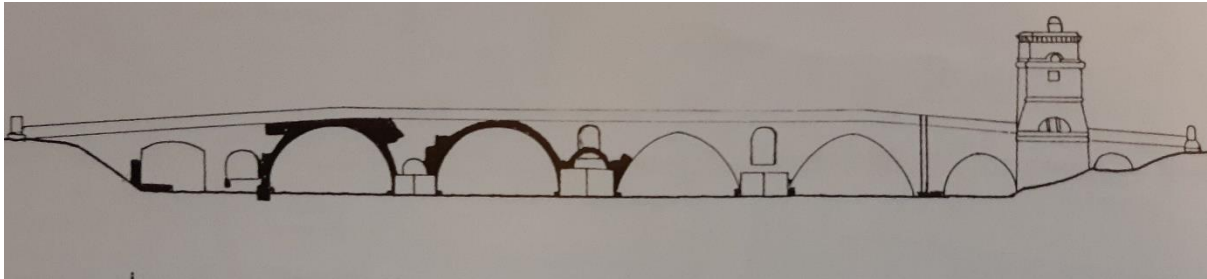


Figure 3: Delbrück's image of the Pons Mulvius highlighting (in black) the remaining ancient elements of the structure. Delbrück, 1907.

As with the Pons Aemilius, the remaining Republican elements of the Pons Mulvius are relatively small, due to two thousand years' worth of rebuilds to combat both human (the bridge has been severely damaged by fighting on a number of occasions) and natural erosion.⁹⁶ The Pons Mulvius of today is largely the result of a complete restoration in the late nineteenth century. All that survives of the ancient Roman bridge are two of the central arches, evidence for a floodway on the central arch and remnants of connected arches on the eastern side (which are clearly visible), and the piers; nothing remains of its preceding arches or adornment (see fig. 3). Galliazzo's 1994 volume provides one of the most comprehensive accounts and reconstructions of the ancient bridge, which he estimated to be 148-150 metres in length with four main segmental arches (which are not a full semi-circle enabling the construction of wider spans) and with a width ranging from 7.4-7.7 meters.⁹⁷ Upstream of the bridge, again on the eastern side, a possible quay or towpath of *Aniene tuff* with travertine blocks boarding the river, were discovered connecting to the first pier of the bridge.

⁹⁴ See above Pons Aemilius. Livy, 27.51; Dio Cass. 53.22; O'Connor, 1993, 65-65; Galliazzo, 1995, 32-36. Livy 27.51.2 is the first to mention the bridge with a date of 220 BC. *Vir.ill.* 72.8; Amm. Marc. 27.3.

⁹⁵ See chapter 5, section 3 for a detailed discussion of the statues and the bridge.

⁹⁶ Galliazzo, 1994, 32-36. The bridge fell in 1335 during the Orsini-Colonna fighting, the *Garibaldini* also destroyed part of the bridge during the Italian state revolution.

⁹⁷ Delbruck 1907, 3-11; Galliazzo, 1994, 34-36; Quilici, 2008, 570.

This bridge is the focus of discussion of chapter 5 due to its monumentalisation and subsequent adornment by Augustus, and its role in altering the perception of the city to reflect the new Augustan ideology.

Due to the bridge's position outside of Rome, it is overlooked in many of the topographic dictionaries but does appear in the *Lexicon Topographicum urbis Romae: Suburbium*.

1.4.4. The Pons Fabricius

The Pons Fabricius, Cassius Dio (second century AD) stated, was built by L. Fabricius, *curator viarum* in 62 BC, and was the first bridge to provide a permanent connection between the east bank (Campus Martius) and the Tiber Island.⁹⁸ The bridge was damaged and restored in 21 BC by the consuls Q. Lepidus and M. Lollius, who also memorialised their work in a smaller inscription on the north and south arch by the east bank. The bridge had a length of approximately 80 meters and a width of 6 meters and the arches were 24.25 and 24.50 meters wide.⁹⁹ The eastern abutment of the bridge also provided evidence of a smaller arch which could have been a towpath or roadway for pedestrians.¹⁰⁰ The Pons Fabricius has retained the most ancient elements of any of Rome's Tiber bridges; both arches, the right abutment and much of the central floodway arch are still in situ. These elements also include its dedicatory inscriptions, all of which are still in place above each of its main arches (see chapter 5, section 1 for the inscriptions in full).¹⁰¹

⁹⁸ Cass. Dio. 37.45; Hor. *Sat.* 11.3.35-36.

⁹⁹ Galliazzo, 1994, 34-36 provides extensive detail and drawings of the bridge; *LTUR IV* Pons Fabricius.

¹⁰⁰ Galliazzo, 1994, 20-23.

¹⁰¹ *CIL VI* 01305 – 31594. For an excellent reconstruction of the Pons Fabricius's ancient elements see Galliazzo, 1994, 22.

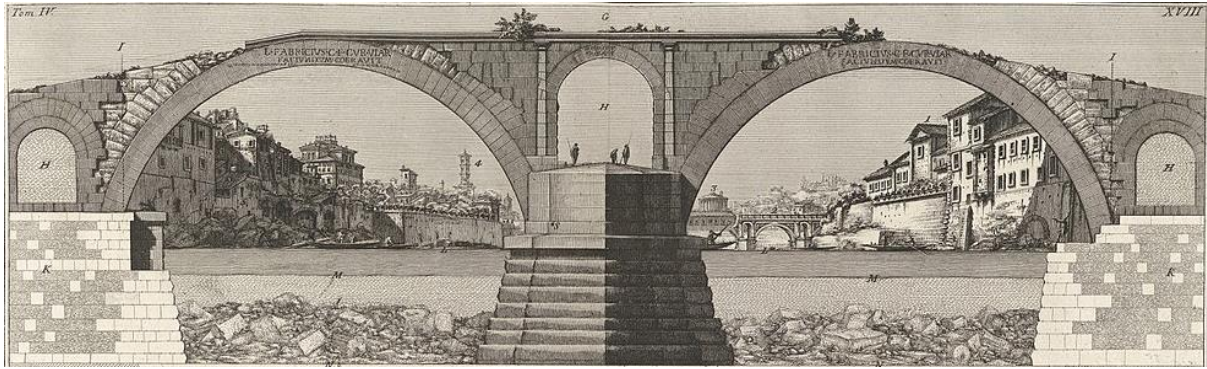


Figure 4: Plan and Elevation of the Pons Fabricius, from the series 'Le Antichità Romane' by Giovanni Battista Piranesi, 1756, which includes the smaller arches toward the banks and highlights the ancient remaining elements of the bridge. Image: Piranesi, Public Domain.

A further restoration in the second century AD is suggested by brick stamps found in repaired sections of the upper structure. However, caution must be applied to dating, as the bricks could have been reused at a much later date. A detailed discussion of this bridge in relation to the production of written space can be found in chapter 5, section 2.

1.4.5. The Pons Cestius

The Pons Cestius was the second bridge added to the Tiber Island connecting it to the west bank (Transtiberium). Plutarch stated 'Tiber island [...] is now a sacred island over against the city, containing temples of the gods and covered walks, and is called in the Latin tongue *'Inter duos pontes,'* 'between two bridges' providing the evidence that a bridge existed between the Island and the west bank by the mid to late first century AD; the reference will be discussed in detail in chapter 3, section 1 and 2.¹⁰²

The earliest evidence which refers directly to the bridge by name is from the *fasti ostienses* [... *IMP. ANTONINUS*] *AUG. PONTEM CESTI*, which recorded a restoration by Antoninus Pius in AD 152.¹⁰³ The bridge has been attributed to one of the two praetors, with the name Cestius, who were influential in Rome between 62 BC and 27 BC, however attempts to link a named structure to a specific chronology through the analysis of known persons, are difficult

¹⁰² Plut. *Poplic.* 8.3 'ἔχει δὲ ναοὺς θεῶν καὶ περιπάτους, καλεῖται δὲ φωνῇ τῇ Λατίνων Μέση δυοῖν γεφυρῶν.'

¹⁰³ *Fasti Ostienses.*, CIL. I.I. XIII, i, n. 5, 152. *Not. Scav.* 1934, 259, Degrassi, A., ed. 1931–86. *Inscriptiones Italiae.* 13.1 207, 673 CIL VI 1175 = ILS 771

to defend.¹⁰⁴ As the bridge was not named for an Emperor, the most likely date for its construction is the first century BC, between the construction of the Pons Fabricius and the end of the century, placing it within the context of the Island's monumentalisation.¹⁰⁵

In the AD 369/370 the bridge was extensively repaired or rebuilt by the Emperors Valentinian I, Valens and Gratian (renamed the Pons Gratiani), with reused material from the surrounding buildings, including the Theatre of Marcellus.¹⁰⁶ Four inscriptions recorded this event; two identical on slabs in the centre of the parapet, and two more just below the parapets running the width of the bridge; both the downstream inscriptions have been lost sections of the inscription are still visible on the upriver side of the bridge but are badly damaged, the central up-river parapet read;

Domini nostri Imperatores Caesares / Fl(avius) Valentinianus Pius Felix maximus victor ac triumph(ator) semper Aug(ustus) pontif(ex) maximus / Germanic(us) max(imus) Alamann(icus) max(imus) Franc(icus) max(imus) Gothic(us) max(imus) trib(unicia) pot(estate) VII imp(erator) VI cons(ul) II p(roconsul) p(ater) p(atriciae) et / Fl(avius) Valens Pius Felix max(imus) victor ac triumph(ator) semper Aug(ustus) pontif(ex) maximus / Germanic(us) max(imus) Alamann(icus) max(imus) Franc(icus) max(imus) Gothic(us) max(imus) trib(unicia) pot(estate) VII imp(erator) VI cons(ul) II p(roconsul) p(ater) p(atriciae) et / Fl(avius) Gratianus Pius Felix max(imus) victor ac triumph(ator) semper Aug(ustus) pontif(ex) maximus / Germanic(us) max(imus) Alamann(icus) max(imus) Franc(icus) max(imus) Gothic(us) max(imus) trib(unicia) pot(estate) II imp(erator) II cons(ul) primum p(roconsul) p(ater) p(atriciae) / pontem felicis nominis Gratiani in usum senatus ac populi Romani constitui dedicarique iusserunt¹⁰⁷

¹⁰⁴ Platner & Ashby, 1929, Coarelli, 2007, 349-340, Claridge, 2010, 257-8. On the issues of naming see Laurence, 1999, 8-9; Wiseman, 1970.

¹⁰⁵ Keppie, 1991. Eck, 1998.

¹⁰⁶ *CIL VI 1175 = ILS 771*

¹⁰⁷ *CIL VI, 01175 = CIL VI, 31250 = CIL X, *00357c = D 00771 = ILS 771.*



Figure 5: The surviving fourth century inscription on the parapet of the Pons Cestius. Author image.

The upriver side just below the parapet read;

*[Gra]tiani triumphalis principis pontem aeternitati Augusti / nominis consecratum in usum senatus populiq[ue] Romani ddd(omini)/ nnn(ostri) Valentinianus Valens et Gratianus victores maximi / ac perennes Augusti inc(h)o{h}ari perfici dedicariqu[e] iusserunt*¹⁰⁸

Today, the bridge, which has reverted back to the name Pons Cestius, is the late-nineteenth century reconstruction, which had to be widened to facilitate the construction of the modern Tiber embankments. The demolition was planned to be slow and careful, with the intention of rebuilding the bridge with the existing material, only adding new material for the necessary extensions. Unfortunately, the demolition proved harder than anticipated, the pins and material which had held the stones in place was so strong that removing them shattered many

¹⁰⁸ *CIL VI, 01176 = CIL VI, 31251 = D 00772 = ILS 772.*

of the stones, and a significant volume was lost.¹⁰⁹ The current three arch bridge includes all the surviving material, but with only the main arch being approximate to its fourth century predecessor. The original bridge was approximately 48 meters in length (the modern bridge is over 66 meters long) with a width of 8.95 meters with one large central arch with a width of 23.97 meters and two smaller arches of between 5.50 and 5.80 meters. Remains of the earliest version of the bridge (from the fourth century AD rebuild) exist only in the lowest portion of the structure and the piers.¹¹⁰



Figure 6: The Pons Cestius in the late nineteenth century prior to its demolition. Source: Italian photographer Circa 1870, Public Domain.

¹⁰⁹ Galliazzo, 1994, 11, lists 347 travertine blocks out of 563 were saved, and 45 of 114 wedges which made up the main arch could be reused. The downstream inscription which ran along the parapet was also destroyed.

¹¹⁰ Galliazzo, 1994, 10-13.



Figure 7: The Pons Cestius in 2018. Source: Author.

It is important to remember that the Pons Fabricius and the Pons Cestius were two separate bridges; there is no evidence to attest to their conception as part of a through road, specifically designed to connect the east and west bank of the Tiber. The Island housed the healing sanctuary of Asclepius, a place people went *to*, a road which acts as a main *through* route for movement between the banks, would have disrupted movement on the Island, essentially separating it into two halves. This is not to suggest that people did not use the Island to move across, of course they did, but rather that it was not the primary purpose for the creation of the second bridge.¹¹¹ When the bridges were both erected, as today, they did not connect, at either bank, to a busy open space such as the Forum Boarium; movement from the bridges either turned along the riverbank (Pons Fabricius), or connected, by a spur road, with the Via Aurelia, one of the Transtiberium's main roads (Pons Cestius). Movement seeking to cross directly between the banks of the Tiber would have been focused on the

¹¹¹ *CIL VI 975*; *CIL VI 451*; *CIL VI 821*. Lanciani, 1897; Platner & Ashby, 1929; Richardson, 1992. The only road identified on the Island (*Vicus Censori*) is undated, and its exact course unknown.

main through routes of the Pons Aemilius or the Pons Sublicius.

Archaeological evidence for the Republican Transtiberium is sparse, but literary sources indicate that villa's and *horti* increasingly added to the occupied the space toward the end of the first century BC.¹¹² Evidence suggests that the Island contained both temples and porticos, though their extent is unclear, and the monumentalisation of the Island in the first century BC indicates that the Island had significance and access from both banks, given the increased use of the western region, would have been advantageous.¹¹³ Today, people use the Pons Fabricius and the Pons Cestius to cross onto the Island, both bridges have very distinct sensescapes, the Pons Cestius, which allows vehicular traffic, keeps people largely to the pavements and is clear of impediments, whereas the Pons Fabricius is a much slower pedestrian space where traders lay out their wares to attract customers strolling onto the Island. At the beginning of Augustus's reign the two bridges would still have reflected their different context and sensescapes; they framed the way people experienced Tiber Island, but we should remember they were both the result of different processes of production.

1.4.6. The Pons Agrippae.

The final bridge in this summary is the Pons Agrippae; knowledge of which was only uncovered in the nineteenth century. The following section briefly covers the relevant evidence for the bridge in the first century BC, and takes a new approach to its placement, arguing that the Pons Agrippae has more connections with the pier remains at the north end of the Campus Martius (traditionally named the Pons Neronianus), than with the current most accepted location for the Pons Agrippae, the remains near the Villa Farnesina.

At the end of the nineteenth century work to create the Tiber embankments (*muraglione*) offered unprecedented access to the ancient layers of the Tiber bed and its structures, and unearthed new archaeological insights into Rome's history. One such find came in the form of a *cippus* stone (a large inscribed stone set up to mark a milestone or a boundary marker), which was uncovered from the east bank of the river upstream of the Ponte Sisto (see fig. 8), near the Church of *San Biagio della Pagnotta*, which revealed a previously unknown Tiber

¹¹² Cic. *Att.* 12.18; 15.15; Cic. *Phil.* 2.109; App. *B. Gal.* 2.143.

¹¹³ Livy 2.5; Plut. *Publ.* 8.

bridge; the Pons Agrippae: ¹¹⁴

*'Paullus Fabius Persicus / G(aius) Eggius Marull[us] / L(ucius) Sergius Paullus / G(aius) Obellius Ru[ffus] / L(ucius) Scriboniu[s Libo] curatore[s riparum] / et alv[ei Tiberis] / ex auctorit[ate] / Ti(beri) Claudi Caes[ar]is / Aug(usti) Germanic[i] principis s[ed]... ?] ripam cippis pos[itis] / terminaverunt a Tr[ig]ar[io] ad pontem Agrippa[e]'*¹¹⁵

The *cippus* was set up by the *curatores riparum* during the *principate* of Claudius (dating the stone to the mid-first century AD) and marked the limits of maintained public land (along the Tiber) from the *Trigarium* (A chariot/horseracing track) to the Pons Agrippae. The location of the *Trigarium*, within the Campus Martius, has never been definitively established but it existed within proximity of the Tarentum (adjoining the Tiber at the northern end of the Campus Martius). The discovery of the *cippus* meant that the *Trigarium* could confidently be placed adjacent to the Tiber; Coarelli stated that the topographic context of the inscription suggested that the bridge was downriver of the *Trigarium*, but enough ambiguity exists to make that assertion debatable.¹¹⁶ Evidence for the *Stabula Factionum* (the racing stables of the different factions or teams) had been discovered near the Tiber in the western Campus Martius, further confirming the link between the space and equestrian activities.¹¹⁷ Therefore, the location of the bridge was somewhere upriver of the Tiber Island, and north or south of the Tiber bend in the Campus Martius.

Further confirmation of the existence of the Pons Agrippae came in 1939 with the discovery of the *Fasti Ostienses* which recorded a restoration of the Pons Agrippae by Antoninus Pius, [-] K. Febr. Imp. Antoninus Aug(ustus)**pontem Agrippae dedic(avit)**, confirming the presence

¹¹⁴ *Not. Scav.* 1887, 323; *Bull. Com. Arch.* XV, 1887, 306: *CIL VI* 31545 = *ILS* 5926. Le Gall, 1953, 157, for a comprehensive analysis of the *cippi* found along the Tiber see Le Gall, 1953, 135-183.

¹¹⁵ *CIL VI* 31545 = *ILS* 5926. My emphasis on the bridge name.

¹¹⁶ *LTUR IV*, Pons Agrippae, depending on the translation denoting 'down from' or 'away from', there is room for uncertainty.

¹¹⁷ *LTUR V*, *Trigarium*. Dion. Hal. *Ant. Rom.* 7.73, which has been located by the *Tarentum* between the *Lungotevere dei Sangallo* and the *Via Giulia* and around the *Via del Gonfalone* though its location is debated, Coarelli, 1977; Quilici, 1983, 75; Palmer, 1990; Richardson, 1992; Carandini, 2017; *LTUR V*, 89-90. The location of the stables (*stabula factionum*) and inscriptions relating to horse racing *CIL VI* 10044. The location gives easy access to water for the horses and arguably better ground for racing, kept moist by the river thus keeping the track softer during summer months. It is not known whether the area was an open space or more structured.

of the bridge for nearly one hundred years, until at least AD 147.¹¹⁸

These two pieces of evidence attested to a bridge with the name Pons Agrippae, located along the Tiber on the western boundary of the Campus Martius, between the reign of Claudius (AD 41 – AD 54) and Antoninus Pius (AD 138 – AD 161). The bridge has been associated with the Augustan general Marcus Vipsanius Agrippa who, as *aedile* in the latter half of the first century BC, had overseen the repair and improvement of Rome's infrastructure including aqueducts, roads and Rome's great drain the *Cloaca Maxima*; the attribution of the bridge to Agrippa, either as its benefactor or the recipient of its dedication, is regarded as a certainty.¹¹⁹

¹¹⁸ My emphasis in the inscription, the *fasti* was a calendar that listed memorable works and religious activities. Lloyd, 1979, 201; Lanciani, 1897, 22; Shipley, 1933, 67; Blake, 1959, 161. G. Calza in the *Not. Scav.* 1939, 361-365. Vidman, 1982, 51.

¹¹⁹ Shipley, 1933; Le Gall, 1953; Richardson, 1992; *LTUR IV* Pons Agrippae; Taylor, 2000. Agrippa's other building work which reflected his name included the *Stagnum Agrippae*, *LTUR IV*, 344-345 and the *Thermae Agrippae*, *LTUR V*, 40-42 in Rome.

[REDACTED]

Figure 8: Lanciani's *Forma Urbis Romae* (FUR) Plates 14, 15, 20, 21, 27 and 28 showing the three possible places for the Pons Agrippae, the *cippus* location and the extent of the Villa and warehouse complex.¹²⁰

¹²⁰ This thesis recognises that Lanciani's maps are over 100 years out of date and have certain places, such as the Tarentum and the Circus Flaminius in an incorrect position. However, for the purposes of demonstrating

The bridge was in place for at least one hundred years, retaining its name during that period (see chapter 5, section 1) and was a significant enough structure to warrant its restoration by the emperor Antoninus Pius, therefore, its remains (like that of the other stone Tiber bridges) should still be in situ and identifiable in the Tiber bed. The problem began when more than one set of unidentified bridge structures were discovered within the location range determined by the *cippus*.

The following analysis is divided by the two sets of ancient remains to assist with clarity; the Villa Farnesina piers and the Pons Neronianus.

1.4.6.1. The Villa Farnesina Piers

During the nineteenth century embankment works, the remains of, previously unknown, stone piers were located approximately 160 meters upstream from the Ponte Sisto, opposite the Villa Farnesina. Borsari initially identified the Farnesina remains as bridge piers, but upon further investigation of the riverbed found '*assolutamente negativo*' no signs of a bridge superstructure, a problem to which we shall return.¹²¹

placement along the Tiber, they are still one of the only maps which enables coverage of a large area of the river and some of its archaeology.

¹²¹ *Not. Scav.* 1887, 323-27; *Bull. Com. Arch.* 1887, 306-313; 1888, 92-98, Pls iv,v. Lanciani, 1897, 22, *Not. Scav.* 1887, 323. *Bull. Com. Arch.* 16, 1888, pp. 92-98, tavv. IV-V; Le Gall, 193, 210.

[REDACTED]

Figure 9: Lanciani's *FUR* Plate 27 showing a close view of the Villa Farnesina piers and the tomb of the tomb of C. Sulpicius Platorinus.

The piers are regarded as the most likely candidate for the attribution of the Pons Agrippae as they fit the topographical parameters, however there are several difficulties with the attribution. Firstly, it is worth reiterating that bridges are added in response to a need for movement, they are about creating the best and most stable route with the available materials and technology. They are both a positive and negative force within rivers, enabling a new type of movement but also adding new pressure to the river systems. The most important part of any bridge is the foundations, a secure foundation for the piers means reliability and durability and enables more flexibility in the superstructure; putting in piers is an extremely dangerous process.¹²² Alan Cooper observed that 'building a bridge to facilitate a river crossing is a difficult, expensive, time-consuming and potentially hazardous job. It is not undertaken lightly and, once undertaken, requires repeated attention and effort from that point on, since a bridge neglected will soon be a bridge collapsed.'¹²³ The creation of a new bridge over a busy urban river required a rationale which outweighed the increased flood

¹²² Cooper, 2006, 5. Hill, 1984, 61-5; Harrison, 2004.

¹²³ Cooper, 2006, 4. As the old English nurse rhyme 'London Bridge is Falling Down' attests; the rhyme was about a member of the aristocracy who spent the taxes meant for the repair the bridge on herself.

risk to the wider city.¹²⁴

The structures found near the Villa Farnesina were irregular shapes and sizes with the western pier showing significant signs of damage and repair, and were also laid at a point in the river where the channel narrowed significantly (see fig. 9).¹²⁵ This meant that the force of the water, which had been running along a relatively wide channel, was compressed into a smaller space causing an increase in the depth and speed of the river. The addition of piers at this point in the river further restricted and increased the pressure on the channel, which may of resulted in the following; the amplified scouring action would have undermine and destabilise the piers potentially causing the bridge to fail much sooner than anticipated; attempts to repair and shore the western bridgehead attest to the problem.¹²⁶ The compression of the channel would also have proved challenging for river vessels passing between the piers when the river was running high, which was further compounded by the narrow arches toward the western bank which at 9.30 metres and 11.50 meters were significantly thinner than the other Tiber bridges (the Pons Aemilius at 16.5 meters or the later Pons Aelius at 18.5 meters). This likely pushed river traffic toward the larger eastern arch which was 23.50 metres wide.¹²⁷ The reduction of the channel could also have increased the risk of flooding around the Campus Martius and would have exacerbated the scouring and destabilization of the riverbanks.¹²⁸ In first century BC Rome, the placement of these piers would have risked amplifying the flooding within the city, which is somewhat at odds with the Agrippan focus on improving the city's infrastructure.

Attempts to date the piers proved problematic; analysis of the remains of the pier foundations

¹²⁴ For the pressures of bridges on rivers see chapter 3, section 1.

¹²⁵ Lanciani, 1897, 22.

¹²⁶ Aldrete, 2007; Parke & Hewson, 2008.

¹²⁷ Le Gall, 2005, 199. Galliazzo, 1994; Borsari, 1880, *Bull. Com. Arch.* 11-13 also identified what he suspected was a pier under the east embankment 12.2 meters from the east side pier which may account for the oblique axis for the bridge and suggest that the river bent further east. Taylor, 2000, 132, 162-164 agrees with Borsari's findings, though the evidence is far from conclusive. Le Gall, 2005, 164, 199 argued that a misalignment, of the nature found in the bridge piers, would have ensured a swift demise for the structure. Watson, Brigham, Dyson, 2001, the medieval London Bridge was built with the piers too close together causing a multitude of problems including the icing of the river to a degree that the river was used for 'frost fairs'.

¹²⁸ Barbetta et al., 2014, 1-47. From a discussion with A.H. Hoggarth a Fellow of the Institution of Structural Engineers.

revealed the use of *leucititic* lava (*selce*), which Blake likened to the foundations of the Thermae of Agrippa and an Augustan vault of the *Cloaca Maxima*, but which only confirms that the remains had a likely *terminus post quem* date of the first century BC.¹²⁹ As discussed in the section on the Ponte Cestius, evidence for the Republican Transtiberium is scant but by the first century BC overland movement to and from the Transtiberium was facilitated by both the Pons Aemilius and the Pons Sublicius, which connected to the Via Aurelia and the Via Campana to the west and to the central area of the Forum Boarium on the east. The Transtiberium was not yet as developed as it became the first century AD but was an increasingly popular place for elite *horti* (garden villa complexes).¹³⁰

During the embankment works the remains of several buildings were uncovered below the river facing gardens of the modern Villa Farnesina; a substantial villa dating to the end of the first century BC, and a wine warehouse the *Cellae Vinariae Arruntiana* from the beginning of the second century AD (see fig. 10).¹³¹ The villa has been associated with Marcus Agrippa due to its proximity to the *Horti Agrippina*, and in a rather circular argument, to the remains of the Pons Agrippae, which, it has been suggested, was built to provide Agrippa with easy access to his land, but any direct evidence is lacking; the Villa has also been connected with Clodia and the *Arruntii* family, who were prominent in the first century BC, and who owned the *Cellae Vinariae Arruntiana*. Again, while not impossible, the idea that Agrippa would add such an influential structure to the river for his own personal use, is at variance with his focus public works which improved the city.¹³²

Lloyd argued, and Taylor agreed, that a bridge on the Villa Farnesina piers could have provided a conduit for Agrippa's Aqua Virgo to cross into the Transtiberium region, which would

¹²⁹ Lanciani, 1881, 276-281; Blake, 1947, 40, 45, and 335 who dates the use of *selce* in the travertine of aggregate from the Julian period. Laurence, 1999, 76; Quilici, 2008, 570. Stone bridges were constructed across Italy in the second century BC but cannot be securely dated. The first date attested for a stone bridge is the Pons Aemilius in Rome (142 BC); Lancaster, 2005, 15-16, for an overview of different types of Roman concrete and in particular *selce*.

¹³⁰ See note x above.

¹³¹ *CIL VI.8826* = ILS 7276, which identifies the warehouse function and the name of the consuls of the year AD 102. *Not. Scav.* 1878, 66; 1879, 15, 40, 68; 1880, 127-128, 140-141; 1884, 238. Rodríguez Almeida, 1993u; Mari, 2005b; Carandini, 2017, 558. Taylor, 2000, 148. On the creation of a road connecting the Campus Martius to the bridge; Volpe, 1999; Wallace-Hadrill, 2001; Carandini, 2017.

¹³² Lloyd, 1979.

provide a compelling reason for adding a new bridge at this site. However, there is no decisive evidence for a diversion of the aqueduct's course, or its route across or around the Villa Farnesina site but the acceptance of this suggestion has led to yet another circular argument with the Agrippan piers justifying the new aqueduct course and the aqueduct justifying the bridge.¹³³ The identification of roads connecting to the piers has also been elusive; Taylor reconstructed a road bending around the Theatre of Pompey and crossing the bridge but again the evidence is more assumptive than decisive, though it should always be remembered that locating roads in heavily an ancient and heavily used urban setting is notoriously difficult.¹³⁴

¹³³ *CIL* VI. 39087. *Not. Scavi*. 1908, 328. Lloyd, 1979, 198-200, for full details of his argument for the new Euripus route. Lloyd, 1979, 193-94, 202. The Aqua Virgo supplied region XIV from the 2nd century according to Frontinus, *aq.* 1.10; 1.22. *CIL* 6. 29781. *Not. Scavi*. 1885, 343. Taylor, 2000, 147-148; Dey, 2011, 185; Lloyd, 1979, 198-200, connects two pieces of epigraphic data which he suggests link the land on the east bank of the river to Agrippa, but the evidence is tenuous.

¹³⁴ Taylor, 2000, 148. On the creation of a road connecting the Campus Martius to the bridge; Volpe, 1999; Wallace-Hadrill, 2001; Carandini, 2017. Roads are problematic as it is difficult to determine when a road was originally laid, without further supporting evidence within the archaeological layers. Stones and paving from earlier iterations of a road may be reused, and in urban areas the roads can be moved and reused multiple times to accommodate shifting urban development.

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Figure 10: Lanciani's *FUR* Plate 27 with detail of the warehouse structures alongside the Villa Farnasina piers.

Due to its placement near the western bridgehead, the tomb of C. Sulpicius Platorinus has also been cited as evidence of the presence of a bridge in the first century BC, but the tombs chronology is uncertain, and the presence of the tomb on the river front does not require that it be connected to the east bank via a bridge.¹³⁵ The connection between tombs and roads has been documented across the Roman world, and can still be experienced today along the Via Appia in Rome.¹³⁶ The most famous bridgehead and tomb connection is between the Pons

¹³⁵ For the tomb see *LTUR IV, Sepulchrum C. Sulpicii Platorini. CIL VI. 3157*. Which was moved to the Therme Diocletian in 1909 and rebuilt. Richards, 1992, 361. *Not. Scavi*. 1880, 129-138; 1883, 372; 1896, 467-469; *Bull. Com. Arch.* 1880, 136-138; Lanciani, 1892, 266-267. Blake, 1947, 182, 294, 339. Blake's analysis of the construction of the tomb gave it an Augustan date. Lloyd, 1979, 202; Shipley, 1933, 66-67. For the later date, first century AD 10 - AD 20, Silvestrini, 1987, 35-54; Lloyd, 1979, 201-204. Lloyd attempts to build a connection to Antoninus Pius, based on his connections to the brickwork industry and an inscription found within the tomb but his conclusions are assumptive rather than decisive.

¹³⁶ Laurence, 1999.

Aelius and Hadrian's Mausoleum in Rome but, currently, there is little evidence to support a wider connection during the Republic or early Empire.¹³⁷ The site could have been chosen for its visible location on the Tiber opposite the developing Campus Martius.¹³⁸

This brings us back to the question of why there were no remains of a bridge located around the piers, as in the case of the Pons Valentinian (see below).¹³⁹ Explanations have been posited ranging from piers for defensive structures linked to the Aurelian walls, and the complete removal and the reconstruction of the bridge at a new location, a concept to which we will return shortly.¹⁴⁰ The lack of remains could be attributed to an aborted attempt to add a new bridge to that area of the river, Symmachus documented the difficulties of bridge building in the fourth century AD, and it could simply have been an experiment at bridge building which failed.¹⁴¹ The other explanation would be to assign the bridge a wooden superstructure, but that would call into question the attribution to the Pons Agrippa, which was in place for over a hundred years, and restored by Antoninus Pius.¹⁴² We should also remember that literary sources, from the first century BC, suggest that the Pons Sublicius was the only wooden bridge which crossed the Tiber within sight of Rome.¹⁴³

If we accept that there was a bridge, the most likely conclusion is to connect the piers to the vast early second century AD warehouse complex built to the south of the villa and north of the piers, which has been identified as the *cellae vinariae Nova et Arruntianae*; a large *horreum* complex which included a long double colonnade with a line of *dolia* running parallel to the river (see fig. 10).¹⁴⁴ Based on the position of the pier remains, the bridgehead on the

¹³⁷ Alcántara *CIL II. 759-62. CIL II.759, 2.760, 2.761* created by the architect Julius Lacer in the second century AD had a small temple on its eastern side.

¹³⁸ See chapter 5, section 3 for the experiential benefits of the Tiber.

¹³⁹ See next section, 4.6.2.

¹⁴⁰ Gatti believed the proximity of the piers to the Tiber Island and Forum Boarium bridges made it unlikely that they held a bridge, and suggested an Augustan era building which had been demolished or collapsed into the river; although this theory still does not explain the lack of any form of remains in the Tiber bed. *Not. Scav.* 1887, 306-13; Le Gall, 2005, 350, posited the idea of a defensive structure, on this see Procopius, *Bell. Goth.* 1 [5] 19.24-26 on the chain that Belisarius placed across the river.

¹⁴¹ Symm. *Rel.* 25-26.4 or 25.6. Blake, 1947, 161, who was not convinced of the attribution to the Pons Agrippae, mused that the lack of superstructure and the material components (*selce*) mad her wonder 'if it was an early experiment in concrete bridge construction which was not successful.'

¹⁴² See chapter 5, section 2 for a discussion of written space on the bridges.

¹⁴³ See chapter 3, section 1.1 and chapter 4, section 1.

¹⁴⁴ Though, based on the condition of the piers it is by no means certain. Based on an analysis of the wall paintings

west bank would have faced the southern end of the double colonnade, giving traffic from a bridge direct access to the complex and onto the Via Aurelia. The creation of the *cellae* complex also coincided with a spate of Trajanic *horrae* building and harbour expansion on the east bank which could, plausibly, have led to a greater demand for access between the river banks.¹⁴⁵ The second century AD also marked a period of stabilisation for the Tiber, which reduced (but did not eradicate) the risk of adding another bridge to the river.¹⁴⁶ As the piers at the Villa Farnesina do not conform to any substantiated flow of movement in the first century BC, it is unlikely that they were the foundations for the Pons Agrippa, but if attached to the (second century AD) *cellae* the piers can be approached as the foundations for an industrial bridge with a wooden superstructure, which was short lived and provided a conduit for the movement of goods between the banks of the Tiber.

As stated above, the attribution of the Pons Agrippae to the Villa Farnesina piers has been widely accepted, with the explanation for the missing superstructure being ascribed to either an alternative placement (at the site of the Ponte Sisto – see below), or its removal when the *cellae* complex on the west bank was transacted by the creation of the Aurelian wall at the end of the third century AD.¹⁴⁷ Borsari suggested that the Pons Agrippae was demolished and

and the structure. Clarke, 1991, 52; Beyen, 1948, 10; La Rocca, 2010; Carandini, 2017, 555-556; a *cippus* stone dating from the 55-54 BC was also located on the site, Le Gall, 1953, 174-175, but could have migrated there from the river bank or been reused. *CIL VI.8826* = ILS 7276, which identifies the warehouse function and the name of the consuls of the year AD 102. *Not. Scav.* 1878, 66; 1879, 15, 40, 68; 1880, 127-128, 140-141; 1884, 238. Rodríguez Almeida, 1993u; Mari, 2005b; Carandini, 2017, 558. Richardson, 1992, 80, Nash, 1961-2, 1.225-26

¹⁴⁵ Rickman, 1971, 84. If the bridge was erected in the 1st century BC with a direct route to the Janiculum, the colonnaded structure was built directly across this road. Traffic from the bridge would then have had skirt round the complex.

¹⁴⁶ See Marra, et. al. 2018 for the stabilisation of the river and chapter 3, section 1. Le Gall, 1953 on the reduction of *cippi* stones. Though the risk was reduced it was still present.

¹⁴⁷ *Bull. Com. Arch.* 1887, 306-13 through Lanciani was dubious about the identification, annotating the *FUR*, Plate 20 to reflect this with 'Pons Agrippae?'; Le Gall, 1953, 210-11, 305-11 based on Gatti, 1887, 306-13, argued that the bridge was always situated on the site of the modern Ponte Siste, and gained the support of Coarelli, 1977 and La Rocca, 1984; also see Taylor, 2000, 146-7 for an overview of evidence. The wall signalled the abandonment of the entire complex, and the removal of any existing bridge, which if retained would have been a threat to the defences of the city. Dey, 2011, 173, suggested by lack of alterations and repair or evidence of habitation in late antiquity. It should be noted that there is an argument for the piers to be part of a defensive structure based on a reading of Procopius, *Bell. Goth.* 1.19.10. It is possible the piers for the industrial bridge were re-used but the issue of structural remains of any sort around the bridge is still difficult to explain. Le Gall, 2005, 210-11. Coarelli, 1997, 81 with n.36, La Rocca, 1984; Cozza, 1986, 104. Unlike the piers of the Campus Martius and down at the foot of the Aventine there was no trace in the medieval period of the piers above

moved wholesale to the site of the Ponte Sisto and rededicated as the Pons Aurelius.¹⁴⁸ The Pons Agrippae does not appear in the fourth century AD regional catalogues, which has led to scholars speculating that the bridge was rededicated, sometime between the mid-second century AD and the fourth century AD, as the Pons Aurelius, which does appear in the catalogues, but for which no other evidence exists.¹⁴⁹ It is possible, even probable, though it goes against the trend of the other bridges in Rome (see chapter 5, section 1), that the Pons Agrippae was rededicated as the Pons Aurelius, but as with much of the discussion surrounding this bridge there is simply no conclusive evidence to support the assumption.

The demolition and rebuilding of the Pons Cestius at the end of the nineteenth century demonstrated the difficulties of this approach, when despite careful removal, a significant amount material from the older bridge was damaged and rendered unusable during the process.¹⁵⁰ It is of course not impossible that the entire bridge was removed brick by brick and rebuilt down-river; removal of the piers is supported by the fact that they were never, as with the Pons Neronianus and the Pons Theodosius, documented as having broken the water line, but evidence for a bridge on the site of the Ponte Sisto before the fourth century is inferred rather than conclusive. Recognising that this is a question of semantics, but if the bridge was demolished and re-erected in a different location it would be a completely different bridge, with a different context and history (see chapter 2, section 3). There would be little reason to connect the structures other than as spolia, we do not suggest that the Pons Valentinian is the Theatre of Marcellus because elements of it are built into the structure; if the Pons Agrippae was demolished during the creation of the Aurelian wall then that should be the end of its story.

The other alternative was the site of the Ponte Sisto; during the 19th century embankment

water.

¹⁴⁸ On the site of the modern Ponte Sisto. Bosari, *Bull. Com. Arch.* 1888, 92-98. Bosari attributed this to the Severan period when a survey of the riverbanks had been undertaken. Lloyd -201-204, Shipley 66-68. Taylor, 2000, 15; Dey, 2011, 311-312. Taylor and Dey argue for its removal as part of the construction of the Aurelian wall, placing the rebuilt bridge on the site of the Ponte Sisto.

¹⁴⁹ For the regional catalogues see section 4 in this chapter. Le Gall, 1953, 210-11, 305-11 based on Gatti, 1887, 306-13, found the name change odd but did not comment further.

¹⁵⁰ Watson, Brigham and Dyson, 2001, 35-36, 164-165, 170-171 who detail the remains of the Roman London Bridge and the challenges of identifying the remains. They also provide some good examples of the removals and rebuilds of London Bridge.

excavations, the eastern side of the river flowing under the first arch of the Ponte Sisto was diverted exposing the elements of a parapet and arch of an ancient bridge.¹⁵¹ The parapet had fallen largely intact and was still held together by iron clamps preserving its inscription:

*Imp(eratori) Caesari d(omino) n(ostro) | Fl(avio) Valenti max(imo) p(io) f(elici) victor(i) // ac | triumphatori semper aug(ust)Q I S(enatu) P(opulu)q(ue) R(omanus) | ob providentiam // quae illi semper | cum in clyto fratre communis est | instituti ex utilitate urbis aeternae // | Valentiniani pontis atq(ue) perfecti | dedicandi operis honore delato iudicio princip(um) // maximor(um) | L(ucio) Aur(elio) Avianio Symmacho v(iro) c|(arissimo) ex praefecto urbi.*¹⁵²

The bridge had been dedicated to the Emperors Valentinian and Valens by the former *praefectus urbi* L. Aurelius Avianus Symmachus; the absence of Emperor Gratian in the inscription dates the bridge to between AD 365-367.¹⁵³ Also recovered from the riverbed were pieces of statuary including the right wing of a Victory and bronzes including a large bearded head, fragments of an emperor's head and crown, along with parts of a male statue and sandaled feet (*calcei patricii*) attached to a large block.¹⁵⁴ It is probable, that these pieces were attached to the bridge, but due to the issue of connecting finds from the river to specific structures (see chapter 4) without clear epigraphic evidence, conclusive attribution to the bridge is difficult. The reuse of available material in the fourth century AD also makes attempts to date a structure by its statuary, or earliest datable materials, precarious.¹⁵⁵

¹⁵¹ Lanciani, 189, 24-25; Gatti, Bull. Comm. 1892. 73-4, 366-67.

¹⁵² CIL VI 31402, the inscription above preserves the majority of the inscription. CIL VI 31403-31412 preserve sections of the duplicated inscriptions.

¹⁵³ Le Gall, 2005, 362, Lanciani cited a *voussior* as proof of an arch. *LTUR IV*, Pons Valentinian; Gordon, 1983, 173-74.

¹⁵⁴ *LTUR VI*, Pons Valentinian. Lanciani, 1897, 24-25.

¹⁵⁵ Edlund-Berry, 2010, 450, Roman *cyma reversa* mouldings combine Etruscan and Greek elements to form an upper curve and a lower concave curve; while this was popular in the republican period and can still be recognised through the imperial period. Lanciani dating the remains of the Pons Valentinian to Augustan period based on architecture and the *cyma reversa* (a moulding). This has also been found in Tyre in the podium wall of a circus at Tyre, while the date is also contentious it has been suggested 2nd or 4th century AD. Humphrey, 1986, 462 and 465. Lanciani 1878, *Bull. Comm.* 247-248. Dehn, 1911, 238-59, 253-59; La Rocca, 1984, 68, La Rocca also favoured an earlier Severan arch. Le Gall, 2005, 362, disagrees with Dehn's attribution of the bronze head to the Severan era, and argues he is attempting to fit the evidence to his theory of a Severan era bridge. On the *spolia* reuse Brilliant & Kinney, 2011, 53-74. Lanciani on a mark which he attributes to a mason mark *Bull. Com. Arch.* 1878, 247-8.

The existence of a bridge dedicated to Valentinian and Valens is corroborated by the literary evidence of Ammianus Marcellinus, who in the fourth century AD recorded the dedication of a bridge by Lucius Aurelius Avianus Symmachus a former *praefectus urbi* of Rome:

‘Symmachus...through whose efforts the sacred city enjoyed an unusual period of quiet and prosperity, and prides itself on a handsome bridge, which Symmachus himself, by the decision of our mighty emperors, dedicated, and to the great joy of the citizens.’¹⁵⁶

The account of Ammianus has traditionally been translated to reflect a restoration of an existing bridge but Jan den Boeft argued that it could also reflect the building of a new bridge, a conclusion echoed by Mark Babić.¹⁵⁷ Unfortunately, at this juncture the evidence for a bridge earlier than the mid-fourth century AD is again assumptive. The Pons Valentinian would have required connections via roads from both banks, obscuring earlier routes, and the presence of the existing bridge limits assessment of the remains to the visible portions. Until further evidence is found all that we can be certain of is that a bridge either built or restored at the site of the Ponte Sisto in the mid-fourth century AD. This period also matches a period in which the Christian enclave of the Trastiberium, saw churches like the Santa Maria in Trastevere increase in size and popularity. In this context, the need for a new pattern of movement fits with the creation of a new bridge.¹⁵⁸

1.4.6.2. The Pons Neronianus

Today, at low water, the remains of a bridge pier can be seen just down river of the Ponte Vittorio Emanuele II (see fig. 11 & 12); the piers have been associated, since at the middle ages, with the toponym Pons Neronianus.¹⁵⁹

¹⁵⁶ Am. Mar. 27.3.3. ‘Symmachus...*Quo instante urbs sacratissima otio copiisque abundantius solito fruebatur, et ambitioso ponte exsultat quem ipse, iudicio principum maximorum, et magna civium laetitia dedicavit.*’

¹⁵⁷ den Boeft, Drijvers, den Hengst, Teitler, 2009, 45; Babić, 2014, 263-264. *Cod. Theod.* 15.1.1. states that the erection of new buildings was prohibited, but a bridge is infrastructure and may have fallen outside this restriction.

¹⁵⁸ Temple, 2011. Dey, 2011.

¹⁵⁹ See Lugli, 1952-1962, 111. *Mirabilia Urbis Romae* 9 (V Z., III p.26) *Graphia* 21 (V. Z., III, p.84); Kinney, 2007, on the issues with the *Mirabilia*. We know almost nothing about its form and structure other than the substantial size of the remaining exposed piers. See Galliazzo, 1994 on the Pons Neronianus.





Figure 11 and 12: The visible remains of the Pons Neronianus taken from the east bank of the Tiber. In the lower image the piers of the modern Ponte Vittorio Emanuele II can be seen in the background and the triangle shape of the pier with the triangular end facing toward the river current. Author images.

The piers were visible above the water line into the 18th century as recorded by Giovanni Battista Piranesi and in Giambattista Nolli's map of Rome (see fig. 13), though nothing is known about the superstructure of the bridge; the size of the three remaining piers suggests a structure of substantial size, Galliazzo suggested it may have had three to four large arches and a further two smaller arches toward the banks, for pedestrian or drainage purposes. The piers had a core of tufa covered in large travertine blocks in the *opus quadratum* technique, similar to the Pons Aemilius.¹⁶⁰ There is no literary evidence or inscriptions exist which link the bridge to a specific toponym; contention around the bridge has focused on the date of its

¹⁶⁰ Galliazzo, 1994, 23-24. Vit. 4.4.

demise either before or after the fourth century AD, but little consideration has been given to its construction date with a first century AD date widely accepted; what we have for certain is a detectable pattern of movement which suggest the bridge was in place by the first century BC.

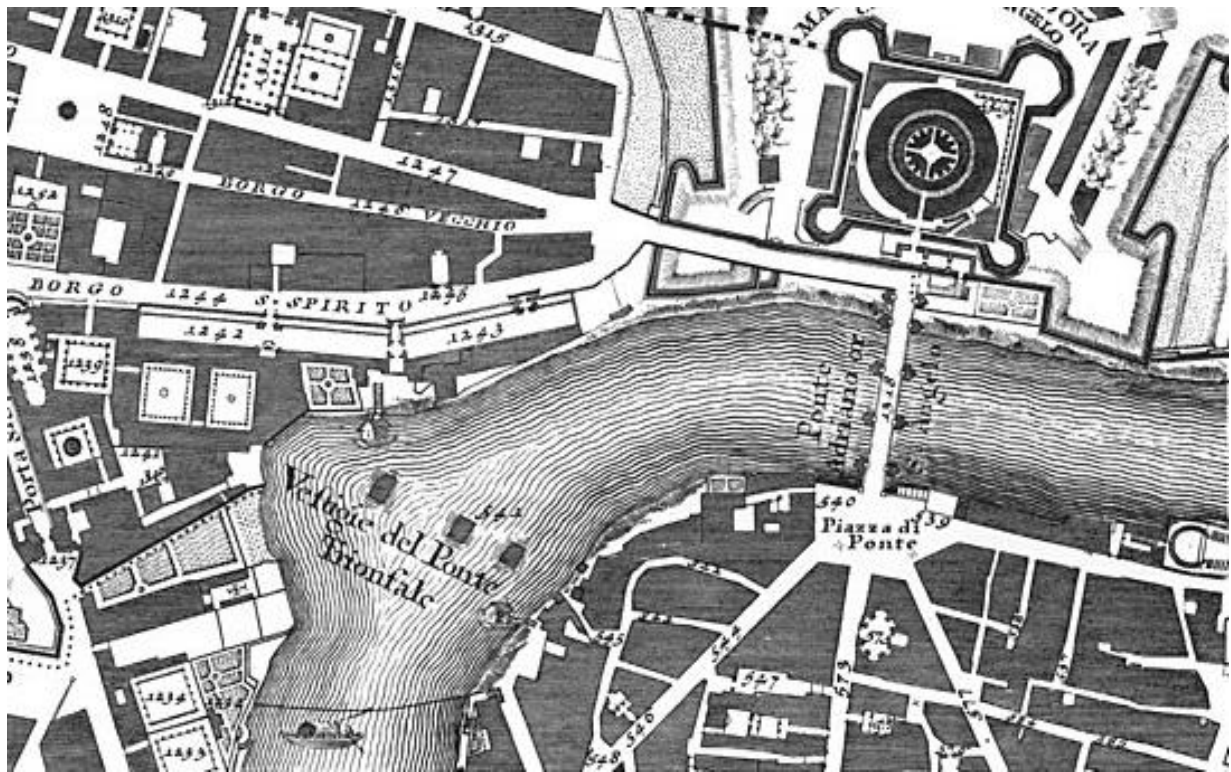


Figure 13: A section of the Giovanni Battista Nolli *Pianta di Roma*, 1748, showing the remains of the bridge piers at the northern bend of the Campus Martius.

The bridge connected the *ager Vaticanus* on the west bank, to the north-western Campus Martius on the east; critically it was situated on the site of an ancient ford which Ovid referred to as the *Vada Tarenti*.¹⁶¹ The ford is an important factor (see chapter 3, section 1) as it attests to an accessible crossing point of the Tiber, and crucially a pre-existing pattern of movement. Eugene La Rocca and Coarelli both proposed a fourth century BC date, to coincide with the Battle of Veii in 396 BC, for the existence of a route (*Via Triumphalis*) which crossed at the northwest point of the Campus Martius, connecting Veii and Rome.¹⁶² Evidence for this route

¹⁶¹ Ovid, *Fast.* 1.501 'Carmentis spied the river bank, where it is bordered by Tarentum's shallow pool' '*fluminis illa latus, cui sunt vada iuncta Tarenti*'.

¹⁶² The ford is referenced by Ov. *Fast.* 1.459, Coarelli, 1977, 820-821, 842; 1968, includes the bridge in his version of the triumphal route. Livy, 5.5; Coarelli, 1985, for a more detailed account. La Rocca, 1984, 65-68 and Dey,

is sparse but a first century BC necropolis was discovered along the road (s) which connected to the western bridgehead (see fig. 14 & 15).¹⁶³ The creation of tombs along the road indicates an established pattern of movement which was able to gather structures seeking busy and conspicuous spaces. This suggests that a prominent route existed between the east and west banks of the Tiber by the first century BC.¹⁶⁴ The evidence for this period is augmented by the existence of a large villa on the *ager Vaticanus*, under the modern day *Ospedal di Santo Spirito*, the oldest phase of which dates back to the beginning of the first century BC. The Villa sat within the *horti of Agrippinae*, a large tract of land owned by the daughter of Agrippa.¹⁶⁵ Seneca informed us that the land stretched down to the Tiber, though its largest extent is unknown.¹⁶⁶

2011, 175; *LTUR*, IV, *Pons Neronanus*; Galliazzo, 1995, 23-24.

¹⁶³ The Via Cornelia branched left from the *Via Triumphalis* running east-west and has several tombs located along its route dating from the 1st century AD; Richardson, 1992, 196; Carandini, 2017. The via Appia is one of the best examples of the attraction of roads for tomb building.

¹⁶⁴ See chapter 5 on the importance of monuments in busy places. Toynebee, 1971, for an overview of Roman burial practices including burial of the dead outside of the city limits and on major routes.

¹⁶⁵ Lampe, 2003, 49 and Coarelli, 2008-9, 6-8. Tomei, 2001; *CIL VI*.1.886.

¹⁶⁶ Sen. *Ira*. 3.18



Figure 14: The Digital Augustan Rome map (<http://digitalaugustanrome.org>) showing the city at the beginning of the first century AD. The red arrow highlights the major route from the bridge running toward the Circus Flaminius.

On the Campus Martius two important routes ran from the *Tarentum*, one towards the Circus Flaminius (*Via Tecta*) and the other connecting to the *Via Lata/Flaminia* (*Via Recta*).¹⁶⁷ The first, the *Via Tecta*, was a colonnaded route which passed ancient spaces of the *Trigarium*, the *Circus Flaminius*, the early temples of the Sant’Omobono sanctuary and the harbour, likely affecting the orientation of early structures within the Campus Martius (see fig. 14 and 15),

¹⁶⁷ The naming of these streets is debated, with the *Via Tecta* posited as a corruption of the *Via Recta*, see below. For analysis of the road and its relation to the Triumphal route see Beard, 2007, 92-106; Dio Cass. 56,42; Livy, 30. 21; Plin. *NH*.34.33.

which is suggestive of well-established spatial practice.¹⁶⁸

There is contention over the course and dating of the *Via Recta*, a road which ran northeast across the Campus Martius and connected to the *Via Flaminia*, the remains of which were discovered between one and two meters below the modern streets.¹⁶⁹ The road has been linked to the construction of a bridge during the reign of the Emperor Nero but the exact date of the road is unknown.¹⁷⁰ There is also contention over which road was the *Via Tecta* and which the *Via Recta*, but for the purposes of this thesis I am following the current consensus, as the specific names are not a primary concern; what is important is that the *Via Tecta* provides evidence for an established route from the area of the *Tarentum* and the bridgehead from at least the first century BC.

¹⁶⁸ See Dey, 2011, 175. See chapter 3, section 1.

¹⁶⁹ Lanciani 1883 and 1891 23 on *Via Recta* and 76 on the *Via Tecta*; Quilici, 1983, 62; Palmer, 1990, 58-59; Coarelli, 1997, 120 for a convincing counter argument; *LTUR V, Via Tecta*.

¹⁷⁰ For the Neronian date Wisemen, *LTUR I*, 223. Dey, 2011, 175; Boatwright, 1987, 166. For the argument that the road did not connect to the bridge at the *Tarentum* Quilici Gigli, 1983, 51-54; La Rocca, 1984, 65-68. Coarelli, 1997, 127.

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Figure 15: Lanciani's *FUR* Plates 6, 7, 13 and 14 showing the placement of the bridge piers on the north-western Campus Martius. The proposed spaces of the *Trigarium* and the Tarentum are marked in red as is the area in which remains of the *Horti Agrippinae* and the *ludi seculares* inscriptions were located. The roads running directly away from the bridge have also been marked.

The *Tarentum* (to which the bridgehead abutted) was a sacred area which housed a subterranean altar to Dis and Proserpina; it was closely associated with rites performed at both the *ludi Tarentini* and its successor the *ludi seculares* (secular games), and with the horse racing in the nearby *Trigarium*. The location of the *Tarentum* was confirmed by the discovery of fragments, just upriver from the eastern bridgehead of the Ponte Vittorio Emanuele, from the official Augustan inscriptions which recorded the *ludi seculares* and were erected at the site of the games.¹⁷¹

¹⁷¹Heiken, et. al., 2005, 106. The plain between the Vatican hills and the Tiber has been occupied since Etruscan times. A subterranean altar and religious space which was associated with an early fording point of the river, the *Vada Tarenti* and the *ludi Tarentini*; Festus. 440; Zos. 2.2-3; Val. Max. 2.4.5; Virg. *Aen.* 8.63; Ovid, *Fast.* 1.501; Coarelli, *LTUR V*, 20-22. The secular games had been held in Rome since at least the third century BC and were resurrected by Augustus in 17 BC. For the *Ludi Seculares*; *CIL. IV.* 32326—32335 fragments placed near the Tarentum in proximity to a paved square on the riverbank on the northwest corner of the Campus Martius between the Campus Martius bridge and the Pons Aelius. References to the site and games: Val. Max. 2.4.5;

By the first century AD the Emperors Caligula and Nero had completed the circus of *Gaii et Neronis* on the *ager Vaticanus*, the project was initiated by Caligula, the grandson of Agrippa, but completed by Nero on the land of the *Horti Agrippinae* which ran directly along the Via Cornelia.¹⁷² This addition connected horse racing to both the eastern and western sides of the Tiber along both the Via Cornelia to the west, with the circus, and the *Via Tecta* to the east via the *Tarentum*, the *Trigarium* and the *stabula factionum*¹⁷³

After the Augustan *ludi seculares* of 17 BC, monumental bronze and marble inscriptions were erected in the area of the Tarentum between the bridgehead and the later Pons Aelius.¹⁷⁴ The placement of these inscriptions will be discussed in more detail in chapter 5, section 2 but they were intended to remind Rome's citizens of the return to traditional values such as *pietas* and mark the beginning of a new Augustan golden era.¹⁷⁵ The placement of such high status inscriptions required a busy area of regular movement; this may have been a ferry crossing but, on an increasingly busy route, and in a city which already had at least three other stone bridges, it seems implausible that a bridge would not have been constructed. The *ludi seculares* also provides a connection between the site at the Campus Martius and Antoninus Pius, who restored the Pons Agrippae in AD 147 (see above, section 1,4,6,1) and held the *ludi seculares* in AD 148.

For the purposes of this analysis I have focused specifically on the evidence for the first century BC Pons Agrippae. This was deliberate as the debates about the bridge's existence after the second century AD, and possible demise after the creation of the Aurelian Wall, have little bearing on the bridge of the first century BC; in fact they have often diverted attention away from the location of the bridge during Agrippa's lifetime. It must also be recognised

Festus 440L, 478-79L; Ovid, *Fast.* 1.501; Censorinus 17.8; Livy, *Epit.* 49; Mart. *Ep.* 4.1.8, 10.63.3; Statius, *Silv.* 1.4.18, 4.1.38; Ausonius 16.34; Servius *ad aen.* 8.63; Tac. *Ann.* 11.1; Rantala, 2013, for a detailed discussion of the links between the Augustan and Severan *ludi saeculares*.

¹⁷² Richardson, 84-85. Plin. *NH.* 16.201; Tac. *Ann.* 14.140; Tac., *Ann.* 15.44; Taylor, 2002, 12; Plin. *Nat.* 36.15 'The third obelisk in Rome stands in the Vatican Circus that was built by the emperors Gaius and Nero' '*Tertius est Romae in Vaticano Gai et Neronis principum circo*'.

¹⁷³ Sen. *Apocol.* 13; Mart. 3.5, 8.75; For the debate about this road and its name see Palmer, 1990, 58-59; rebuttal by Coarelli, 1997, 118 and n. 11; La Rocca, 1984, 65-67; Coarelli, 1977, 818-819.

¹⁷⁴ *Ludi seculares* inscription *CIL.* IV. 32326—32335; Rantala, 2013 for a detailed overview of the *ludi* under Septimius Severus which also covers the Augustan games. Varro. *Ling.* 5.15; Newsome, 2009, 32-33.

¹⁷⁵ Galinsky, 2010, 86-88.

that, based on the current evidence, any conclusions about the Pons Agrippae are assumptive not decisive, but that does not rule out an assessment of the plausibility of the different locations, which is where patterns of movement and their gathering ability are so important.

What we know is that the Pons Agrippae existed in the first century AD (*cippus* inscription), and that it was restored by Antoninus Pius in the second century AD (*fasti* inscription). The bridge has, sensibly, been linked to Marcus Vipsanius Agrippae who in the first century BC built structures on the Campus Martius including the *stagnum Agrippae* and the *thermae Agrippae*, and repaired and transformed the city's infrastructure including aqueducts, roads and drains. If correct, the attribution to Agrippa would mean a bridge built, or restored and re-dedicated, in the second half of the first century BC; the specifics of how the bridge came to be named for Agrippa are unknown.¹⁷⁶

The pier remains at the Villa Farnesina do not have a definitive pattern of movement associate with its location in the first century BC, and their placement raises several questions about their viability as the foundations for a monumental stone bridge. The site of the Ponte Sisto avoids the placement issues of the Villa Farnesina piers, but there is no compelling evidence for a pattern of movement before the fourth century AD. However, the bridge which was located at the north-west bend of the Campus Martius has documented evidence for a pre-existing pattern of movement both on the west (*Via Triumphalis*) and east (*Via Tecta*) banks in the first century BC. The question is whether a city, which already boasted three, maybe four stone bridges (depending on the construction date of the Pons Cestius) would have maintained a ford or ferry crossing into the late first century BC? We can only speculate but given the expansion of tombs and *horti* on the *ager vaticanus* it seems unlikely.

Finally, the placement of the *ludi seculares* inscriptions in the *Tarentum*, near the ford/bridgehead, suggests a busy area of prominence within the city. The *Tarentum* itself was a sacred area, but for Augustus to have erected his monumental record of his games it is probable that the area was also a place of regular movement, able to command lasting prestige for the inscriptions. Therefore, movement within the city indicates a bridge and crossing point at associated with the piers at the north-west bend of the Campus Martius

¹⁷⁶ The loss of Livy's text is keenly felt in this debate.

(currently known as the Pons Neronianus) was active by the first century BC, which makes it the most likely candidate for the Pons Agrippa. We can only speculate how the bridge came to be, but given the age of the route between Rome and Veii, it is possible that Agrippa was either responsible for building, or more likely converting the bridge, from stone piers with a wooden superstructure to a full stone structure; the flood of 21 BC which damaged the Pons Fabricius could well have triggered the conversion, but without further evidence it will remain a speculative conclusion.

1.5. Conclusions

This chapter has set out the aims of this thesis and introduced the research questions which guide its structure and analysis. In particular, this chapter has sought to set this thesis within the context of the current research on the bridges of Rome. It has demonstrated that studies of the bridges have largely been restricted to their form and functionality. Consideration of the social and cultural role of the bridges has been restricted to the Pons Sublicius, which is acknowledged to be a sacred object. This chapter has also introduced the bridges, which are the focus of study and offered an alternative placement for the Pons Agrippae.

The next section will explore how this thesis moves the study of the bridges from the functional to the meaningful. It outlines in detail the theories which make up the methodology for this thesis which will take the functional study of the bridges as outlined in this chapter and expand it to reveal the role of bridges within the city's urban expansion and their role in the socio-cultural life of the city.

2. Theoretical Approaches

This thesis aims to break the trend of studying Rome's bridges for their function and form by engaging with a set of research questions which seek to understand movement, socio-cultural life and interaction and urban morphology in the context of the bridges. To do this effectively, we must apply a new methodology which is based on several complementary theoretical approaches from spatial and sensory studies. This methodology will enable a study of the bridges from an original perspective and establish their role within the life and development of the city.¹⁷⁷ Taking a spatial approach allows for the analysis of the different process of production for each bridge, answering questions about their role in movement and social interaction as well as their influence within the urban morphology of the city. It will also determine that the bridges were a particular form of urban space which has not been fully considered by ancient historians. Sensory studies offer the tools to consider how the bridges were perceived, and in what way their location, the addition of statues, inscriptions and their place within Roman history informed their meaning within the socio-cultural life of the city. This thesis is the first study of Rome's ancient urban bridges to use spatial and sensory theory as its primary methodological tools. The next section will discuss how these theories inform the approach and interpretation of the bridges.

2.1. The Production of Space

Spatial theory enables a consideration of the bridges as complex social spaces rather than simply physical locations. A diachronic approach to space enables the lived and meaningful

¹⁷⁷ The study of the senses is a newly developing field within Roman studies, providing a much-needed alternative to the ubiquitous visual models of the Roman city. These models, while useful aids in visualising planned space rarely situate their images within a specific temporal context or add elements of a busy and densely populated city. On the issues of the models see Favro, 2006, 2009, example of digital models includes; visual Rome from Reading University, Rome Reborn.org, B. Frischer; Packer, 2006 and Gorski and Packer, 2015. Early work on the senses in the Greco-Roman world include Mark Bradley and Shane Butler's series *The Senses in Antiquity* which includes separate volumes on sound, touch, taste, smell, sight, and synaesthesia, mirroring the focus of the early work of CONSERT which divided their studies into individual senses. Bradley and Bulter series: touch, Purves, 2017; taste, Rudolph, 2017; sight, Squire, 2015; smell, Bradley, 2014; synaesthesia, Butler and Purves, 2014. A note of caution; by pursuing the study of individual senses over embodied experience there is a danger in privileging one sense over the others as the visual has shown in the past. This thesis will demonstrate that the multisensory and embodied approach is the way forward for the study of senses in the Roman world.

elements of space to emerge through the production and reproduction of space. It reminds us that space is practised and not just planned. Spatial theories emerged in the social sciences in the 1980s with the recognition that a preoccupation with time had led to the neglect of space as a cultural variable.¹⁷⁸ In essence, the focus on when things happened, such as when the bridges were built and rebuilt, has meant that the role of space in the production and reproduction of history has been overlooked. In Roman studies, there is still relatively limited engagement with spatial theory, which has been treated as an unnecessary distraction from archaeological and literary analysis.¹⁷⁹ Recognising and deconstructing the process of a bridge's spatial construction demonstrates that they had a more significant influence on the morphology of the city than has previously been recognised. It also enables the identification of the bridges as meaningful spaces within the socio-cultural life of the city. To identify and articulate the different elements of the bridges' spatial production this thesis will draw on an interpretive framework created by Henri Lefebvre: the 'spatial triad' (conceived, perceived and lived space). The three different but dialectical elements of the triad enable the identification and articulation of the physical, experiential and social elements of the processes of the production and reproduction of the spaces of the bridges.¹⁸⁰

Representations of space or **conceived spaces**; these are the spaces primarily studied by ancient historians; they are the designed spaces of the engineers, architects, and urban planners. These spaces are conceived and controlled and reflect the shifting political ideology

¹⁷⁸ For detailed discussions about the development of space as an active and culturally significant element see Foucault, 1980, 70; Harvey, 1990; 1996; Soja, 1996, introduction; Urry, 2007.

¹⁷⁹ For example, Allison, 2001, and a rebuttal by Laurence, 2004, 104-6. Works which have looked to understanding the role of space in Roman cities include Laurence, 1994; Newsome, 2010; Stöger, 2008, 2011; Kaiser, 2011; Laurence and Newsome, 2011.

¹⁸⁰ Lefebvre, 1991. For an in-depth discussion of Lefebvre's theories see Merrifield, 2008; Elden, 2004; Shields, 1998; Since its publication the triad has been adapted to different spatial theories, notably Edward Soja, 1989, who uses a dialectic he has three spaces, physical, mental and a third social space which is 'thirdspace' a space from which other spaces can be understood (for a critic see Schmid, 2005, 42-43) Also Harvey on absolute, relative and relational vs Lefebvre experience, conceptualized and lived. Lefebvre's spatial triad has been considered as too ambiguous and open to interpretation which has led to criticism see Shields, 1998; Merrifield, 2008; Harvey, 1996. Merrifield argues that Lefebvre left his spatial triad deliberately vague, so it could be adapted to a wide range of research.¹⁸⁰ There is no single way to utilise his theory but to adapt it to the specific spaces studied. For an analysis of Lefebvre's own disappointing analysis of the spaces of Rome and his inaccuracies when applying his theories to historical periods see Newsome, 2009; Shields, 1999, 183.

of the city over time, for example, the Augustan, Neronian or Severan city.¹⁸¹ Conceived spaces intervene and impose upon the natural; they are the spaces of power and wealth which seek order. They represent the contracts for the construction of the bridges, as well as their dedication and adornment, reflecting new political ideologies such as the Aemilian or Hadrianic building programmes.¹⁸² These are the spaces in which the bridges of Rome are currently placed within the study of the ancient city.

Spatial practice or **perceived spaces** are the physical spaces that structure daily life. They are the routes and networks that connect the city, moving people to and from their work and leisure activities.¹⁸³ These are the spaces of daily habit, rhythms influenced by conceived spaces but modified by social activity, such as the short cut across a green space or through a market. Spatial practice is created steadily over time as space is appropriated and adapted as people flow between places. In chapter 3, the persistence and influence of spatial practice are identified in the creation of the Pons Sublicius and in the addition of the Pons Aemilius in the same locality.¹⁸⁴

The third space of the triad are the spaces of Representation or **lived spaces**. These are formed within the dichotomy of the practical and planned spaces of the perceived and conceived. They are the passively experienced spaces of symbols and signs. Lefebvre calls them the space of defiance, a fluid place of 'action' and 'lived situations' they are the people's spaces where the Pons Mulvius with its conceived Augustan ideology is transformed, by darkness, into a place of night-time revelry.¹⁸⁵ Lived spaces are grounded within the city's past by the imagined, the symbolic and the literary, it is the lived spaces of the Pons Sublicius which turned the bridge into a physical representation of *mos maiorum* embedded within Roman society's understanding of its city's past character traits. The 'lived' spaces of the bridges were

¹⁸¹ Lefebvre, 1991, 33, 38.

¹⁸² Harvey, 2001, 203; Lefebvre, 1991, 39, 116, 42; 2000, 165.

¹⁸³ Lefebvre, 1991, 33, 38, 117; Merrifield, 2008, 110-111.

¹⁸⁴ Lefebvre, 1991, 38.

¹⁸⁵ Tac, *Ann.*, 13.47; Suet. *Nero.* 16; On soft spaces of the city see Raban, 1988; Harvey, 1990.

in constant flux, able to become and re-become as they adapted to the city's changing socio-cultural perspective.¹⁸⁶

Natural space is the fourth type of space adapted for use in this thesis; it is used predominantly in chapter 3 to consider the spatial production of Rome's first bridge, the Pons Sublicius. Natural space in Lefebvre's theory is physical space, the origin and original space upon which all social space is created.¹⁸⁷ It is the space that went before human intervention, the physical landscape of the hills and the gravel shelves which offered a path down to the Tiber river. Natural spaces are not superimposed upon social space; they are the bedrock upon which it is developed. They are the determiners of early spatial practice, the choice of a town or river location.¹⁸⁸ Natural space is the foundation of early spatial practice as such, it had a significant bearing on the creation of the earliest pathways and crossing points in Rome.¹⁸⁹

The term 'space' is ubiquitous, being both infinite and limited, and understood in different ways across many different disciplines from the geometrical and physical to the imagined and philosophical.¹⁹⁰ To answer the questions related to the socio-cultural role of the bridges and their effect on Rome's urban morphology this thesis will focus on the notion of social space; space as a process of social construction.¹⁹¹ Rather than just measuring space or considering its design, social space recognises that the production of space is a social process, created by

¹⁸⁶ Lefebvre, 1991, 39-42. Merrifield, 2008; Shields, 1998. Edward Soja, 1996, coined the term 'third space' in his influential analysis of the spaces of Los Angeles. For a critique of Soja see Elden, 2007, on Soja 113-114, who argues that Soja needs to expand his study outside of Los Angeles for this theory to be useful across the discipline.

¹⁸⁷ Lefebvre, 1991, 30-31.

¹⁸⁸ Lefebvre, 1991, 88, rather than today when nature generally refers to wildlife and a whole host of man-made versions of the 'natural'.

¹⁸⁹ Whitehead, 1964 on the complexity and revaluation of our perception of 'natural' space. Whitehead argues from, from a scientific viewpoint, that everything is or can be classed as nature. Objects cannot be separated from their fields, that nature is in fact experienced and perceived through our sense-awareness and can be broken down into the smallest elements. However, for the purposes of this thesis and a discussion of the morphology of the landscape it is important to recognise a natural landscape. In this thesis nature is the active landscape which has agency; natural elements which influenced decisions made about settlement and on-going management of the environment such as topography and rivers.

¹⁹⁰ For an in-depth discussion of the different and problematic approaches to space see Lefebvre, 1991, introduction and Massey, 1992, who effectively demonstrates why space should always be defined when used as a theoretical tool.

¹⁹¹ As defined by Lefebvre, 1991, 26-27 and throughout the work.

the dialogue between the conceived, the perceived, and the lived. Social space is not static; it is not just the conduit through which time alters place and society, but it is where people interpret and alter the world.¹⁹²

The way people understand and interact with space is determined by movement; in the case of the early Roman settlement, the need to access necessities such as food and water created a pattern of movement, which was determined by the accessibility of the landscape between the settlement and the river. The rhythm of movement created a spatial practice which was still part of the daily life of Rome during the Empire.¹⁹³ As the city developed and moved away from its focus on necessities, these continuing rhythms of movement gathered trade and expressions of new political and social ideologies such as temples, porticoes and altars.¹⁹⁴

As people moved through the spaces of the city they were assailed with cues and symbols, all of which imparted knowledge about the current tensions and power shifts within the political and social life of the city. Unreflectively people adapted their understanding of the city to incorporate this new knowledge; for example the addition of Augustan statuary to the Mulvian bridge transformed a familiar Republican structure into a victory monument and a celebration of the city's new *princeps*.¹⁹⁵ This is a simplification of a complicated process which will be articulated in greater detail throughout the following chapters, but it shows that the process of spatial creation is a social construction. People create and interpret urban space; how that space is produced is integral to understanding the history and politics of a city; the introduction of a monumental inscription, statue or arch to a bridge transforms it from a functional thing into a political symbol which can alter how people perceive their city.¹⁹⁶

The terms space and place are used throughout this thesis. They are also ubiquitous words which have a multitude of meanings, therefore, it is prudent to note what is meant by space

¹⁹² Massey, 1992.

¹⁹³ See chapter 3 to 5.

¹⁹⁴ See chapter 3, section 1 and 2 on additions to the river front in the second century BC as an example.

¹⁹⁵ See chapter 5 for a detailed study of the role of statuary on the bridges.

¹⁹⁶ Throughout this thesis I use the term 'thing' to describe something with which people interact. This is in opposition to object which is usually observed and described by the subject referring to its elements of size, weight, colour; its measurability. This thesis is taking an embodied approach to the world therefore 'thing' is used to represent the complexity of the world beyond the visual and the measurable.

and place in relation to this work.¹⁹⁷ There is a wealth of discursive articles and books on the notion of place across disciplines, but for this thesis 'place' is not just a point on a map or an individual notion but a way of understanding how people relate to the world.¹⁹⁸ Space is a rather abstract concept which does not lend itself to the named or meaningful, and is more often associated with the expanse; something moved through rather than a stopping point or place of interaction.¹⁹⁹ Place, on the other hand, is named and mapped; it exists within the connected and meaningful lives of both the individual and the social collective.²⁰⁰ Place is very similar to Lefebvre's lived space but encompasses all the elements of the triad, the conceived, perceived, and the lived. In many ways, place represents the becoming of the spatial process, where the elements of space combine to form a meaningful place.

A conceived place built to last, such as the Pons Aemilius, which required planning, investment, movement modification, the reconstruction of the riverbanks, temples and roads to accommodate its new stone technology. The permanence of the new bridge stood in contrast to the perceived impermanence of the Pons Sublicius; the wooden bridge held a place within the Rome's consciousness both because it did not require significant alteration of the landscape and for its capacity to be easily torn down. The juxtaposition of permanence and impermanence of place enabled a becoming and re-becoming of the bridges and created a new 'betweenness' of place both physically and within the socio-cultural life of Rome which will be considered in depth in chapter 4.²⁰¹ Socially constructed place has a fixed element; it

¹⁹⁷ Chapter 4 deals with the notion of place in relation to the bridges of Rome. For a succinct overview of the relation between place and landscape in Geography see Bender, 2006, 303-314. The concept of place was challenged by Castells, 1996, who argued that the space of place has been superseded by the space of flows facilitated by digital communication. People do not need to be in the office but can work in a park or coffee shop, in the way that an item can be manufactured and assembled different places. What matters he stated was the connection or communication between these places. The issue does not affect the study of the ancient world, but fluidity and changing nature of place should be acknowledged. There are many issues related to this concept (see Webster, 2002) but the difference between the 'space of flows' and the 'space of place', does not allow for the notion that a 'space of flows' can also be a 'space of place'

¹⁹⁸ Cresswell, 2015, 18. For a detailed overview of the history of place see Barnes and Gregory, 1997; Cresswell, 1996; 2015. Some of the key thinkers on place include Tuan, 1977; De Certeau, 1984; Massey, 1994; 2005; Harvey, 1996. For an approach to place which is influenced by the philosophy of Heidegger's 'being-in-the-world' see Malpas, 1999; Sack, 1997; Casey, 1996, 1998; Cresswell, 1996.

¹⁹⁹ Tuan, 1977, who argued for space as the open and place as the pause and interaction.

²⁰⁰ Sack, 1997, 2. For the role of nature in the creation of space.

²⁰¹ Harvey, 1996, 293-296. See chapter 4.

has a meaningful position or a 'permanence' within the process of space-time construction, which enables the fluidity and retention of social memory across time and space.²⁰²

The question of how people moved through and made use of the different conceptualisations of space is fundamental to determining the social and cultural role of the bridges within Rome.²⁰³ Space is a social product; every society produces and reproduces space in a way unique to its own time and situation, for example, the different bridges which were built in Rome reflected the social needs and understanding of the time. The Pons Sublicius was the facilitator; the Pons Aemilius was a statement of change, the Pons Fabricius reflected the need for a permanent dialogue. It is therefore paramount that within any evaluation of space we recognise that it is shaped by historical, political and natural processes; space is not static, it is interwoven with time.²⁰⁴ Each iteration of society constructs its own space creating a variable which can be identified within social changes, for example, a stone bridge in the second century BC was a new technology and required a new process of production which was familiar by the first century BC.²⁰⁵ In other words, the ideology of groups and their reaction to the representations of space played a part in how the bridges were understood by each society.

Political and social processes influenced the way the spaces of the bridges evolved and were interpreted within the urban morphology of Rome.²⁰⁶ Literary and archaeological evidence demonstrates how their spaces were appropriated by the elite to create a physical link between the present and the past. The Pons Sublicius was the site of Rome's most famous moral *exempla* which was emphasised by both Augustus and Antoninus Pius in their campaigns for a return to traditional moral values.²⁰⁷ However, the emphasis on the past within the present was only possible through the juxtaposition of the between spaces of the Pons Sublicius and the Pons Aemilius, which enabled the moving body to interpret and

²⁰² See chapter 5, section 3.

²⁰³ Harvey, 2012, 126.

²⁰⁴ Lefebvre, 1991, 31.

²⁰⁵ Lefebvre, 1991, 35-40. Elden, 2004, 108 – 109.

²⁰⁶ Massey, 2005, 17.

²⁰⁷ Harvey, 1990, 203-204. See chapter 4 and 5.

construct a perception of the ancient past within the spaces of the city.²⁰⁸ As Massey suggests, space is a history of journeys and correspondence which make the world meaningful.²⁰⁹

One of the most significant effects of the introduction of a bridge is the alteration of the rhythm of movement. When a bridge is added a rhythm of movement is created which usurps nature and changes the perceived notions of near and far.²¹⁰ When the materiality of a bridge is changed and a stone bridge is added the rhythm changes again, the size and type of vehicles can be increased as can the size of the loads. Rhythms structure the world; it defines movement and alters the spaces we inhabit; wherever there is movement there is a rhythm which is both mutable and repetitive. The rhythm of daily life is not something of which we are always aware, but it creates a meshwork of correspondence and interaction which is particularly significant within complex urban spaces, where large numbers of people work and reside.

Lefebvre's theory of rhythm, which he called rhythmanalysis, emphasised the interaction between the spatial, the temporal, and the body.²¹¹ Rather than focusing on rhythm as repetition, he pointed out that the rhythm of movement is in fact always changing. The ritual of the *argei*, which culminated at the Pons Sublicius, happened every year in May; all the sensory indicators which made up the understanding of the space and the ritual, were unified within the particular rhythms of May.²¹² People experience the same walk to work, they walk a route which is altered by the days, seasons, weather, and the social and political climate; we do not walk to work in May in the same way we do in November.²¹³ Rhythm is sensory; it

²⁰⁸ For detailed analysis of the theories of time and movement patterns see Harvey, 1990, 202, 214; Soja, 1989; Herbert and Thomas, 1982, 362-367; Laurence, 1994, 122-132. For the perception of the Pons Sublicius and the Pons Aemilius see chapter 3, section 1.

²⁰⁹ De Certeau, 1984; Massy, 1994.

²¹⁰ See chapter 3, section 1.

²¹¹ Lefebvre, 2004, 14. Lynch, 1984, 38. Lefebvre had already raised the issue of Rhythm in the 1991 production of space. Merrifield, 2008, 74-75 is disparaging about the concept of rhythmanalysis. Lefebvre, 2004, 6, 31, in using the body as the interpreter of rhythm through the senses, Lefebvre's theory corresponds with Merleau-Ponty's embodiment and situatedness.

²¹² See the ritual of the *argei* in chapter 4, section 4.

²¹³ Whitehead, 1964, 14, considered entities in space not just as a collection of things but as making up the character of the space through sense awareness.

is a dialogue, and it is the senses which recognise the temporal-spatial relationships. When rhythm analysis is applied to the bridge of Rome it enables the identification of elements in the environment which would change the lived spaces of the bridges.

The addition of rhythm to the theoretical tool kit allows for the recognition of time-space practice focused on the *longue durée*, rather than focusing on a single fixed agent of change. Every city has a multitude of overlapping rhythms influenced by nature's cyclical changes, such as the sunrise and sunset or (in the case of Rome) the volume and speed of the Tiber's current. The construction of the Pons Sublicius has been attributed to defensive concerns related to the Janiculum and the desire for better trading links. However, a consideration of the landscape also highlights significant pressures on the profile of the Tiber caused by natural and human changes along its course.²¹⁴ The identification of changes within a multitude of overlapping rhythms can then be used to study the process of spatial production outside the purely political and economic to include the natural.²¹⁵ A consideration of the polyrhythmic spaces created by the Pons Aemilius and the Pons Sublicius indicates the existence of a new space of betweenness which altered the perception of both bridges and created a combined space through which both the bridges were understood.²¹⁶

The application of rhythm analysis allows for a consideration of movement which is focused on more than the destination i.e. how people got from one place to another in the shortest time.²¹⁷ People moved around the ancient city of Rome on foot and in open vehicles enabling an interconnectedness of the city's rhythms and social spaces, which is increasingly lost in a modern world dominated by insular vehicles. Movement through the spaces of the city was understood through the senses, for example different areas had different temporal sensescapes; the changing of the seasons were signified by the produce sold, different vegetables, flowers and spices all of which transformed the sensescape altering the smells, sights and sounds across the city.²¹⁸ The shifting of the day between morning and evening, the weather, the height of the Tiber, and the flowering of different plants all indicated

²¹⁴ See chapter 3, section 1 for a detailed discussion.

²¹⁵ Lyon, 2019, 33.

²¹⁶ Lefebvre, 1991, 206; Lefebvre, 2004, 25. Heidegger, 1971, 53.

²¹⁷ Hillier, 2001 on distance minimisation.

²¹⁸ Arnaud, 2017; Wallace-Hadrill, 2017; Holleran, 2017; Malmberg, 2017; Day, 2017.

temporal change which evoked a different set of rhythms. The body experienced and interpreted the fluid spaces of the city through movement and rhythm, which were an essential element in the interpretation of daily life of the city for its inhabitants.²¹⁹ The rhythm changes around the bridges and in the materiality of the bridges themselves determined how they, and the journey between their banks, were perceived.

Consideration of spatial processes demonstrates that cities are not all ordered and conceived spaces; people from all social classes inhabit cities and make them their own. We do not have examples of how the Romans adapted the spaces of the bridges, but movement always attracts, and the regular patterns of movement created by a bridge offered a multitude of possibilities for the inhabitants of Rome. A modern example illustrates the adaptability of both people and spaces within the urban environment. The Rom Hoob (meaning umbrella/parasol-closing) market on the Mae Klong railway in Thailand sprung up along the railway tracks in a ribbon-like flow. The continuous and regular influx of movement from the railway station combined with the limitations of space within the city created the possibility for new spaces based on the rhythm of the eight trains which ran along the tracks each day. The regularity of the trains enabled traders to create stalls uniquely adapted for easy movement allowing the trains to approach and pass.²²⁰ It is an appropriation of space which defies urban planning but which speaks to the importance and adaptability of the spatial; when a planned market space became full, people adapted the existing spatial practice to capture established flows of movement. This created a lived space born out of necessity, which became a tourist attraction which in turn generated a new rhythm of movement within the urban space. It is plausible that the bridges of Rome were adapted in much the same way; we see the conceived spaces of the ancient city, but we must not forget that the Romans lived and adapted their spaces to facilitate their daily rhythms and needs, selling wares on the

²¹⁹ Stenton, 2009, 62-73, for an inspiring discussion of the sensory nature of the John Gay Poem Trivia written in 1716 which details the changes to London between night and day and over the seasons capturing the rhythms and flows of the city.

²²⁰ The stalls are all designed to make best use of the small space and can be quickly moved out of the way of the four trains a day which use the track. See Local Flows: Rom-Hoobs's Phenomena of Transition in Sinuraibhan, 2012, 135-143, the market has a number of different names including Hoop Rom and Rom Hoob but I am following the version used in this source. The following YouTube video shows the market adapting to accommodate the trains <https://www.youtube.com/watch?v=UCxb7X0zN18>.

bridges or begging for alms.²²¹ Applying spatial theory to the bridges can their places within the temporal urban development of the city can be assessed, and their social and cultural relevance uncovered.

2.2. Meshwork

The process of the production of space can be deconstructed and articulated, but to answer successfully the research questions related to the social meaning of the bridges, the relational role between people and bridges over time must be deconstructed in order to understand the bridges' process of socio-cultural production and reproduction. As Whitehead argued, the analysis of things is about discovering their interconnectedness, the truths which exist between things.²²² The term 'archi-textures' was utilised by Lefebvre to situate each structure or thing within its contextual surroundings and networks, texture being the correspondence between the spatial triad and between things, people and space.²²³ The empirical approach uses the term 'network' to identify connected things which exist within a multi-relational construct such as a network of international offices. The network allows the connections between the locations to be mapped using linear lines to connect relational points (the offices), which can then be measured and recreated. However, the notion of networks is too reductive to represent the fluid temporal connections which exist in the urban environment, where all developments are interwoven and stretch out temporally as well as spatially.²²⁴

²²¹ *Juv. Sat.* 14.134; *Sen. De. Vit. Bea.* 25.1; *Mart.* 10.53; 12.32; *Ov. Ibis.* 416-418. For discussion of Juvenal and references to the bridge see Courtney, 2013, 190-191, 228. On Martial see Watson, 2004.

²²² The relational aspect of the process has been synonymous with agency (the ability to influence the world, either by choosing to act or not to act) see Bourdieu 1977, 1990 and Giddens 1984. The agency issue is contentious and too complex a discussion for this thesis. However, the term agency will not be used in relation to bridges. Following Ingold and Knappett the concept of agency requires a reversion to the subject object dichotomy and ignores the flows that exist in the world and between people, things and substance and relies on a static and isolated understanding of things as objects. Agency is a reduction of the relationships in the world; to be clear people have agency, nature has agency in the form of rivers and the land which can shift and change but 'things' do not have agency in themselves. For a detail discussion of agency see Gell, 1998; Tilley, 2004; Hoskins, 2006, 74-84; Harris and Cipolla, 2017. On actor network theory Latour, 2005; Against objects having agency Knappett, 2005, 29; Ingold, 2008,2010, 2011a, 2011b. Whitehead, 1964.

²²³ Lefebvre, 1991, 118.

²²⁴ Ingold, 2013, 97-104. Lefebvre had issues with the concept of flow and stated that in a world of commodities there needed to be points which moored elements of the chain. For the purposes of the study of the ancient world, flow allows for new questions and can trace the temporal elements of a meshwork better the reductive network of connectors. Lefebvre, 1991, 403.

Merleau-Ponty and Lefebvre both refer to the movement of the body through space as being like waves, flows of rhythms which stretch out to the world, but it is the notion of meshwork developed by Tim Ingold which allows for both the linear and the fluid, enabling a re-articulation of the flows across time and space.²²⁵

Inspired by the rhizome concept developed by Deleuze and Guattari, Tim Ingold based his theory of the meshwork on the analogy of the multiple connecting capabilities of a rhizome, a plant structure which divides, sending out new stems which build up and out from multiple points of the trunk to create a heterogeneity and non-hierarchical system.²²⁶ Ingold adapted the concept by replacing the rhizome with a spider's web; within the web, the lines do not just connect they become the possibilities along which the spider 'perceives and acts.'²²⁷ It is between the connections where the perception and understanding of the world flows and changes. For example, the Pons Mulvius occupied a prominent and symbolic place where the Via Flaminia (Rome's northern road) crossed the city's natural boundary, the Tiber, and entered the peri-urban spaces of Rome.²²⁸ When Augustus came to power, the Pons Mulvius offered the possibility to alter the perception of the city for all who entered and exited by the northern route. By appropriating the bridge for Augustan imagery, but not changing its name and identity, it re-became a part of the Augustan *res publica restituta*, linked to the past but

²²⁵ Merleau-Ponty, 2012, 451-452. In the same way that the body interprets the unity of its environment the notion of waves illustrates the complexity of the flows, we cannot observe any one wave, only the whole of multiple waves following one after the other. Merleau-Ponty argued that time should be considered as a flow rather than a before and after. He also points out that this 'texture' is part of the body's moving relationship with the world. Lefebvre, 1991, 87, 113. Lefebvre, 1991, 88, on fluid movement, he also uses the concept of rhythms and waves to articulate a correspondence; great waves interfere and collide while smaller waves mingle with the currents to create many temporalities, making it difficult to locate the source or activity which created them; the big and small all alter space through the flows. The concept of flow releases us from creating a permanent end to end connection. Whitehead, 1964, 108-109.

²²⁶ Meshwork was a term which Tim Ingold borrowed from Lefebvre and adapted. Ingold, 2010, 11; Lefebvre, 1991, 117. Deleuze and Guattari, 2004, 480-482. Hamilakis, 2013, 126 who recognised the concept of rhizomatic allows for a more fluid order to assemblages. Ingold, 2010. Ingold, 2011a, 212-213; Deleuze and Guattari, 2004, 251, 276, 362-365. Ballantyne, 2007, 31.

²²⁷ Ingold, 2010, 0-11 and 12; Deleuze and Guattari, 2004, 323, 343-344.

²²⁸ For details of the Pons Mulvius see chapter 1, section 4.2.

encompassing the present. The bridge was a hub within an experiential armature of Augustan experiences which flowed out across the city and outward to Rimini.²²⁹

The connection between these methodologies is the concept of correspondence or flows between people, things, time and space. The textures of Lefebvre and Merleau-Ponty can be blended with Ingold's correspondence to form the communication flows of the meshwork.²³⁰ Ovid's description of time as a river encapsulates the non-linear nature of life 'All things are in a state of flux, and everything is brought into being with a changing nature. Time itself flows on in constant motion, just like a river [...] wave is pushed on by wave, and as each wave is both impelled by that behind and itself impels the wave in front, so time both flees and follows and is ever new'.²³¹ The lived experience is a continual process of motion and correspondence, which is connected by the flows of myriad interconnected meshworks. The city and its structures are made up of layer upon layer of lives which produce and reproduce the spaces and places around them.²³² They are a result of their historical processes, which are themselves the result of the flows of not only information or physical movement but also of time, meaning, perception, culture and identity which is all captured within the meshwork.²³³

The Pons Sublicius cannot be understood as a simple precursor to the Pons Aemilius and should not be approached as a typology for the development of Roman bridges in general. Its continued meaning to Roman society cannot be explained by straight lines. The bridge was preserved because it connected the past to the present. Through ritual movement and its

²²⁹ The meshwork of the Pons Mulvius is discussed in detail in chapter 5. The term meshwork was taken from Lefebvre, 1991, 117 who uses the term to describe social and mental activity imposed upon 'nature's space'. Ingold, 2013, 132-133. Other connective outlines for interaction include entanglement as posited by Ian Hodder, 2012, 2016, which is based on a complex and didactic theory of dependence and dependency between people and things, but it is focused on the present of a situation which makes it unsuitable for temporal analysis. It also focuses on object and subject which reverts back to the empirical dichotomy this thesis is trying to avoid. For details of the connection between the Pons Mulvius and the Augustan Arch in Rimini see chapter 5, section 3.

²³⁰ Ingold, 2007, 80 and, 2011, 145-155; Lefebvre, 1991, 118; Merleau-Ponty, 2012.

²³¹ Ovid, *Met*, 15.176-185. *'cuncta fluunt, omnisque vagans formatur imago; ipsa quoque adsiduo labuntur tempora motu, non secus ac flumen; neque enim consistere flumennec levis hora potest: sed ut unda inpellitur unda urgeturque prior veniente urgetque priorem, tempora sic fugiunt pariter pariterque sequuntur et nova sunt semper'*

²³² Lynch, 1984, 327-8.

²³³ Ingold, 2007, 12.

association with *exempla* and *mos maiorum* the meshwork of the bridge offered infinite possibilities for multiple generations of Romans to experience the past in their present. The meshwork does not have connecting lines; like the river, it is not spatial but temporal, the lines of flow in the meshwork overlap and move through but they do not form a neat set of connectors, they are hubs where lines of becoming are drawn together loosely and are incomplete.²³⁴

Within Ingold's meshwork, flowing lines of becoming overlap to form what he terms a knot, but this leaves a multitude of overlapping knots which do not reflect the gathering ability of meaningful places.²³⁵ This is where Heidegger's notion of gathering comes to the fore; unlike the knots, the process of the production of space gathers the different flows which are in continuous correspondence.²³⁶ People are inseparable from and grounded in the world; when we approach a thing, we do not see it as a single object, but part of a totality comprised of equipment, skills, culture and knowledge, building a set of relationships all of which are in correspondence within a meshwork. The gathering element of the meshworks can be understood as places or areas of social interaction where the flows of things and correspondence are in dialogue. Rather than referring to these elements as knots, the gathering is better served by the term hubs. In a spider's web, the centre is the hub where the spider sits and corresponds with the vibrations from the wider web. In the meshwork, these vibrations are the flows of correspondence between the layers of space and time, which

²³⁴ Ingold, 2010, 132-133.

²³⁵ Ingold, 2007, 80 and, 2011, 145-155.

²³⁶ Heidegger's 'gathering' focuses on place; encompassing things, the landscape and the atmosphere, but it does not take account of the temporality of place, isolating the bridge within a point in time, to its immediate relations and ignoring the conditions of possibility. For this thesis temporality is critical things do not just emerge among things but are a web of interwoven processes of production. The bridges gather not just things but social and cultural elements of the bridge and its surrounding area over time. Heidegger links dwelling to the idea of authentic and inauthentic reflected his unhappiness with re-building in post war Germany. Dwelling from a philosophical perspective of modern living is not relevant for this thesis as it speaks to modern concepts of capitalism and living which does not map onto the ancient world. Casey, 1998, 273-275, though his analysis tends to lend itself, like Heidegger, to the imagined rather than to real situations and is hard to implement to real world situations. Sharr, 2007, 46-50 for an accessible discussion about Heidegger's theories on building and dwelling and the bridge. Casey, 1998, 273-275 for a discussion of location creation by Heidegger. Heidegger, 1971, 150-152, through the four-fold. Ingold, 2011, 14. Lefebvre on Heidegger's concept of dwelling, 1991, 121-122, in which he argues that Heidegger's focus on being does not allow for a production of space which is in correspondence. Rather Heidegger's being is grounded in time and therefore things emerge among other things.

connects the socio-cultural relationship between people and the bridges. The early foundational story of Horatius Cocles at the bridge retained a physical presence in the form of the Pons Sublicius which was used in the late Republic as an *exempla* and again by Augustus as a reminder of Rome's *mos maiorum*. This image was evoked in the second century AD through the meshworks flows of re-becoming when Antoninus Pius called on the same social meaning of the bridge during his reign.²³⁷ Becoming and re-becoming recognise that the meanings of things are not static but flow in and out of social consciousness and are retained within the flows allowing them to resurface when needed. In the case of the Pons Sublicius, the physical reminder of these virtues ensured its continued relevance; the becoming and re-becoming of the bridge were where its social and cultural meaning resided.

Things within a city are all connected within the process of urban production, and changes to any part of the city affect the lines of flow within the meshwork. These may be physical in the form of altering movement, or it may be a change in perception. The bridges do not exist within a static process, they become and re-become within the context of their urban environment. Becoming, for this thesis, relates to the bridges and their becoming in relation to the city of Rome and their wider relationship to the empire. Becoming should be understood as open-ended but should also be within the context of the production of urban space.²³⁸

The concept of meshwork is necessary to connect space and things to the people who inhabit the city. Space and time are the way in which we express truths about the relationship between events; the Pons Aemilius was completed in 142 BC. However, if we take space and time as our only areas of study the world becomes abstract, reduced to black and white, the essential element of experience through sensory awareness is missing, depriving us of all the colour.²³⁹ The meshwork of connections which focuses on flows of possibility and correspondence moves the analysis of the bridges further away from the subject and object

²³⁷ See chapter 4, section 2 for an exploration of this connection.

²³⁸ For the definition of urban production see note 12.

²³⁹ Whitehead, 1964, 108-109. Whitehead's thoughts on nature and our relationship with the world should be essential reading for anyone studying the senses.

division and toward a more holistic approach to the city, one which recognises the importance of the relationship between the built spaces of the city, movement and social interaction.²⁴⁰

2.3. Experience – Perception and Background

How does the form, alteration or location of a bridge effect the way it is understood by a city's inhabitants? Lefebvre recognised that space is interpreted through the body and mediated by the senses, but to understand how that process works, we turn to the theory of embodied perception as conceived by Maurice Merleau-Ponty.²⁴¹ Prehistorians and architects have embraced the theories of Merleau-Ponty as a way to access how people interact with the structures within their landscape, but to date he has not become influential in Roman studies.²⁴² Merleau-Ponty emphasised 'embodied perception' or bodily engagement with the world and, in particular, the way people lived in and understood the world through their senses.²⁴³

²⁴⁰ Najbjerg and Trimble, 2006, 99. In philosophy the subject is understood to be the observer and the object is the thing being observed. This division is born out of Cartesian dualism, which separates the mind and the body. Bullmore, 2018, 110-111, 177 demonstrates that the move away from the dualistic to a holistic approach is being taken across disciplines. Bullmore discussed how the perceived separation of mind and body have hampered the treatment of depression. The prevailing dualist orthodoxy treated the brain and body separately resulting in causes of depression related to bodily injuries being overlooked. Bullmore advocated for a more holistic approach to medicine which treats the whole body rather than treating the mind and body as separate entities. His approach resonates with the study of ancient Rome which has, in the same way as medicine, divided the study of the city into the scientific and the subjective.

²⁴¹ Day, 2013, 20-21. Sensory studies can be employed successfully in the study of the ancient Roman world. However, as it is still in its infancy, it faces challenges, not least in the creation of methodologies which can then be utilised across Roman studies. It must be shown that use of the bodily experience to understand the Roman world is more than a subjective attempt at 'populating the past with people like us' or a soft option in the study of Roman lives.

²⁴² Tilley, 1994 in his controversial book *A phenomenology of Landscape* and Malafouris, 2013; Betts, 2017, 1-12 and 193-199 for the influence and possibilities of Merleau-Ponty within sensory studies. For an accessible overview of the application of Merleau-Ponty's theory to architecture see Locke, 2015; Hale, 2017.

²⁴³ Phenomenology definition in the OED; the science of phenomena as distinct from the nature of being. An approach that concentrates on the study of consciousness and the objects of direct experience. Merleau-Ponty was primarily influenced by the phenomenological approaches of Edmund Husserl, Martin Heidegger, and Gestalt psychology. For an introduction to Merleau-Ponty and his influences see Matthews, 2006; Carman, 2008; Romdenh-Romluc, 2011. Edmund Husserl was the first prominent phenomenologist, and his theories went beyond the traditional Cartesian dualism of subjects perceiving objects; he was interested in how objects were/are revealed to subjects. Husserl was interested in 'getting back to the things themselves', the human experience of objects. The concept of intentionality was one of his most significant theories; the idea that experience is always related to something outside of the self (known as intentionality of experience). For an

The importance of embodied perception is found in its ability to transcend the subject-object dichotomy and to reintroduce the background of the world. The limitations of approaching bridges as the objects of study divorced from their contextual surroundings can be seen in many representations of the ancient city in which the bridges are transformed from busy and complex social spaces to plain and depopulated stretches of stonework.²⁴⁴ To consider how people may have experienced ancient Rome, there needs to be a shift away from visualising the city toward the analysis of how people inhabited the city. This is not to suggest that we could experience or sense Rome as the Romans did, but we can seek sensory cues which when added to the archaeological and literary evidence can generate new questions, such as how the introduction of a stone bridge might alter the perception of an ancient wooden bridge.²⁴⁵

To consider how monumentality affected the way the bridges were perceived, how people engage with the world must be explored. The world is an environment which we inhabit; it has many possibilities, opportunities and obstacles which must be overcome daily.²⁴⁶ As we inhabit our environment, the world evolves for us because we become aware of and familiar with our surroundings; we form habits.²⁴⁷ Habit is understood through the body, it is not a process of cognitive memory recall but the body working as a whole to understand the signification of our actions or future actions. For example, when walking across a bridge in Rome, it is the body that understands the significance of people carrying umbrellas. In order to pass those people, extra space will be needed to allow passage without getting wet. It is

accessible overview and biography of a range of Husserl topics see Smith and Woodruff Smith, 1995; for the application of Husserl in Sensory Studies see Ihde, 2007.

²⁴⁴ Haw, 2005, 13-14. See note 1 for examples; reconstructions have a valuable place in the study of the ancient world but should be recognised as not reflecting the day to day existence of the city and should always be clearly dated.

²⁴⁵ A question which will be answered in chapter 4.

²⁴⁶ Carman, 2008, 26.

²⁴⁷ In later life he began to develop his ideas about the pre-reflective *cogit* and its element of the reflective; he documents this in the unfinished work *The Visible and the Invisible*, 4.171, under reversibility of the flesh. As these works are a collection of notes that are not fully formed ideas, they do not form complete theories. This is discussed at 110 by Carman, 2008; Romdenh-Romluc, 2011, Matthews, 2006; Dillon, 1988. Lefebvre, 1991, 183, note 209 on Merleau-Ponty's attachment to the subject and object and his move away from the phenomenological later in life. Merleau-Ponty, 1969, 178-200; Schmid, 2005, 38; Lefebvre, 1991, 183. As with any theory there are always limitations, as Merleau-Ponty himself recognised there is an inherent contradiction in describing the world: we need to step back and reflect on the world, which fails to extract itself fully from the Cartesian subject/object dichotomy. He goes on to state that: this is also a problem which is impossible to overcome.

the body's movements guided by intention which then incorporates the space of the umbrella into its own bodily space.²⁴⁸ We unconsciously understand the significance of an umbrella and unconsciously adapt the new spatial requirements into our movement pattern. The rhythms of our daily lives mean we can navigate our environment without active thought leaving us free to consider other tasks.²⁴⁹ People spend most of their lives being motivated to act but not having to reflect on that action; for example, walking a familiar route or picking up a pen to write does not require active consideration unless something has changed.²⁵⁰ It is when change occurs that people function in reflective ways for example when a road is flooded or a bridge becomes impassable. These changes prompt a consideration, or reflection, of the world, a need to think about the possibilities and opportunities available. It is the need which arises out of the pre-reflective mode which motivates people to discover new ways to deal with or understand their environment.²⁵¹

The body schema is the unreflective body, or the ability of the body to work on 'autopilot', such as in a walk home while considering other tasks. Our familiarity with the world evolves as we become more familiar with our surroundings. The body is oriented to tasks, which explains our ability to function in familiar situations. In an unknown street, we still stay on the pavement and look for cues such as street signs which enable us to navigate without active thought. It is our familiarity with the world which allows us to access the appropriate behaviour such as walking on the pavement or waiting at a red light. It is also how people are able to communicate sometime vague and random directions, as in the case of Syrus and Demea in Terence's *Adelphoe* in which a 'large fig tree' and 'the house of that wealthy guy Cratinus' are both used as way points.²⁵² Shared familiarity with the surrounding environment informs the way people react and adjust to change, as in the addition of a new bridge in a

²⁴⁸ Merleau-Ponty, 2012, 143-148 who uses the example of a keyboard to illustrate habit. Paul Connerton, 1989, also uses the concept of habit in his studies of social memory. However, his focus is on the performative memory and the role of bodily practices mainly in relation to commemorative ceremonies.

²⁴⁹ Hale, 2017, 18-19.

²⁵⁰ Mart. 7.61 who mused on the changes made by Germanicus which curbed the creep of the shops and enabled the streets to become once again passable; the change causing a reflection of how restrictive and crowded the streets had become. Merleau-Ponty, 2012, 87.

²⁵¹ Matthews, 2006, 55; Carman, 2008, 28. Romdenh-Romluc, 2007, 2011 for a critical discussion of this concept.

²⁵² Ter. *Adel.* 572-583. '*illi ubi etiam caprificus magnast' 'scin Cratini huius ditis aedis?' from Hartnett, 2017, 298-299. Merleau-Ponty, 2012, 2012, 21, 123, 142,249.*

new material. The function of the bridge is still familiar as is the place but the materiality of the structure creates a new set of possibilities to which people adjust; the greater capacity for loads, use of the bridge even in high water and the sensations created by movement across the bridge.

Our bodies are the interpreter of the world; not just the visual, aural or haptic but the whole bodily sensory system. Perception is a reciprocal process; the direct objects of perception are understood and have meaning through our interaction with them.²⁵³ Merleau-Ponty describes the body as being directed towards the tasks it needs to carry out, and it relates to things as components of these tasks; he calls this concept 'at grips with the world'.²⁵⁴ People find unity with the things in the world by getting to grips with them; for example, a bridge becoming an element of a journey, or a place from which to offer a votive to the Tiber. These actions will often be unreflective but create a 'momentum of existence' in which the body is always adjusting to the possibilities offered by the rhythms of movement.²⁵⁵

The bridge becomes part of a daily rhythm of movement, but the body schema is always evolving, adjusting 'habit' to its surroundings. Habit also offers the possibility for change; by adding new elements to a familiar situation the cues are altered.²⁵⁶ The understanding and meaning of the space require an active readjustment and a consideration of its new possibilities. For example, a wooden bridge is typical until a stone bridge is created alongside; then it becomes something else, an outdated structure or a representation of the past. The addition of Augustan statuary to a bridge alters its meaning and connects it to all the other Augustan cues around the city and across the Empire. The addition of stone bridge piers offers the possibility of increased fishing and even shelter from the elements.²⁵⁷ It is important to emphasise that change alters perception, creating meaning which is always *for* someone and that someone is always situated within an environment creating a unity of perception.²⁵⁸ The

²⁵³ Merleau-Ponty, 2012, 61. Romdenh-Romluc, 2007, 47; Merleau-Ponty, 1963, 166-169.

²⁵⁴ Merleau-Ponty, 2012, 114-115; Smith, 1996,16; Merleau-Ponty, 2012, 353 who was also influenced by the work of James Gibson and his concept of affordances; In the very simplest terms; perception leads to action. Affordances offer possibilities for action for example stairs are often used as seats.

²⁵⁵ Dreyfus, 2007, 63-64.

²⁵⁶ Merleau-Ponty, 2012, 131, 145; Hale, 2017, 19.

²⁵⁷ Hale, 2017, 83.

²⁵⁸ Smith, 2007, 23-4.

bridges sat within specific surroundings which formed the background of their perception; the Pons Sublicius cannot be understood outside its contextual location at Rome's ancient riverine font door.²⁵⁹ The collective habit of ancient Rome was not just altered by the significant temporal political changes but by the smaller material and rhythm changes, which affected the way people inhabited their city.



Figure 16: Rennie's London Bridge in the 19th Century. Image: Public Domain.

²⁵⁹ See chapters 3 and 4.



Figure 17: Rennie's London Bridge in Lake Havasu City, Arizona, USA. Image: Ken Lund, Las Vegas, Nevada, USA.

The importance of the unity of perception is demonstrated by London Bridge²⁶⁰ The Romans built the first bridge over the river Thames in the first century AD to connect the site of Roman Londinium to the south bank. It was the only bridge which crossed the Thames at London for nearly eighteen hundred years. The bridge has been rebuilt multiple times in a variety of different forms but still holds a prominent role in the cultural memory of the city, featuring in artwork, poems, literature and folk songs.²⁶¹ In 1968 the John Rennie iteration of the bridge was sold and rebuilt stone by stone in Lake Havasu City, Arizona (see figs. 6 and 7.). Physically it is the same bridge, but it is no longer London Bridge; what made London Bridge significant to the city was its unique sensescape and the background within which its socio-cultural

²⁶⁰ Throughout this thesis the 'unity of perception' will also be referred to as the 'background of perception'.

²⁶¹ Watson, Brigham, Dyson, 2001.

meaning and relevance resided.²⁶² Despite the somewhat anonymous form of the current bridge the dialogue between the city and its primary bridge still exists today.²⁶³

2.4. Conclusions

This chapter has set out the theoretical framework which will be utilised throughout this thesis to engage with and answer the research questions detailed in chapter 1. This thesis aims to demonstrate how the bridges of Rome influenced the way people inhabited the city, but it can only achieve this through the addition of spatial and sensory theory to the toolbox of ancient historical analysis. It is not an attempt to move away from archaeological or literary evidence, but to enhance and develop existing methods with new questions and perspectives; we ignore space and the senses at our peril as they are the bedrock of the evolution of every city and its social and cultural ideology.²⁶⁴

The following three chapters will apply Lefebvre's spatial theories and triad (conceived, perceived and lived space) to identify the role of the bridges within the urban production of Rome, and determine the different forms of movement and social interaction they facilitated. The meshwork will be used to connect the meaning of the bridges within the spaces of the city both in the present and over time. Movement will be considered as an embodied process

²⁶² When discussing the landscape in a sensory context the term *sensescape* will be used to emphasise the experiential qualities of the environment. Landscape is the general term for the visible features of an area; it encompasses everything that the 'eye' can see including the rivers, buildings, vegetation etc., but it was recognised as being visually biased within western vocabulary see Howes, 1996, 91; 2006; 2013; on the Ongree who relate to their surroundings through smell rather than sight.²⁶² The term *sensescape* offers as a more neutral term which encompassed the embodied experience of the world. Unfortunately, the concept of the 'scape' has then been fractured to cover every different type of sense or environment; soundscapes, smellscapes, riverscape and so on. Howes pointed out that this segregation of the senses helped to refine how each sense contributed to peoples understanding and experience of space, which led to the creation of yet another term *intersensoriality* to cover the interaction between the senses. This approach sits uncomfortably with the initial justification for the use of the term running the risk of separating the unity of the embodied world even further. For example, 'riverscape' splits the river from its contextual surrounding, river, banks and city are symbiotic one cannot be considered without the others, to do so is to misrepresent way people interact and understand the world. The term *sensescape* will be used to describe the landscape in sensory terms when applied to the methodology and discussions of this thesis.

²⁶³ Brewer, 2001 London Bridge's fame often results in tourists confusing London Bridge with Tower Bridge, the plain modern bridge which represents the history of the riverine city is at odds with the visually impressive Tower Bridge which lacks the historical depth of its neighbour, a confusion which is highlighted in the bridge's Wikipedia page which states at the top 'not to be confused with Tower Bridge'.

²⁶⁴ Harvey, 1990, 257

which unifies and reveals the world through reflective and unreflective processes, to reveal how the spaces of the bridges are changed both by their physical structure and by movement itself.²⁶⁵ It will focus on how change and the materiality of the bridges altered how they were perceived and understood within the socio-cultural life of the city. The following chapter starts at the beginning with the process of spatial production.

²⁶⁵ Lefebvre, 1991, 90; Wharf and Arias, 2014, 1; Foucault, 1986.

3. The Production of Urban Space: Rome's First Bridges

3.1. Tracing Natural Space – Moving toward a bridge

The process of city creation is rooted in nature, it is a vital element in determining foundational spatial practice; early settlers in Rome sought safe places upon which to build; natural pathways provided access to the hills with inlets and fords providing safe access to and across the Tiber.²⁶⁶ In the early period of the settlement's history the land and the river had agency; people adapted to nature's rhythms, not the other way around. Movement is a persistent force which attracts; as the settlement of Rome grew, structures were built along those early paths and trackways, market areas and harbours appeared and reappeared seasonally all drawn to the rhythm of regular movement. Where in this burgeoning flow of movement did Rome's first bridge, the Pons Sublicius, fit? The bridge represented a new rhythm of movement, one which subverted the agency of nature; but did it sit outside of the existing spatial practice or did it encapsulate and enhance established patterns? By asking these questions, the following section will consider the location of the Pons Sublicius and, based on those findings, assess whether the bridge can be considered a tool of urban production or a reflection of existing movement patterns.²⁶⁷

In order to understand the settlement into which the bridge was introduced, it is important to recognise that Rome's landscape changed over time and that those changes impacted upon how people moved through and constructed the city.²⁶⁸ Rivers, Franconi emphasised, are 'dynamic elements of the landscape that, unlike a stone or wooden wall, could change quite quickly without any human interference'; a barrier, but not one that could be relied upon.²⁶⁹ In other words, rivers have agency; they are unpredictable and should not be approached as static features of the landscape. To understand the process of space creation for the Pons Sublicius we must first recognise that the Tiber's course did not always conform to the familiar

²⁶⁶ Lefebvre, 1991, 110, 231-241.

²⁶⁷ Lefebvre, 1991, 48. For the theory of the production of space see chapter 2, section 1. For the definition of natural space see chapter 2, section 1.

²⁶⁸ Rather than seeing Rome as an eternal city frozen in time, see Ammerman, 1998, 2013, 171.

²⁶⁹ Franconi, 2017, 16.

course it follows today. Until the Republican period, the Tiber shifted its course as it deposited sediment, reclaiming land on the east bank and eroding land on the west.²⁷⁰

Excavations and coring undertaken over the last twenty years in the *Velabrum* valley and the Forum Boarium have significantly altered our understanding of Rome's riverine area.²⁷¹ Ancient sources viewed the pre-Republican space between the Tiber and the Forum basin as a marshy area prone to inundations of the Tiber so severe they required ferries to cross.²⁷² Acceptance of the ancient writers' notion of the *Velabrum* as a wet and swampy place persisted until Albert J. Ammerman demonstrated that no large body of water was detected in the area during or after the Regal period.²⁷³ His coring showed that the *Velabrum* was, in fact, a seasonally wet area which suffered inundations for several days in a year, though with the water draining down from higher ground combined with the overflowing river the water could cover the lower slopes of the Capitoline and Palatine.²⁷⁴ During the Regal period, the Tiber also stretched approximately one hundred metres further toward the *Velabrum* than has been previously recognised, thus reducing the area between the Forum Romanum and

²⁷⁰The construction of the embankment walls permanently enclosed the river into its modern course. See chapter 1 and 3. Works on Rome such as Coarelli, 1988, 2007; Dyson, 2010; Claridge; 2010, Davies, 2017 depict the Tiber as a static river in its late Republican channel. The recent work by Carandini, 2017 includes the variable extent of the Tiber where known.

²⁷¹ Ammerman, 1990, 2013, 2016, 2018; Ammerman, et. al. 1998, 2008; Ammerman and Filippi, 2004; Brocato and Terrenato, 2012; Brock and Terrenato, 2016; Brocato, Terrenato, and Brock, 2016; Marra, et al. 2018; Brock, 2016, coring and deep excavation for the Sant'Omobono project and excavation on the hills indicates human activity as far back as the late second millennium BC, both on the Capitoline and in the lower *Velabrum*. The Sant'Omobono complex sat at the bottom of the *Vicus Iugarius* following the early paths along the gravel shelves to the harbour area.

²⁷² Varro, *Ling.* 5.43-44 and Plut. *Rom.* 5.5 on crossing the *Velabrum* by ferry. Ov. *Fast.* 6.395-415 on the area as wet and marshy and Prop. *Ele.* 4.9.5 on the area as a lake; Dion. Hal. *Ant. Rom.* 2.50.2; 5.43-4. Ammerman, 2006, 305-7 did find evidence of a swamp (*alder carr*) dating back 7,500. Plin. *NH.* 36.24. the Cloaca Maxima into which seven streams drained all adding to the wetness of the area. Even in the 19th century prior to the introduction of the embankment photos show the area to be wet. Forum Boarium could be under water several days a year. Aldrete 81-90. Area of the lowland key trade and movement area. On Flooding: Ammerman 1990 for the reclamation of the Forum Romanum in the archaic period, Heiken et al., 2005, 59-84; Aldrete, 2007, Hopkins, 2014, 30.

²⁷³ Ammerman, 2016, 307 states the Tiber's east bank was only c. 400 metres from the Forum Romanum during the Regal period; 2018 on the 7th century Tiber reaching 100 metres further inland; and 1998, 215. Claridge, 2010, 4. Coarelli, 1988, 108 figure 21. Coarelli 1968, 65 suggested the course of the Triumph was determined by a need to avoid an area of standing water in the *Velabrum*.

²⁷⁴ Ammerman and Filippe, 2004. Carandini, 2017, 148.

the Tiber and situating the Sant’Omobono sanctuary alongside the riverfront and the pathways to and from the Capitoline and Palatine hills closer to the river.²⁷⁵



Figure 18: Digital Augustan Rome (<http://digitalaugustanrome.org>) the Forum Boarium; the blue line shows the approximate extent of the Tiber in the 6th century BC. The orange lines show the gravel beds on the side of the Velabrum and the red bridge represents the Pons Subicius which was extended to span the volatile river. Map from the Digital Augustus Rome, annotation based on Ammerman, 2018, 399.

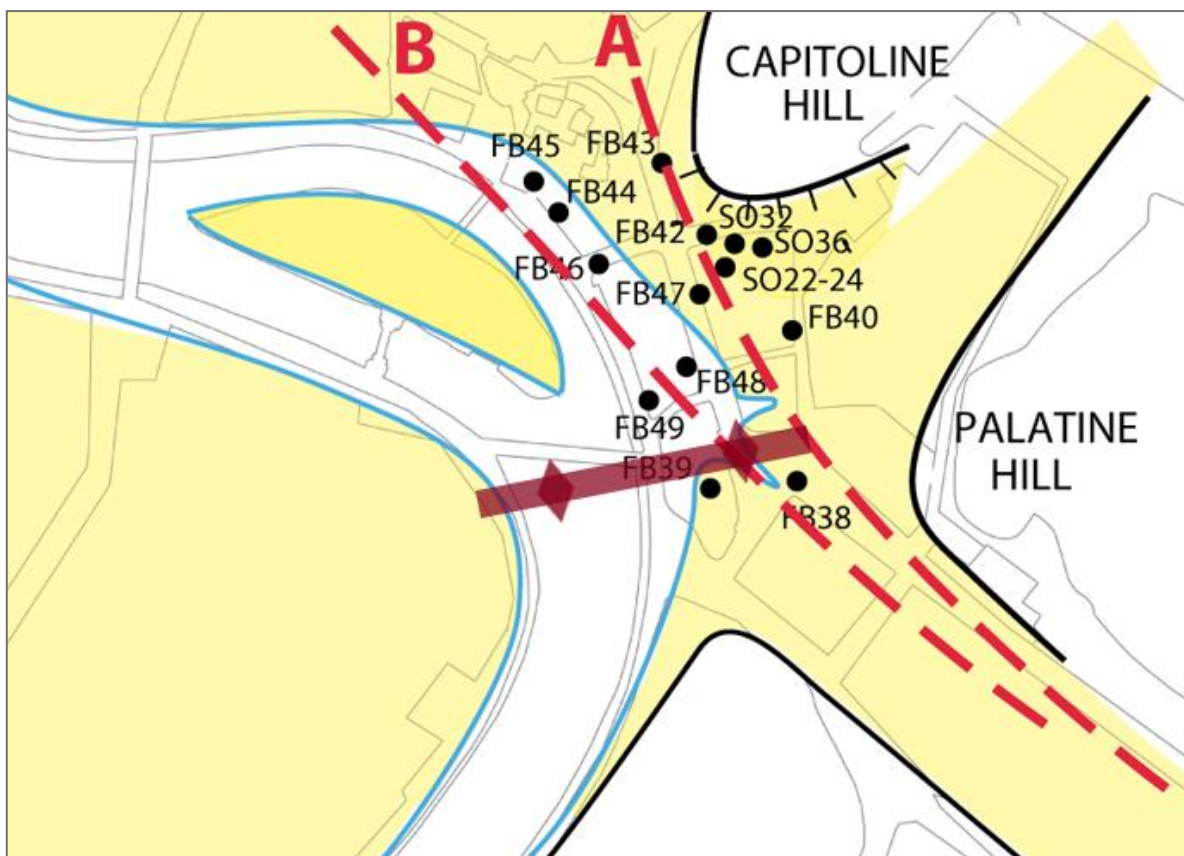
Further geoarchaeological investigations were undertaken in the Forum Boarium and the *Velabrum* revealed that between the mid-sixth and mid-fifth centuries BC there was a dramatic change in the floodplain, with a vast increase in the sedimentation rate resulting in four to six metres of deposition.²⁷⁶ Marra et al. concluded that deforestation, flooding and human interference alone could not have caused the level of deposits present and hypothesised that ‘tectonic subsidence within the Tiber valley’ was the most likely cause.²⁷⁷

²⁷⁵ Ammerman, 2018, 400; Brock, 2016. The seasonal rhythms of the Tiber had a significant impact on the flood plain up to and during the archaic period which encouraged seasonal use of the lower areas of the Forum Boarium. Marra, et al., 2018; Ammerman 2013, 171, Bozzano et al. 2000, 7. On Tiber fluctuations Aldrete, 2007, 54-61.

²⁷⁶ See note 265.

²⁷⁷ Marra, et al. 2018, 1-14. The authors of this work stress that this is not a definitive account as the fault lines are hypothesised, rather than scientifically proven. While the coring offers definitive evidence of significant

The movement of the fault line widened the valley while also acting as a dam affecting the north-east flow of the river. This caused the river to slow and reduced its ability to transport sediment down to the sea, a process which was further exacerbated by sediment erosion from urbanisation and landscape modification.²⁷⁸ This process resulted in the rapid accumulation of sediment in the area of the Forum Boarium which, significantly for this thesis, provided the conditions for the creation of the Tiber Island and the resulting placement of Rome's first bridge.



changes to the landscape and the fluidity of the Tiber river course, the data is limited by the small number of core samples (12), taken from the area of the Forum Boarium. Tiber island and the area to the west of the river flow were not sampled. Their hypothesis is based on a fault activity which is unproven and without coring from the other side of the river and the Tiber Island, the dramatic alteration of the river course is still only theorised and treated with a certain level of caution. Ammerman, 2018, adds a note of caution about accepting the Forum Boarium area as a settlement before the sixth century BC, suggesting again a more seasonal use. He also points out the need to do further analysis on the area before it can be fully appreciated.

²⁷⁸Livy, 1.38.6 refers to the creation of drains which would have added further pressure to the Tiber. Ammerman and Filippi, 2004, 23-24; Filippe, 2005; Ammerman, 2018; Marra, et. al. 2018. In the late seventh century the city was growing, land clearance and reclamation are all evident in the archaeological records, increasing the water load into the Tiber while shrinking the Tiber flood plains, resulting in a faster and deeper channel.

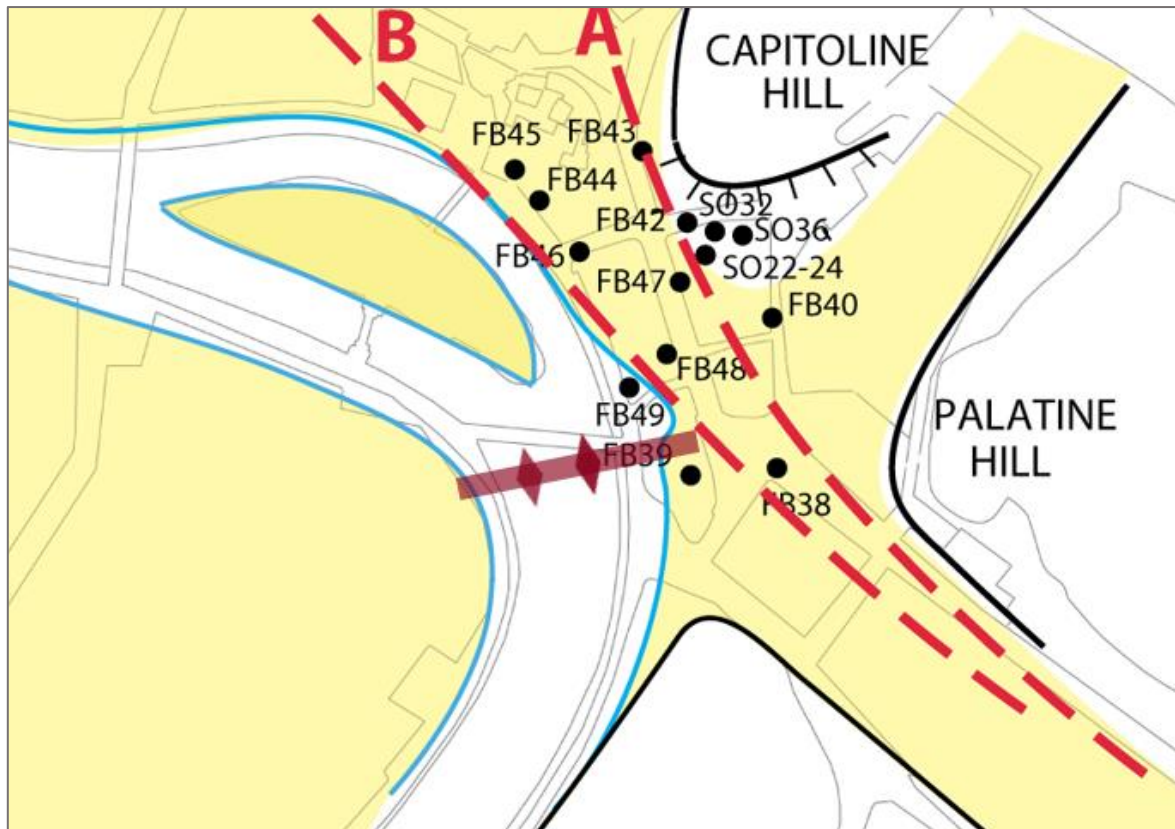


Figure 19 & 20; Reconstruction of the evolution of the landscape in the Forum Boarium at 500 BC (20) and 300 BC (21). The Red lines represent proposed geological fault lines, the red bridge shape represents the changing reach of the Pons Sublicius. Map adapted from; Marra F, Motta L, Brock AL, Macrì P, Florindo F, et al. (2018) Rome in its setting. Post-glacial aggradation history of the Tiber River alluvial deposits and tectonic origin of the Tiber Island. PLOS ONE 13(3): e0194838. <https://doi.org/10.1371/journal.pone.0194838>

The natural landscape of the Forum Boarium Valley underwent significant change during the mid-sixth and mid-fifth centuries BC, altering the course of the Tiber and laying down the foundations for the Tiber Island. Put into the context of the city's history, the shape of the Tiber shifted and changed during the period that saw the construction and reconstruction of temples such as *Jupiter Optimus Maximus* on the Capitoline, Castor and Pollux in the Forum and *Mater Matuta* and *Fortuna* in the lower Forum Boarium Valley, while in the political arena the monarchy was overthrown and the Republican era commenced.²⁷⁹ The plebeians agitated

²⁷⁹ Livy, 1.58-2.21 provides an account of the change from the Regal period to the Republic, though this should be treated with caution. Cornell, 1995, 119-50; Forsythe, 2005, 96-109, 150-200; Carandini, 2017; Davies, 2017, 6-38.

for more access to political power and privilege, gaining a new assembly (the *comitia tributa*), representation in the creation of the Laws of the Twelve Tablets, and the Valerio-Horatian laws in which they gained political recognition.²⁸⁰ This period also witnessed the fabled attack on Rome by Lars Porsenna and the battle at Lake Regillus which saw the Roman triumph over the Latin league.²⁸¹ Rome's landscape was changing both physically and politically, but despite its fluctuations the Tiber still remained a natural barrier, limiting movement between its banks.

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Figure 21: An aerial photo of the Forum Boarium with key features of the pre-urban landscape marked, including the discovered raised section of floodplain at the base of the Capitoline Hill, beneath the Sant'Omobono sanctuary, and the location of the river harbour. Image credit: Andrea Brock <https://news.umich.edu/fault-line-below-rome-set-scene-for-success-of-city/>

Patterns of movement in any settlement are partially dictated by the need for essentials such as water, food, defence and communication. The Tiber offered all of these and as such was a major attractor of movement, drawing people and animals towards the water and the harbour, creating daily routines. However, not every part of the river was equally accessible, creating hubs towards which movement was concentrated. Riverbanks are given scant consideration in the discussion of river access and movement: on maps, they are simply

²⁸⁰ Livy, 2.32-33, 3.30; Cic. *De Leg.* 3.3; Dion. Hal. 6.89-90; Cornell, 1995, 258-278; Forsythe, 2005, 170-33.

²⁸¹ Livy, 1.58-2.21; Plin. *Nat.* 34-39; Tac. *Hist.* 3.72; Cornell, 1995, 215-232.

denoted as lines marking the edges of rivers, but in practical terms they are often steep, slippery and dangerous places (see fig. 22 & 23). Attempting to slide down the edge of a natural river bank is not an easy proposition for people or animals, conversely, neither is getting from the river to the bank either on foot or from a boat.²⁸² Areas of the river bank which have gently sloping shelves, inlets or fording points become crucial factors in determining movement between the settlement and the river as they provided easier access.²⁸³ In Rome, the main fording point and area of access was just downriver from the Tiber Island.²⁸⁴

²⁸² Holland & Holland, 1950, 90.91. Observations made during a raft journey down the full length of the Tiber. I quote this section in full as it gives an excellent indication of the reality of attempting to stop along the natural banks of the Tiber. It should also be noted that this journey was undertaken during August, during the period when the Tiber is at its lowest. This extends the distance between the bank and the water but conversely shows the area at its driest and the Tiber at its calmest. 'The banks themselves are so steep, so thickly overgrown, and of such sucking mud by the water's edge, that landing is extremely difficult – except where a rapid tributary enters. There the force of the intruding current, by cutting across the mainstream, acts as an aqueous jetty, with a harbour of slack water below it where a raft can be berthed without difficulty. Moreover, the tributaries provide beaches of pebbly detritus brought down from the hills, and there one can land without sinking knee-deep in mud.'

²⁸³ Gell. 7.7.4, and Plin. *NH.* 34.25 refer to fording points in the city, the Tarentum was also a fording point see *LTUR V, tarentum*; On the ford at the Forum Boarium, Le Gall, 1953a, 96-110. Ammerman, 2018, 406; Brock, 2016, 167, though the existence of a ford is not universally accepted; Richardson, 1992, 428; Platner & Ashby, 1929, 92; Le Gall, 1953b; Campbell, 2012, 140-141. Inlets should be recognised for their movement gathering capabilities, they form an accessible area along the river which is not encumbered by steep and slippery banks and create a sloping area where boats and people can access the river. Roman London Bridge for example carved a pathway through the most accessible areas of the Southwark flood plains, Watson, Brigham, and Dyson, 2001. Parke & Hewson, 2008; Edgeworth, 2011a & b, 15-16 on rivers as both natural entities and cultural artefacts. Fording rivers was the primary mode of crossing rivers until the introduction of the first bridge in Rome but remained the crossing of choice in rural areas away from the main roads and are often featured in stories of military campaigns. Front. *Strat.* 1.5 on escaping a difficult situation fords could be constructed by digging ditches to switch the channels of smaller rivers where bridges or boats were not available. Fords near towns also made them vulnerable to military incursion examples Tac. *Hist.* 4; Caes. *B. Gal.* 7.56; Caes. *B. Civ.* 1.61; Dio Cass. 64.19; 5.2; Procop. *Build.* 5.6.

²⁸⁴ Livy 8.14 states that there were ship sheds in Rome as early as the fourth century BC; Livy 35.20 referring to movement of vessels from the dockyards in 192 BC; 36.2 on the repair and equipping of vessels in the dockyard in 191 BC; 40.51 for a harbour on the Tiber in 179 BC; 41.9 for a reference to the dockyards 177 BC; 42.27 fifty ships at the dockyard in Rome 172 BC; 42.3 bringing tiles on ships to Rome in 173 BC; 45.42 Royal ships hauled up on the Campus Martius in 167 BC; L. Aemilius Paullus sailed up the Tiber in Perseus' flagship 45.35 and Plut. *Aem.* 30. Pol. 36.5 on seeing the ship housed in a special shipshed. On Hermodorus work on the shipsheds in Rome Cic. *De. Or.* 1.14.62. There is general agreement about the location of the early river harbour just below or around the area of the Tiber Island. Before the Island was created the inlet could have stretched further back upriver. Colini, 1986, 188-189; Colini and Buzzetti 1986; Richardson 1996; Buzzetti 1999. Coarelli, 1988, 2000; *LTUR IV Portunus, aedes*; 1997 argues for a different location argues for a date earlier than the sixth century BC

which since the 2018 coring analysis now seems unlikely. For Rome's position on the Tiber with navigation and a harbour, Cornell, 1995, 48. Cic. *de res pub* 2.10-11 and Livy 5.54. Brock, 2016, 170 the creation of a sanctuary for the harbour which required a large amount of planning and labour attests to the importance of the harbour in the late archaic and early Republican period. The podium at Sant'Omobono required the movement of 7000-10,000 m³ of fill to lift it to a height of 12 m.a.s.l to protect it from Tiber inundations. The fill was quarried from the surrounding hills and the removal of alluvial sediment which was in abundance during this period. On quarrying in Rome see Ammerman and Terrenato, 1996; Heiken, et. al., 2005, 7; Jackson and Marra, 2006; Ammerman, 2008, Brock; 2016. The river harbour was a significant factor in the urban development of Rome allowing access to trade and communication references to the *Navalia* Livy 3.26.7-8; 45.42.12; Varro. *Ling.* 6.19. Coarelli, 2000; On the *portus* near to the temple of Portunus Colini, 1980, 44-6. The reference to harbour at this location does not include the *Navalia* or ship sheds specifically which could have been separate. This was a harbour or port for goods and trade into the forum not necessarily for warships. While there is little doubt that the Tiber accommodated shipsheds along its banks it is unclear where they were located, and they were moved to accommodate changes to the city and the river. It was likely the shipsheds in the first century BC were near the Campus Martius based on the testimony of Plutarch. *Cat. Min.* 39; Vell. Pat. 4.45, have Cato sailing past the senate and the crowds who had come out to meet him, to put in at the dockyards, which suggests he could have tied up near the Forum Boarium and gained easy access to the forum. Plin. *NH.* 18.20 on the summoning of Cincinnatus from his ploughing near the *prata Quinctia* on the Vatican opposite where the shipsheds were 'now'. The use of the shipsheds ceased in first century BC or early AD with the introduction of naval bases at the Forum *Iuli* under Augustus. See Blackman and Rankov, 2014, 30-32, and on the difficulty on launching and logistics of keeping warships on a river, see 102-123. Blackman, 2008, 23, on movement of warships out of the harbour by the first century BC. Campbell, 2012, 316-318 asserts that large ships would have been tied up parallel to the river due to the difficulties of launching a ship into the Tiber perpendicular to the river. On ships and ports see Tuck, 2013.



Figures 22 & 23: Showing a Roman bridge in Rolampont, France (*Pont de Rolampont*) built downriver of a natural fording point. The image on the left shows the steep banks and difficult access on the upriver side of the bridge. Author image.

The earliest traces of settlement in Rome have been identified on the Palatine and Capitoline hills and in the area of Sant'Omobono dating to the late Bronze Age.²⁸⁵ Movement down from the hills toward the river would have followed the safest and most secure route, which Ammerman identified as the exposed shoulders of the gravel beds which ran up either side of the *Velabrum*, providing natural trackways between the forum and the riverfront.²⁸⁶ The landscape in the form of the river inlet and the trackways from the hills preserved clues of early spatial practice; as Lefebvre observed 'one might say that practical activity writes upon nature, albeit in a scrawling hand [...] paths are more important than the traffic they bear, because they are what endures.' Rather than the planned spaces which appear on a multitude of Roman maps, the pathways of the *Velabrum* persist, flowing like a 'spider's web' between the natural hubs of the Forum Boarium and the Capitoline and Palatine hills, observing and respecting the topography of the landscape.²⁸⁷ They became part of the natural stratigraphy of movement and intent in Rome and may be seen as indicators of the flow of people across the landscape.

Despite some degree of uncertainty in the exact shape and cause of the shifting Tiber, the most recent analysis, detailed above, demonstrates that the spaces of the Forum Boarium valley were in flux throughout the archaic and early Republican periods of Rome's history. In real terms, a one hundred year period, the river's form was changing from generation to generation. Spatial practice adapted to the river, the harbour could be rebuilt, and the river could be dredged to mitigate the sedimentation, but crossing the river on foot became a more

²⁸⁵Peroni, 1962; Carandini, 1997, 113-4, 126-7; 2006; 2018; Filippi, 2005, 100-101; Fulminante, 2014, 68-72; Cornell, 1995, 53-57, 70-73; Cornell offers a note of caution; he points out that other hills such as the Aventine and Caelian have not been the subject of as much archaeological work as the Palatine and the Capitoline, which biases the findings in favour of the most excavated areas of the city. Brock & Terrenato, 2016, 655-656, are also cautious about the idea of a settlement based on what could be residual material from seasonal use of the port area. Ammerman, 2018, shares the concern. Brock & Terrenato, 2016, 655-656; Coarelli, 1992; 112 Filippi, 2005, 98-100; Alessandri, 2013, 69-72, 370-77 on the dating and existence of settlement on the hills. The Sant' Omobono project which ran from 2009 has altered the idea of a settlement primarily on the hills and demonstrated there was activity in the *Velabrum* valley in the Late Bronze Age. On the myths associated with the Forum Boarium, Wiseman, 2008. Verg. *Aen.* 8.86-106 on the myth Aeneas landing at the Forum Boarium (*Ara Maxima*) Livy 1.7; Tac. *Ann.* 12.24. Cornell, 1995, on evidence for the Palatine. On the possibility of settlement on the Capitoline and Quirinal, Cornell, 1995, 53-54.

²⁸⁶ Ammerman and Filippi, 2004.

²⁸⁷ Lefebvre, 1991, 118.

challenging prospect.²⁸⁸ Natural and human elements came together to increase the pressure on the river; reclamation of land, quarrying and deforestation all caused the channel to run faster and deeper. Crossing the Tiber would have become an increasingly onerous, if not impossible task, and by the first century BC Dionysius of Halicarnassus was adamant that the river had never been fordable, stating that ‘there is no crossing it on foot except by means of a bridge.’²⁸⁹ Therefore, at some point between the mid-sixth and mid-fifth centuries it is likely that the Tiber ford in the vicinity of the Forum Boarium Valley ceased to exist.²⁹⁰

It is prudent at this juncture to comment on the difference in spatial practice between crossing a river via a ford or ferry and crossing via a bridge. When discussing the varying types of land and water pathways, Matt Edgeworth argues that Heidegger’s assertion that ‘the bridge gathers the earth as landscape around the stream’ was demonstrably incorrect, as fording points have already gathered the landscape and the flow of movement before the introduction of a bridge.²⁹¹ In the case of the Pons Sublicius, the fording point was the focus of early movement down to the river, it created the spatial practice which eventually resulted

²⁸⁸Blackman, 1982, 90-94, Buildings and the harbour were likely to have been of a temporary nature, allowing the flexibility to accommodate the Tiber’s natural rhythms with temporary structures which were easy to rebuild. During the winter months the harbour may have been abandoned to the river especially as voyages by ship were reduced in the winter months to avoid losses, Ammerman, 1990, 636-8; Aldrete, 2007, 39-50; 66-81; Hopkins, 2016. Early evidence for the area around the lower Forum Boarium Valley does not suggest permanent buildings until the introduction of a temple in the area of Sant’Omobono during the early sixth century BC, Terrenato, et.al. 2012; Brock, 2016; Brocato and Terrenato, 2016. On the possibility of dredging see Morhange and Marriner, 2010 and Marra, et. al. 2018. This also suggests that crossing the river on foot was also a seasonal practice.

²⁸⁹ Dion. Hal. *Ant. Rom.* 9.68 ‘ἢ ἦν ἐν τῷ τότε χρόνῳ μία ξυλόφρακτος, ἣν ἔλυον ἐν τοῖς πολέμοις’ writing in the first century BC but described the fortification of Rome during the fifth century BC and the war with the Volsci. For scale: 400 Roman feet being the equivalent to approx. 388.4 feet or 118 metres; the current Ponte Palatino is just over 150 metres and takes approximately three to four minutes to walk across. Holland, 1961, 197 taking the literary sources at their word, suggests that the Tiber was never fordable, herein lies the danger of taking literary sources exactly/literally. She takes no account of the changes that the expansion of the settlement of Rome have wrought on the Tiber and of course we now also know the tectonic effect of the fault lines of the valley.

²⁹⁰ Alan Cooper, 2006, 8-24, offers an excellent discussion of the loss of fords in the English countryside during the Medieval period and the implications for bridges. Riverbanks are also serious issues for those crossing the river, where the banks are steep or high, climbing out of a river is made very difficult. As we will see later it makes the introduction of steps along the river front vital in keeping the waterways open to small boats and those wishing to access the river via the banks. Coates, 1998, 218 etymological discussion of Londinium refers to river names derived from whether they were possible to ford or if they had to be crossed by boat or by swimming.

²⁹¹ Edgeworth, 2011a, 121-122; Heidegger, 1971, 152-153.

in the construction of the bridge; Edgeworth is, therefore, partially correct but he oversimplifies Heidegger's notion of gathering as it relates to the bridge, which does not simply gather pathways but fundamentally alters the nature and scale of the rhythm of movement. The bridge changed perceptions of near and far and altered the expectation and understanding of a journey between the Tiber's banks, it created a new type of hub.

The ability to cross the Tiber via a ford was heavily reliant on the river's natural rhythms.²⁹² Considerations for a journey between the Tiber's banks included the time of day and the season; high water would have rendered the ford impassable and a night crossing increased the danger of being swept away unnoticed. Even in the summer, when the river was lowest, the crossing would still have involved wading through the silty sucking river bed, which pulled at the legs and wheels of travellers (anyone who has attempted to wade across a silty river will realise how difficult a task it can be, even at low water).²⁹³ On the plus side, crossing a river via a ford is free from the potential tolls and tariffs which ferries may apply, but it would have been a relatively slow and restricted form of movement.²⁹⁴

As the ford waned it was inevitable that ferries, who were already likely to have been plying their trade near to the ford, increased to ensure the continuity of movement.²⁹⁵ The presence of the Temple of Portunus, dedicated to the god of harbours and landings, just below the Tiber Island connected the area to boats and river transport from at least the fourth century BC.²⁹⁶ In the first century AD, Plutarch still associated the area of the *Velabrum*, which ran down toward the Tiber (see fig. 21), with ferries 'this spot is now called *Velabrum*, because

²⁹² Heidegger 2001, 249-251, refers to the bridge as a 'locale' but, as discussed in chapter 2, 'hub' is the term used to reflect a gathering point in this thesis.

²⁹³ Cooper, 2006, 22-24 provides an excellent discussion on fords and their effects. He also recalls the difficulty of wading across a ford and attempting to cross with vehicles.

²⁹⁴ Laurence, 1999, 64, Quilici, 2008; van Tilburg, 59-74; Cooper, 2006, 21-23, on wheeled vehicles and fords. The need to move larger loads on a more frequent basis may also have resulted in the creation of a bridge. Animals drawing carts need good roads and bridges to travel efficiently, fords are more suitable for pack animals.

²⁹⁵ Campbell, 2012, 208-215 for a clear overview of Roman river vessels.

²⁹⁶ For a detailed discussion and references to the Temple of Portunus see chapter 3, section 2.1; Holland, 1961, 141-178 for a detailed overview of her argument for a ferry point below the Tiber Island and its associations with the Temple of Portunus.

when the river overflowed, as it often did, they used to cross it at about this point in ferry-boats, to go to the forum, and their word for ferry is “*velatura*.”²⁹⁷

In the first century BC Varro also associated the area with ferries but raised another important issue, payment! ‘they...’were conveyed’ thither by rafts; and traces of this survive, in that the way by which they were then transported is now called *Velabrum* ‘ferry,’ and the place from which they landed at the bottom of New Street is a chapel of the *Velabra*. *Velabrum* is from *vehere* ‘to convey.’ Even now, those persons are said to do *velatura* ‘ferrying,’ who do this for pay. The *merces* ‘pay’ (so called from *merere* ‘to earn’ and *aes* ‘copper money’) for this ferrying of those who crossed by rafts was a farthing.²⁹⁸

There is no specific evidence for tolls on the bridges in Rome until the 1500’s, when the number of bridges crossing the Tiber had been reduced to four, all of which were in a desperate state of repair; tolls were then added to finance on-going bridge maintenance.²⁹⁹ During the Late Republic, members of the *gens* who originally built a structure, or other wealthy elite, financed the construction and maintenance of buildings, as in the case of the Basilica Aemilia. Agrippa financed many infrastructure repairs as did Augustus, making it unlikely that the bridges had tolls to pay for their repairs.³⁰⁰ Toll stations may have been added to collect taxes (*portoria*), as often happened in the provinces but it is more plausible that, in Rome, if these taxes were levied, they were taken at the city gates rather than on the bridges themselves.³⁰¹ However,

²⁹⁷ Plut. *Rom.* 5.5. ‘καλεῖται δὲ νῦν ὁ τόπος Βήλαυρον, ὅτι τοῦ ποταμοῦ πολλάκις ὑπερχομένου διεπεραιοῦντο πορθμεῖοις κατὰ τοῦτο τὸ χωρίον εἰς ἀγοράν· τὴν δὲ πορθμεῖαν βηλατούραν καλοῦσιν.’

²⁹⁸ Varro *Ling.* 5.44-45 ‘*Itaque eo ex urbe advehebantur ratibus, cuius vestigia, quod ea qua tum <advectum> dicitur Velabrum, et unde escendebant ad <in>firmam Novam Viam locus sacellum <Ve>labrum. Velabrum a vehendo. Velaturam facere etiam nunc dicuntur qui id mercede faciunt. Merces (dicitur a merendo et aere) huic vecturae qui ratibus transibant quadrans.*’ also on ferry references Mart. 4.64. 23-24; Prop. 1.114.

²⁹⁹ Cellini, 1968, 155-157; Taylor, Rinne, Kostof, 2016, 247. The four bridges do not include the Pons Mulvius but the two Island bridges, the Pons Aelius and the Pons Aemilius (with different names, see chapter 1, section, 4). As also happened during the Middle-Ages in Britain when the construction of bridges became necessary to facilitate quicker and efficient movement of good around the country Cooper, 2006, 118-119. Cresswell, 2014, 42. Pointed out that once a bridge was in place, continued wading across the river would have been deemed inappropriate by the elite.

³⁰⁰ Front. *De. Aqu.* 125; Suet. *Aug.* 30 on the repair of roads and 37 on his creation of new offices to take charge of public works. For the Basilica Aemilia in the Forum see section 3 in this chapter. Shipley, 1933, 21.

³⁰¹ Palmer, 1980, 219-24; Van Tilburg, 2007, 87-88; Kay, 2014, 51, 75. On the collection of taxes as city gates both in Rome and across the provinces.

portoria would have been extracted from both travellers over the bridge and across the river, slowing both forms of movement.³⁰²

However, if the bridges were free of a separate toll, they represented a cheaper way to cross the river than the ferries, relieving poorer citizens of an extra transport cost.³⁰³ In the absence of evidence for Rome, in Yorkshire, England during the middle ages, when the river dried up people began fording the river to avoid the cost of the ferries, causing the ferrymen to dig holes in the river making it more dangerous and driving people back to the ferries.³⁰⁴ A ferry crossing was also not as quick as passing over a bridge, again in England ferrymen were known to keep people waiting until their boats were full before making the crossing.³⁰⁵

Crossing on bridges was also not without its dangers; lack of repair or damage could destabilise bridge as happened with the Pons Aemilius (*Ponte Senatorio*) in the sixteenth century when Michaelangelo was said to be wary of crossing the bridge due to a bad repair.³⁰⁶ Over-crowding was also an issue as demonstrated by the 1450 disaster at the Pons Aelius (*Ponte Sant'Angelo*) where over-crowding on the bridge caused a deadly crush, panicked horses/mules and people added to the chaos resulting in the failure of the ballistrades and sending people over into the Tiber. In the event of bridge collapse or repairs the ferries were there to capitalize on the movement, though people may have simply preferred to cross the river via a ferry and it may have been easier to move animals on larger barges.³⁰⁷

Fords, ferries and bridges can all run concurrently in a single area, but they all provide contrasting forms of movement. The feasibility of a ford is reliant on the natural rhythms of the river; ferries represent a service provided by people but they are also reliant on the rhythms of the river, although to a lesser extent than the fords, being able to cross at high and low water. However, ferries have the complicated element of ferry operators (people) to add to the equation, adding payment and individual rhythms, meaning that both ferries and

³⁰² Campbell, 2012, 297. Cooper, 2006, 108-109 on bridge building as charity, to enable the poor easier and cheaper movement.

³⁰³ Cooper, 2006, 101, 120 other ferries in England replacing bridges, and paying for it 55,132, 136.

³⁰⁴ Cooper, 2006, 133.

³⁰⁵ Cooper, 2006, 133.

³⁰⁶ Temple, 2011.

³⁰⁷ Holland, 1961, 157 who saw livestock being ferried across the Tiber during her trips along the river.

fords have restrictions on the speed and capacity of movement they can generate. Bridges, of course, also have limitations, barriers can be created in the form of tolls and there are risks such as overcrowding and poor construction and repair, but what bridges do supply is an opportunity to increase the scale and capacity of movement across a river. A bridge can provide free flowing movement, largely unhindered by the rhythms of the river or individuals and in an urban space it can transform; the rebuilding of the Pons Valentinian (dedicated as the Ponte Sisto) in 1473 turned the run down Trastevere into a vibrant place, the addition of London's Millennium Bridge in 2000, resulted in the re-invigoration of the Southbank (despite a few wobbles); bridges often popular with the citizenry for their transformative capabilities.³⁰⁸

When populations and trade expand, bridges became an essential element in attracting trade and moving goods, as the desire to transport good more efficiently increases. Good roads and bridges attracted trade to specific areas, as people plan their routes into the city via the easiest crossing point, which in the case of the Forum Boarium, took traders directly into the markets and onto the routes into the Forum. The bridge represent movement but on a scale and with an ease which could not be matched by the ferries or fords but did not preclude them from running concurrently but created a new hub based on expanded possibilities³⁰⁹.

Lefebvre states that the history of space can be traced through the modification of rhythms by human action, something which can be seen in the introduction of the Pons Sublicius. The bridge was constructed to enhance an existing spatial practice, but it also established new rhythms and forms of movement which subsequently transformed the riverfront in the Forum Boarium Valley.³¹⁰ Rivers created barriers to land connectivity, it is only with the introduction of a bridge that the banks of a river can be brought together to facilitate a new scale and rhythm of movement, determined by the agency of people rather than that of the river.³¹¹

³⁰⁸ Conti, 1883, 2006. '*Tota regio illa transtyberina, quae inanissima, et immundissima erat, frequentissima et cultissima reddita est.*'

³⁰⁹ Cooper, 2006, 22-24.

³¹⁰ Lefebvre, 1991, 117.

³¹¹ Purcell, 2017, 160. On rivers and land connectivity.

3.1.1. Locating the Pons Sublicius; Time and Space

As detailed in chapter 1 there is no archaeological evidence, such as wooden remains, from which a conclusive date or location for Rome's first bridge (the Pons Sublicius) can be extrapolated.³¹² Our knowledge of the bridge is derived solely from literary sources, with Livy and Dionysius of Halicarnassus (both first century BC annalists) crediting Ancus Marcius with its construction in the seventh century BC, and offering their perception of its purpose:

'Janiculum was also annexed to the city, not from any lack of room, but lest it might someday become a stronghold of Rome's enemies. It was decided not only to fortify it, but also to connect it with the city, for greater ease in passing to and fro, by a bridge of piles, the first bridge ever built over the Tiber.'³¹³

'He also built a wall round the high hill called Janiculum, situated on the other side of the river Tiber, and stationed there an adequate garrison for the security of those who navigated the river; [...] He also is said to have built the wooden bridge over the Tiber'³¹⁴

³¹² Livy. 1.33; Plut. *Num.* 9; Dion. Hal. *Ant. Rom.* 3.45; Plin. *Nat. His.* 36.100; Serv. *ad Aen.* 8.646. For references related to the Pons Sublicius and the deed of Horatius Cocles see chapter 4. All attribute the bridge to Numa the second king of Rome. Ancus Marcius was the fourth king of Rome who ruled in the seventh century BC. His veracity as a historical figure is largely accepted but caution should be taken when approaching his works and actions. Cornell, 1995, 125-126; Smith, 1996, 150-151, Forsythe, 2005, 99; Poucet, 1985, 155-160, Griffith, 2009, 303. Lanciani, 1897 Archaeological remains of the bridge have never been discovered either in the Tiber bed or the banks. Ancient wooden bridge piers have survived in many places around the world including London and a Greek one in Anphipolis (Galliazzo, 1994) but the Sublicius was situated in an area which has been in continual use for two thousand years, therefore the lack of finds of wooden piles along the banks is unsurprising. During the embankment works and the creation of the Ponte Palatino no piles were identified in the river. The difficulty in identifying remains in shifting riverbeds is demonstrated by the recent location of the Brunswick, a cargo vessel lost in 1900 in the Severn Estuary. While the estuary is very different to the Tiber the cargo ship was completely covered in sand and undetectable until 2018 when the sand shifted to expose the ship. Tucci, 2011, 177-209 raises the question of the remains, which he believes should have been located during the embankment works in the late 1800's. Campbell, 2012, 140 Wooden remains of supporting piers that were driven far into the riverbed have been located archaeologically, either during building works or due to the scouring process of rivers. However, this process alters from river to river and is dependent on the individual river morphology. During the excavations for the Tiber embankments in the late 1800's, the shoes of timber piles were located near the Campus Martius bridge, but the wooden structures themselves did not survive and no timber elements of any of the bridges have been discovered see *Bull. Com. Arch.* 1909, 13.

³¹³ Livy, 1.33. '*Janiculum quoque adiectum, non inopia loci, sed ne quando ea arx hostium esset. Id non muniri solum sed etiam ob commoditatem itineris ponte sublicio, tum primum in Tiberi facto, coniungi urbi placuit.*'

³¹⁴ Dion. Hal. *Ant. Rom.* 3.45 *Ἐτείχισε δὲ καὶ τὸ καλούμενον Ἰανικόλον ὄρος ὑψηλὸν ἐπέκεινα τοῦ Τεβέρριος ποταμοῦ κείμενον καὶ φρουρὰν ἰκανὴν ἐν αὐτῷ κατέστησεν ἀσφαλείας ἕνεκα τῶν διὰ τοῦ ποταμοῦ πλεόντων*

Both authors connect the creation of the bridge to defensive and economic factors; it enabled access to the strategically placed fort on the Janiculum, which in turn offered security to river trade.³¹⁵ Writing in the early second century AD (within the context of the Trajanic and Hadrianic period), Florus saw the creation of the Pons Sublicius as unifying; ‘the builder [gave] the city a colony to expand it, a bridge to unite it, and a wall to protect it!’³¹⁶ The notion of the bridge as part of a planned and deliberate expansion is present in all three sources, all of which were written during periods when bridge building was associated with military power and territorial control.³¹⁷ However, caution is required when approaching dates and events before the mid-Republican period when documentary evidence was scarce and suffused with legendary tradition.³¹⁸ Accounts of Rome’s early history need to be interpreted within the context of the author’s life as rationalisations of Rome’s formation; in the case of Livy and Dionysius of Halicarnassus, their accounts of early Rome reflected the Augustan age of planned refoundation and the return to traditional virtues after a period of turmoil.³¹⁹ This leaves us with no archaeological traces or reliable literary evidence for the creation of the bridge. However, the recent geoarchaeological investigation has provided a *terminus ante quem* based on the disappearance of the ford during the period of high sedimentation deposition between the mid-sixth and mid-fifth centuries BC. Therefore, it is likely that the

ἐλήστευον γὰρ οἱ Τυρρηνοὶ τοὺς ἐμπόρους ἅπασαν κατέχοντες τὴν ἐπέκεινα τοῦ ποταμοῦ χώραν. καὶ τὴν ξυλίην γέφυραν.’

³¹⁵ Coarelli, 1988, for the link to the salt road.

³¹⁶ Flor. *Ep.* 1.2.4 ‘Quid? *Aedificator Ancus, ut urbem colonia-extenderet, ponte iungeret, muro tueretur.*’

³¹⁷ Julius Caesar built a bridge to cross the Rhine to show the native tribes the power of the Roman Army *Caes. Bel. Gal.* 4.16, 18.1, 19.4. Germanicus used the same tactic *Tac. Ann.* 1.49; Trajan built a huge bridge across the Danube *Dio Cass.* 68.13. In *App. B. Civ.* 1.67 Marius and Sertorius were camped above and below the city (during the civil strife with Sulla in 87-88 BC) and ‘threw bridges across the river in order to cut off the city’s food-supply.’ ‘ζευγνύντες οἶδε τὸν ποταμὸν καὶ γεφυροῦντες, ἵνα τὴν πόλιν ἀφέλοιτο τὴν σιταγωγίαν.’

³¹⁸ *Macrob. Sat.* 1.11 attributed the bridge to Hercules (a demi-god) which is even more problematic than Ancus Marcius. Holland, 1961, 237; Wiseman, 1993; 1995; 2004; 2008, 1-23; Smith, 1996, 2-3; Forsythe, 2005, 97-99; or the argument against the use of literary sources as evidence for the early history of Rome. Cornell takes the middle ground evaluating both the archaeology and the literary sources Cornell 1995 121-7; 1986, 52-76. For a discussion on Livy as a source of early history see Vasaly; Meiggs, 1973: 16-20, 479-482 who argues for Livy’s account based on the archaeological evidence. Griffith, 2009, 301-303. For the argument for the sources as credible witness to history see Carandini, 1997, 2003, 11-12 and 2006, 2017 and rebuttal by Wiseman, 2006. Holland, 1961, 235-236 on the threat from Veii. Ogilvie, 1965, 139-140, argues that the construction of the Pons Sublicius under Ancus Marcius is logical. For an overview of the city’s development by regions, see Carandini, 2017, vol. 1; Hopkins, 2016; Poucet, 1985, 157-160.

³¹⁹ Miles, 1995, 109 for the return to virtuous.

bridge was added during a two hundred year window between the early development of the city in the late seventh century BC and the stabilisation of the river channel in the mid-fifth century BC.

The location of the Pons Sublicius is equally problematic, but this chapter is built on the conviction that production of space always leaves evidence, which can be traced through indicators of movement such as paths, natural access points and the location of man-made structures. In the absence of archaeology and with only limited and non-specific literary indicators, the analysis of space can be used to assist in determining the most likely location for the Pons Sublicius. The origin of the movement is often overlooked in the mapped versions of ancient Rome, which focus on structural remains and the Romans who built them, often obscuring the wider connections between buildings the landscape and movement.³²⁰

Rome was a riverine settlement which depended on the Tiber for trade and communication. This was reflected in the creation and recreation of the areas along the riverfront including the sanctuary at Sant'Omobono, the market places of the Forum Boarium and the harbour; in Polybius's second century BC account of Horatius and the bridge he refers to the Forum Boarium as being 'in front of the town'; Rome's front door.³²¹ As discussed above, spatial practice can be detected in the continuation and development of the natural pathways which led from the hills through the *Velabrum* towards the Forum Boarium and to the inlet on the Tiber where the harbour was located.

The pattern of movement was preserved and became enshrined in pathways which by the first century BC had become the busy and crowded *Vicus Iugarius* and *Vicus Tuscus*.³²² Today

³²⁰ Dyson, 2010, 41 and 249, who mentions the Pons Aemilius twice in his portrait of the city, as the facilitator of a road that crossed the Tiber to the Janiculum and as a way point between places; the bridge was there but the connections lost.

³²¹ See note 49 for the wider use of the area from the archaic period. Poly. 655. 'τῆς γεφύρας πέρατι τῆς ἐπὶ τοῦ Τιβέριδος, ἣ κεῖται πρὸ τῆς'. On the Sanctuary at Sant'Omobono see note 16. Hopkins, 2016; Davies, 2017, 9; Carandini, 2017; Campbell, 2012, Tuck, 2013; The temples of Fortuna and Mater Matuta and the Temple of Apollo Medicus both rebuilt in the fifth century BC face toward the harbour as did the later Temple of Portunus.

³²² Varro. *Ling.* 5.44 'Velbrum a vehendo' connected the name *Velabrum* to movement - *vehere* (to convey / to carry), see Newsome, 2010, 123. On the derivation of the *Vicus Iugarius* name see Festus 'Iuno Iuga' Fest. 92L and Newsome, 2010, 127. On the *vicus Tuscus* Livy. 27.37 and Dion. Hal. *Ant. Rom.* 5.36; Cic. *in Verr.* 2.1.54-9, first century BC for movement down to the Forum Boarium along these routes. On the variety of trades in the area Mart. 11.27, 11.52 (first century AD), on clothing and cheese; Plaut. *Curc.* 480-483, on prostitution, oil,

the pattern of movement is still present; at the north end of the forum, the walk down from the Capitoline toward the Tiber moves along the *Via Monte Tarpeo*, mirroring a part of the ancient *Clivus Capitolinus*, which then joins the *Vico Jugario* following the ancient *Vicus Iugarius*. Alternatively, walking west along the Forum Romanum you can join the *Via di S. Teodoro* which traces the path of the ancient *Vicus Tuscus*. This continuation of movement is highlighted to demonstrate the persistence of natural movement patterns and their production and reproduction in the life of a city.

Movement gathers people, things and the landscape together into a meshwork of flows which create and maintain overlapping temporal rhythms, which in turn attracts more people and more things lured by the possibilities offered by regular movement.³²³ Through spatial analysis, Bill Hillier demonstrated that movement within cities is generated by the layout of the street grid; the more connected the streets the higher the movement and the greater the

butchers, soothsayers, and bakers (third century AD); Hor. *Sat.* 2.3.228 on the bad crowd. Epigraphic references to the *Velabrum* traders *CIL*. VI 9184; 9993; 33933; 37803; *CIL*. VI 9671. Propertius (first century BC) for the crowded place 4.2.49-50; Catull. 55 and Varro. *Ling.* 5.46 both first century BC. On the markets of the *Velabrum* - Sellers *CIL* VI 9184; 9993; 33933; 37803; *CIL* VI 9671 also Plaut. *Capt.* 489; Mart.13.32; Hor. *Sat.* 2.3.279. These routes were used by ancient processions moving through the area connecting the city's riverfront history to its centre in the Forum. For processional movement see Coarelli, 1968, 65; 1988, 266; Beard, 2007, 102-3. Coarelli, 1988, 234-236; 384-385, 296; Tac. *Ann.* 4.65 (first century AD) on the road being for the workmen in Rome to build the Capitoline temple, demonstrating how busy the route was from the first century BC to the third century AD. Between the two roads the larger *Vicus Tuscus* is more frequently referenced by the literary sources suggesting it was the more dominant or busy route - *Vicus Tuscus* as a busy crowded area Cic. *in Verr.* 2.1.54-9, Livy 27.37.15; Prop. 4.2.5-6;49-50. Plaut. *Curc.* 480-4. Hor. *Sat.* 2.3.228 on the unsavoury nature of the *Vicus Tuscus*. The *Vicus Iugarius* was still a busy route - Livy 35.21 referenced an incident when a rock falling from the Capitoline killed people on the route. Procession on the *Vicus Iugarius* Livy 27.37.11-15, procession from the *ades apollo* in the Campus Martius to the *aedes Iuno Regina* on the Aventine travelled by the ancient roads the *vicus Tuscus*. On the path down from the Forum running alongside the *Basilica Iulia* into the *Velabrum* and then to the Forum Boarium Livy 27.37.15; Dion. Hal. *Ant. Rom.*, 5.36.4. Route as an attractor of trades Mart. 11. 27.11; Plaut. *Curc.* 482; Hor. *Sat.* 2.3.228. Cicero on the roads use for processions suggesting their antiquity Cic. *in Verr.* 2.1.54-9. Significance of the *Velabrum* when Caesar's axle broke as he passed it during his triumph Suet. *Iul.* 37.2. Propertius on the daily movement on the *vicus tuscus* 4.2. Catull. 55. See Wiseman, 1980, for analysis. Ammerman, 2016, 307 on the use of early gravel trackways. Trackways as a feature of the early Roman London Bridge, Watson, Brigham and Dyson, 2001. Holland, 1961, 37 to 39 also on the tracks and pathways on the *Velabrum* and on Janus and the relationship to the area.

³²³ Laurence, 1994; Hillier, 1996a. Laurence used the spatial theories of Hillier to determine the busiest streets in Pompeii.

attraction for traders.³²⁴ He recognised that the city is a ‘complex physical and spatial object’ which was created both by its functional processes and by its history; in other words, a city reflects its movement history as well as the history of its structures and topography. In the spaces of Rome’s river-facing landscape, early pathways gathered structures and places of trade, both permanent and impermanent, creating an enduring connection between Rome’s political and religious centre and the riverside trading areas. These traces of movement can be used as evidence for the placement of Rome’s first bridge.

³²⁴ Hillier, 1996a and b, 2008, Hillier et. al. 1993, Hillier’s spatial analysis is data oriented and therefore not suitable for the study of ancient Rome for which little data exists, but the concept of the movement economy is an important one which is interwoven with the idea of gathering which we will discuss later in this chapter.

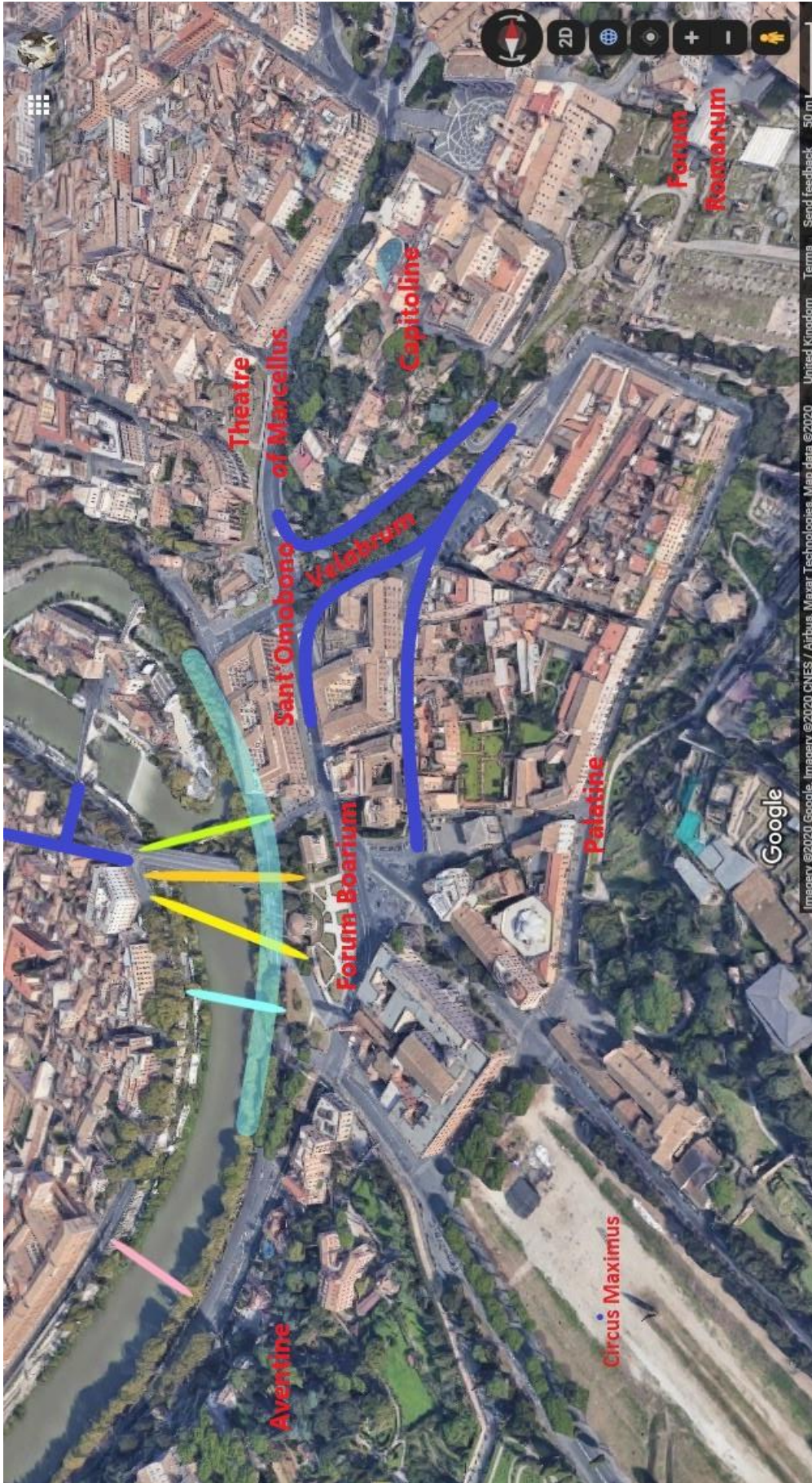


Figure 25: The proposed positions of the Pons Sublicius: Pink – Tucci, blue – Coarelli, yellow – Le Gall, orange – Galliazzo/Collini/Hoggarth. The Pons Aemilius is represented in green, light blue represents the extent of the Tiber in the Forum Boarium in the first century BC and the dark blue lines represent suggested routes. By mapping onto a current image, with the ancient areas annotated, the distances between the proposed bridge positions and key areas of the city can be considered. Image: Google Map Data 2020.

At present there are three leading contenders for the location of the bridge: the Tiber Island; downriver of the later Pons Aemilius and upriver of the Aventine; and further along the Aventine, corresponding with the ruins of stone bridge piers.³²⁵ The Tiber Island crossing point advocated by Louise Holland would have required people to move around the flood plain on the far side of the Sant’Omobono sanctuary, which does not fit any known patterns of movement (see fig.24).³²⁶ Literary evidence and the most recent archaeological investigations suggest that the island itself was only created during the mid-sixth to the mid-fifth centuries.³²⁷ If a bridge had been constructed across the developing island, the sedimentation build-up of the size documented by Marra, et al. would have altered the formation of the sediment, creating a different shaped island.³²⁸ As the river migrated and a large volume of

³²⁵ On Tiber Island see Holland, 1961; Richardson, 1992; *LTUR II, Insula Tiberinaa*; on the Aventine Tucci, 2011.

³²⁶ Smith, 1996, 179-180; 304-315.; Heiken et. al, 2005, 71-74. Holland, 1961 181, 242-261 esp. 234, 237 and 1949; Holland argued that an early bridge crossed the island and predated the later Pons Sublicius which was in the Forum Boarium and was used when Fabii rode out of the city in 478 BC. Hopkins, 2016, 37 also cites the island as a bridging point. Le Gall, 1953a, 80-81 Disregards the island recognising it does not fit with the flight of Gaius Gracchus and is too far away from the Palatine. The accounts of Gaius Gracchus’s attempted escape from Rome over the wooden bridge are not specific or consistent enough to pinpoint a precise location. The following sources all refer to the flight across the wooden bridge, all that can really be deduced from the accounts is that the Aventine, Vell. *Pat.* 2.6; the *porta Trigemina* and the Pons Sublicius were within running distance. On the Aventine and the temple of Diana App. B. Civ. 1.26; Val. Max. 4.7 on the *porta Trigemina*; Plut. C. Gracch. 17.12 on the temple of Diana and the sacred grove of the Furies; Aur. Vic. *De vir.* Ill. 65.5 on the *porta Trigemina* the *lucum Furinae* the temple of Luna and the Aventine; Oros. 5.12 the temple of Diana and Minerva. Le Gall, 1953a, 80-81 also points out that no mention was made of an early bridge over the island in any of the literary sources, however absence of information is not a credible or useful argument. Hirst, 1938, 138-139 on the problems of Tiber Island as a crossing point.

³²⁷ Livy. 2.5; Dion. Hal. *Ant. Rom.* 5.13; Plut. *Poplic.* 8. The story recounted by both Livy and Dionysius has the harvest from the Tarquinian land thrown into the river which then attracted sediment and other material which eventually became Tiber Island, creating a monument to the overthrow of tyrants, which as the archaeology has recently suggested is not far from the truth and around the correct time period. Heiken, et. al., 2005, 184; Marra, et. al., 2018, with the understanding that further coring on the island itself and the west bank would provide a greater understanding of the area and its process of creation.

³²⁸ Parke & Hewson, 2008. 710-711; Marra, et al., 2018, 6, 13.

sediment was laid down, the bridge would have further restricted the channel, undermining the piles and destabilising the bridge.³²⁹ Therefore, it is unlikely that the Pons Sublicius was located at the Tiber Island at any time during its history.

A similar problem exists with the argument made by Pier Luigi Tucci, who suggests that the Pons Sublicius was located further downriver adjacent to the Aventine. This placement pushes the bridge outside of any known patterns of movement during the early Republican period, without offering a convincing reason such as an area of industry or settlement, for the bridge to be located at that point.³³⁰ He argued that the remains of the Pons Theodosii from the late empire were built upon those of the Pons Sublicius, and that the bridge itself had been rebuilt with stone piers as early as the first century AD.³³¹ Tucci's argument relies on the evidence of the late fourth to early fifth centuries AD source Maurus Servius Honoratus, who referred to the Pons Sublicius as 'the wooden one, which nowadays is called the stone bridge,' and the bridge collapse recounted by Tacitus in AD 69.³³² Tucci suggests that a wooden bridge could not have blocked the river in the way Tacitus described; therefore, it must have been a more substantial stone structure. He also suggests that literary accounts from the first century BC, are referring to the wooden bridge in the past tense, despite explicit references from the authors to 'their' present.³³³ Cassius Dio's accounts of the wooden bridge's destruction by

³²⁹ Parke & Hewson, 2008, 586-587. However, scour around piles is not as restrictive as those of concrete piers.

³³⁰ Tucci, 2004; 2011. Tucci's argument is predominantly focused on later evidence for a stone bridge.

³³¹ Tucci, 2011, 177-209. On the possible rebuild, Le Gall, 1953, 84-85; Galliazzo, 1994, 2.5,9.

³³² The incident recounted by Tacitus happened during his lifetime. Wooden does not mean insubstantial; a large wooden bridge built with large wooden elements would have created a significant barrier when supplemented by debris which has already been picked up by the river during flooding. Tucci, 2011, 202. Serv. *Ad.* 8.646. '*et cum per sublicium pontem, hoc est ligneum, qui modo lapideus dicitur.*' Coarelli, 1988, 139-147, 1996 dismisses the reference as an outlier. It is equally possible that the Pons Sublicius had collapsed by the time of writing and the Pons Aemilius as the proximate bridge would be a sensible proxy for a reference. Tac. *Hist.* 1.86 'Tiber which, swollen to a great height, broke down the wooden bridge and then was thrown back by the ruins of the bridge which dammed the stream, and overflowed.' *Tiberis, qui immenso auctu proruto ponte sublicio ac strage obstantis molis refusus, non modo iacentia et plana urbis.* Both Le Gall, 1953a, 84; Galliazzo, 1994, 2.26 on the possibility of a stone rebuild.

³³³ He refers to Dion. Hal. *Ant. Rom.* 3.45; Plut. *Num.* 9.2; Plin., *NH*, 36.100. Dion. Hal. *Ant. Rom.* 3.45 'καὶ τὴν ξυλίνην γέφυραν, ἣν ἄνευ χαλκοῦ καὶ σιδήρου δεδέσθαι θέμις ὑπ' αὐτῶν διακρατουμένην τῶν ξυλίνων, ἐκεῖνος ἐπιθεῖναι τῷ Τεβέρει λέγεται, ἣν ἄχρι τοῦ παρόντος διαφυλάττουσιν ἱερὰν εἶναι νομίζοντες.'; 5.24 'there was but one bridge in those days, which was built of wood and fastened together with the timbers alone, without iron, which the Romans preserve even to my day in the same condition' 'ἦν δὲ μία κατ' ἐκείνους τοὺς χρόνους ξυλόφρακτος ἄνευ σιδήρου δεδεμένη ταῖς σανίσιν αὐταῖς, ἣν καὶ μέχρις ἐμοῦ τοιαύτην φυλάττουσι Ῥωμαῖοι; Varro *Ling.* 5.XV. 83 '*Ego a ponte arbitror: nam ab his Sublicius est factus primum ut restitutus saepe, cum ideo*

flooding, written in the second to third centuries AD, are also ignored.³³⁴ The sacred nature, and the role of the bridge within the socio-cultural life of the city were predicated upon its materiality; if rebuilt in stone it is difficult to argue for a continuation of its sacred status or its continued appearance in the literary sources into the fifth century AD; which will be discussed in depth throughout chapter 4. The placement of the bridge at the lower Aventine would also have situated the bridge outside of the early patterns of movement within and around the early Roman settlement.³³⁵

The third placement of the bridge is between the downriver end of the Tiber Island and the northern end of the Aventine. Filippo Coarelli's choice is the most widely accepted and connects the bridge just down river of the *cloaca circi maximi* in line with the modern *Via della Greca* and the *Via del Circo Massimo*, running parallel to the west bank (see fig. 24). This enables Coarelli's bridge to connect directly with the *porta Trigemina* (a gate in the fourth century BC Servian wall).³³⁶ Joël Le Gall situated the bridge just downriver of the *Cloaca Maxima* on the east bank and crossing the river at approximately a forty degree angle from the Pons Aemilius, to join its bridgehead at the *Via Aurelia* on the west bank.³³⁷ Vittorio

sacra et ule et cis Tiberim non mediocri ritu fiant.' 7.44 'Argei fiunt e scirpeis, simulacra hominum XXVII; ea quotannis de Ponte Sublicio a sacerdotibus publice deici solent in Tiberim'.

³³⁴ Dio. Cass. 37.58; 50.8; 53.33; 55.22 for more detail on the references to the Pons Sublicius and flooding see chapter 4. On issues with the testimony of Cassius Dio, see Miller, 1964; Gowing, 1992, 28-31, but we know that he was familiar with Rome and likely referring to the 'wooden bridge' as he understood it during his lifetime.

³³⁵ In agreement with Griffiths, 2009; for a rebuttal of Griffith's assessment see Tucci, 2011, 183-188. Tucci offers a detailed rebuttal but does not provide any further evidence for his argument for the location of the bridge but reiterates his original argument based the reference to the bridge as *lapideus* in a single literary source from the fourth century AD, the collapse recounted by Tacitus 1.86, the flight of Gaius Gracchus along with his assessment of the FUR fragment 494 and he misunderstands the possible impact of adding a wooden bridge to a narrowing area of river, rather using it as a reason for adding a bridge in that position. His dismissal of the Forum Boarium and the patterns of movement in the early settlement is based on it being flooded and inaccessible therefore unable to maintain a bridge. However, Ammerman, 1990, 2013 is clear that this would have been for days, not for weeks or months and the harbour was still located in this area as were the early temples as discussed above. An effective rebuttal should provide more nuance and evidence for the argument, which Tucci does not provide.

³³⁶ Coarelli, 1988;25-50; *LTUR IV Porta Trigemina*, Coarelli, 1996. Livy refers to the gate four times in relation to the Tiber and related works; 193 BC 35.10; 192 BC 35.41; 179 BC 40.51; 174 BC 41.27.

³³⁷ Le Gall, 1953a, 84-85 offers a rather confused synopsis of the area referencing fishing between the two bridges being near the Cloaca Maxima stating that the bridge should, therefore, be placed after the outlet and then seems to suggest that the bridge was in a position that allowed the main streams to be avoided. Le Gall was one of the first scholars to contextualise the placement of the bridge in terms of the paths which ran from the Capitoline and the Palatine to the river, and over on the west bank to the Janiculum. He cites proximity to

Galliazzo and Antonio Maria Collini accepted Le Gall's interpretation and agreed that the bridge connected the Via Aurelia on the west bank, but they depart from Le Gall's interpretation on the east bank, when they argue that the bridge connected just upstream from the *Cloaca Maxima*, running behind the Temple of Portunus.³³⁸ These three options are all within one hundred and twenty metres of each other, on the east bank, and all fit with the early movement patterns from the hills. As this chapter is about the space of the bridges, it is worthwhile taking a brief look at which of these locations is the most plausible site of the Pons Sublicius.

Coarelli's placement is linked directly to the position of the *porta Trigemina*, allowing movement across the bridge to run in a perpendicular line directly through the gate.³³⁹ The principal problem with this theory is that the gate does not have a definitive location, meaning that the placement, as with that of the bridge, is based on the interpretation of inconclusive evidence.³⁴⁰ However, locating the Pons Sublicius toward the southern end of the Forum Boarium does maintained the connection with the Via Campana on the western bank, the ancient trackway which ran south-west toward the *Salinae* (salt pans) at the mouth of the Tiber, but required either a spur road or travel back up the Via Campana, to connect with the Via Aurelia, which ascended the Janiculum and continued on to southern Etruria (see fig. 24).³⁴¹ The Via Aurelia was one of Rome's earliest paved or 'built' roads, between 240 and 236

the Janiculum and the development of the Forum Boarium near the harbour as contributing factors for bridge placement.

³³⁸ Galliazzo, 1994, vol.2, 2.26; Colini, 1986, 188.

³³⁹ Coarelli, 1996 *LTUR IV, Porta Trigemina* based on the connection between the gate and the bridge in literary sources.

³⁴⁰ Coarelli, 1988, 25-50; *LTUR IV, Porta Trigemina*, Coarelli, 1996; Richardson, 1992, 310; Sartorio and Lyngby, 1965-1967; *Front. Aq.* 1.5. on proximity to the *Clivus Publicius* and the *Salinae* at the *Porta Trigemina*

³⁴¹ Coarelli, 1988, 109-113; Rickman, 1971, 8. The *Via Campana* later became the *Via Portuensis* after the construction of the ports at Portus by Claudius and Trajan. Coarelli, 1988, 109-113. The *Salinae*, either salt works or a site where salt brought from the salt from the river mouth at Ostia was brought for refining or storage, though Richardson, 1992, 341, points out that *horrea* were never mentioned in conjunction with the *Salinae*. Coarelli argues that the term describes the terminus between the salt road and the Forum Boarium, 1988, 109-113. Evans, 1997, 68, suggests that by the first century BC the term related to a topographic location which had stuck rather than actual works though there is little proof either way. *Livy*, 27.47.15 on the fire of 213 BC destroying everything from the *Salinae* and the *Porta Carmentalis*. *Front. Aq.* 5, 65.3; *Livy*, 9.29; *Diod. Sic.* 20.36; *Paul. Fest.* 23 L. Coarelli, 1988, it is certain however that the *Salinae* and the *Via Salaria* refer to ancient routes and places in the Forum Boarium. Coarelli, 1988, 139-147 the Via Aurelia was attributed to the censor C. Aurelius Cotta around 241 BC, though Coarelli accepts that the road was likely to have been in existence since at least

BC, signifying its perceived importance, and indicating that it was almost certainly a pre-existing route;³⁴² accepting the second century BC construction date for the Pons Aemilius (see this chapter, section 2.1), the Via Aurelia was paved between sixty and ninety years before the introduction of the stone bridge. It is possible that a ferry at this location connected the Via Aurelia directly to the Forum Boarium, but it is far more likely that the increased scale of movement added by the Pons Sublicius contributed to the roads value and subsequent paving.³⁴³ Therefore, a location which brings the Pons Sublicius more in line with the Via Aurelia and the route to the Janiculum is more plausible.³⁴⁴

the foundation of Cosa in 273 BC. See also Wiseman, 1970, 133-134 who details the argument for the 241 BC date. As illustrated in chapter 3, section 1 routes that became metalled and paved roads were often well-established trackways long before they were remade as in the case of the Via Aurelia which led toward the Janiculum.

³⁴² Wiseman, 1970, 140-141, raises an important point when he states that paving roads in stone during the late fourth and early third century BC was not the engineered and paved roads of the later Roman periods but was probably more about marking out the road and creating an official right of way.

³⁴³ For the importance of paving see this chapter, section 2.

³⁴⁴ It should be recognised that the route of the Via Aurelia and the Via Campana from the river front is not certain, but people tend toward the path of least resistance where movement is concerned (see chapter 2).

[REDACTED]

Figure 25: Lanciani's *FUR* Plates 27 and 28 showing the Forum Boarium and the Transtiberium. The Red bridge structure represents the Pons Sublicius, the red lines highlight the Via Aurelia and the Via Campana on the west and the path away from the bridge on the east.

Arguing against Coarelli's location, Tucci cites fragment 27f of the *Forma Urbis Romae* (*FUR*) which he points out places shops directly ahead of the bridge on the east bank leaving no room for a corresponding road to connect to the gate.³⁴⁵ This does not rule out the placement as bridgehead roads do not have to run directly away from a bridge, but can run parallel with the river or in any number of deviating routes. The *FUR* does not conclusively rule out roads running along the Tiber, in fact, the presence of shops which are facing the river and are drawn to movement makes it more likely. It is, therefore, possible a road ran from the bridge

³⁴⁵ The *FUR* is made up of the fragments of a large marble map of ancient Rome. Mounted on the wall of the Temple of Peace it was created during the reign of Septimius Severus. It offers details of the city during the third century including buildings, stairs, shops, roads etc. Only a small percentage of the map survives. Major work on identifying the fragments has been undertaken by Carettoni, et. al. 1960; Rodriguez Almeida has undertaken extensive work including 1976, 1980, 2002; A Stanford University project also offers access to the map online; On the bridges and the *FUR* Tucci, 2004; 2011, 188-189. Rickman on the identification as shops and insula.

along the riverfront as it does in the modern city in the form of the *Lungotevere Aventino*.³⁴⁶ However, if we accept the location of fragment 27f the connection between the bridge and the *porta Trigemina* is severed, removing the principal reason for Coarelli's placement of the bridge.³⁴⁷

The final location for the bridge is downstream of the Pons Aemilius around the area of the *Cloaca Maxima*; this placement is favoured by Le Gall, Galliazzo and Collini. All of whom recognised the importance of the movement in the area of the *Velabrum*, the Forum Boarium and the connection to the Via Aurelia (roughly approximate to the modern *Via della Lungaretta*) on the west bank. This ensures that the bridge sits within the context of the harbour and the structures of the Forum Boarium and the Temple of Portunus, which will be discussed later in this chapter.³⁴⁸

In support of the Pons Sublicius location near to the *Cloaca Maxima* are both the physical path of the *Cloaca* and literary accounts. Movement descending along the *Vicus Iugarius* toward the harbour circumvented the streams which became the *Cloaca Maxima* while the route along the *Vicus Tuscus* also curved around to connect to the east of the Forum

³⁴⁶ Different types of alignment for a bridge crossing a road see Galliazzo, 1994, vol.2; along a river; *fosso tre ponti*, 160, near Santa Maria di Falleri on *Via Amerina*, Convergent of the Ponte di Saint-Vincent, 428, on the via for *Aosta e le Gallie*. The Turn; 'a S slargata' nel Ponte delle Fate, 275, in *Val Ponci presso Finale Ligure* on the *Via Iulia Augusta*. 211 Galliazzo, 1995, vol.1.

³⁴⁷Coarelli, 1988, 42-50.

³⁴⁸ Section 2.1 Le Gall, 1953a, 84-85 The Temple of Portunus had not been positively identified when Le Gall was writing about the Pons Aemilius, he recognised its importance in the location of the bridges, see next section on the Pons Aemilius. Galliazzo, 1994-1995, 2.26; Collini, 1986 ,88-189 who relates the bridge placement directly to the harbour and activity in the area. Le Gall, 1953a, 84-85 offers a rather confused synopsis of the area referencing fishing between the two bridges being near the Cloaca Maxima stating that the bridge should therefore be placed after the outlet and then seems to suggest that the bridge was in a position that allowed the main streams to be avoided. Tucci, 2011, 191. Tucci argues that a colonnaded portico visible on the eastern bank of the *FUR* extends a 'no bridge-zone' to the Pons Aemilius, precluding the addition of a bridge around the Cloaca Maxima. As with the fragment above it does not stop a road turning along the river bank nor does the fragment stretch as far as the round temple in the Forum Boarium leaving ample room for a bridge.³⁴⁸ Tucci, 2011, 189 note 46 and 192 questions the Stanford algorithm in favour of his own identification despite never having handled or seen the fragment 494.

Boarium.³⁴⁹ It is likely that early movement sought to avoid crossing the main stream with placement on the upriver side of the *Cloaca Maxima* representing a practical decision.

Literary sources refer to a place called '*inter duos pontes*' which has been suggested by scholars to be either between the Pons Aemilius and the Pons Sublicius or between the two bridges of the Tiber Island. Macrobius refers to the place '*inter duo pontes*' as a prime fishing spot where the wolf-fish feed from the city's great sewer.³⁵⁰ Horace elaborates stating that the fish were caught in the eddies between the two bridges.³⁵¹ Fishing around bridges is still popular today; the piers constrict the river causing the channel to flow faster while also dividing the flow and creating areas behind the piers where the water is relatively calm and deep attracting fish which congregate to conserve energy and seek shelter. Two bridges in proximity create multiple spaces for fishing which may also account for the location of the fish market in Rome being near to the Temple of Portunus and the two bridges.³⁵² This is significant as the identity of the two bridges is uncertain; Richardson recognises the term as relating to the Tiber Island, which Plutarch referred to as being between two bridges. However, as Le Gall noted it would be challenging to fish between the bridges with an island

³⁴⁹ For a detailed overview of the great drain and its metaphorical role as the city's waste organ, Gowers, 1995; *LTUR I*; Hopkins, 2010, 47-51; 2012; 2016, 32-33; Bianchi and Antognoli, 2014, 115-119; Coarelli, 2007, Claridge, 2010.

³⁵⁰ Cavarzere, 2018; 153-170. Duggan, 2018, 135. *Macrob. Sat.* 3.16 11-18. '*qui inter duos pontes captus fuit?*' 'a wolf-fish caught between the two bridges?' the phrase is repeated four times in the passage. Macrobius, writing in the fifth century AD but drawing on both the second century BC orator C. Titius and the first century BC satirist Lucilius. For a discussion of Macrobius Saturnalia see Kaster, 2011, Vol. 1 and 2; Cameron, 2011; on the use of sources see König, 2012, 201-208; Gunderson, 2009, 255-267. Cavarzere, 2018, 153-170. Juvenal, early second century AD, also connects the wolf-fish and the sewer, 5.103-6 '*aut glaucis sparsus maculis Tiberinus et ipse vernula riparum, pinguis torrente cloacaet solitus mediae cryptam penetrare Suburae*' 'or a Tiber fish spattered with grey blotches, like you a slave bred on the banks, bloated from the gushing sewer, who knows his way right into the drain under the middle of the Suburae.'. Plin, *NH.* 9.168-169, first century AD, '*sicut lupi pisces in Tiberi amne inter duos pontes*' 'for example sea-bass in the Tiber between the two bridges.' Duggan, 2018, 135-148 in particular 144-147 for a discussion of the relevance of wolf-fish in the writing of Macrobius and Cicero and the wider implications of '*inter duo pontes*.' Gowers, 1995, 29-30, on fish as an extension of the Cloaca used as a metaphor for the city's anatomy, see chapter 4, section 3 for further discussion on this topic.

³⁵¹ Horace *Sat.* 2.2.29-35 writing in the first century BC '*unde datum sentis, lupus hic Tiberinus an altocaptus hiet, pontisne inter iactatus an amnis ostia sub Tusci?*' 'but what sense tells you whether this pike gasping here was caught in the Tiber or in the sea, whether in the eddies between the bridges or just at the mouth of the Tuscan river?'

³⁵² Varro. *Ling. Lat.* 5.146. '*Secundum Tiberim ad <Por>tunium Forum Piscarium vocant: ideo ait Plautus: Apud <Forum> Piscarium.*' 'Along the Tiber, at the sanctuary of Portunus, they call it the Forum Piscarium 'Fish Market'; therefore, Plautus says: Down at the Market that sells the fish.' Referring to Plaut. *Cur.* 474.

in the way, and the single pier of the Pons Fabricius would only give limited room for both fish and fishing.³⁵³ If we accept Macrobius' use of C. Titius (who wrote during the second century BC) it would exclude the island bridges, the Pons Fabricius was not built until the first century BC which also precludes the possibility of the place being between the Pons Fabricius and the Pons Aemilius.³⁵⁴

In the first century AD Ovid refers to the bridges in the Forum Boarium as '*pontibus*' suggestion more than one bridge though he does not use the term '*inter duo pontes*.' As no other source refers to the exact location or names of the bridges in question, we can extrapolate that '*inter duo pontes*' was a well-known place in Rome and there was little incentive to elaborate for contemporary readers.³⁵⁵ Fragments from the *FUR* (32) which include the phrase '*inter duos pontes*' have been assigned to the area between the two bridges on Tiber Island, despite the toponym '*insula Tiberina*' also being identified in the same place on the map.³⁵⁶ It seems implausible that the map would identify the Island twice, which suggests the fragments in question belong to a different location.³⁵⁷ The proximity of the two bridges was essential in both capitalising on existing spatial practice and creating a new 'between place' which will be discussed in detail in chapter 4, section 4.

The final factor, the impact of flooding of the Forum Boarium area, needs a brief comment. As Ammerman has shown, flooding was seasonal and not an everyday occurrence for Rome and, while structures at the riverside were raised to mitigate inundations, the bridge, as

³⁵³ Richardson, 1992. Le Gall, 1953. Plut, *Poplic.* 8.3, first century AD, connects the term '*inter duo pontes*' to the island bridges 'Tiber Island [...] is now a sacred Island over against the city, containing temples of the gods and covered walks, and is called in the Latin tongue '*Inter duos pontes*' *ἔχει δὲ ναοὺς θεῶν καὶ περιπάτους, καλεῖται δὲ φωνῆ τῆς Λατίνων Μέση δυοῖν γεφυρῶν.*' He is however, using the term to refer to a specific between a place which he names as 'Tiber Island'. '*Inter duo pontes*' is a non-specific descriptive term and its use for one place which is between two bridges does not preclude its use to describe other places which could be described in a similar way.

³⁵⁴ See note 322. Dio. Cass. 37.46 and see note 330 above. Kaster, 2011, Vol. 2. 114 equates the term with the Pons Aemilius and Pons Fabricius. Any harbour facilities still in use would also make this location difficult.

³⁵⁵ Ovid *Fasti* 6.477 first century BC 'Adjoining the bridges and the great Circus is an open space of far renown, which takes its name from the statue of an ox' '*pontibus et magno iuncta est celeberrima circo area quae posito de bove nomen habet*'

³⁵⁶ Slab V-13, Identified as 32 and 34 c on the Stanford *FUR*.

³⁵⁷ Accepting that this is speculative at best but if the slab is turned 90 degrees it could be the riverbank and pier of the Pons Aemilius. Also see note 84 above on Plutarch's reference to the Tiber Island.

Griffith points out, had the flexibility to extend beyond any of the most unstable areas.³⁵⁸ A wooden pile bridge is far more adaptable than a fixed pier bridge, requiring fewer resources and having less impact on the local topography as it traversed the river. A pile bridge would not have required extensive abutments and was more flexible as emphasised by Lucan: 'fearing a spate of the headstrong river, instead of placing their wooden bridge close by the margin, they carried it far into the fields.'³⁵⁹ By the fourth century BC, the river was stable enough within its channel for permanent temples to be added to the Forum Boarium. The Sant'Omobono temples, Largo Argentina Temple C and the Temple of Portunus were all built or rebuilt on high podia, in the same period, suggesting that the river was still a factor when building on low lying areas of the city.³⁶⁰ The adaptable Pons Sublicius could have its connecting ramps extended or shortened to connect with new structures of varying heights or to clear existing streams.³⁶¹

During the period in which Rome saw a political change from monarchy to Republic the urban fabric of Rome changed very little; the Forum was raised nine meters and paved in gravel around the mid-seventh century BC and the *Cloaca Maxima* was covered, in stretches, but the focus was largely on survival and the sacred. Temples with Plebeian concerns such as the Fortuna and Mater Matuta (grain) and Apollo Medicus (as a result of famine) were constructed around the Forum Boarium and at the northern end of the Forum Holitorium.³⁶² The citizenry gathered at the wooden *ovile* for the *comitia centuriata* and the census and while the city's spaces did not change radically they became more formalised.³⁶³ It is into this

³⁵⁸ Ammerman, 1990. Griffith, 2009, 309-310.

³⁵⁹ Luc. *Phars.* 4.139-40; Griffin, 2009.

³⁶⁰ See earlier on the corresponding Sant'Omobono temples and the Largo Argentina Temple C all constructed around the same time and on similar platforms. It is worth noting that even in the nineteenth century before the addition of the embankments the photographs of the Forum Boarium show it was a wet area despite the smaller bankside walls. See the Holzrücke Rapperswil-Hurden, a wooden pedestrian bridge which crosses Lake Zürich in Switzerland.

³⁶¹ This will be discussed in more detail in the following section on the Pons Aemilius and the Temple of Portunus Viaduct.

³⁶² Davies, 2017, 27, 32, who also reminds us that while sacred buildings were plebeian concerns, they were very much patrician initiatives.

³⁶³ Varr. *Rus.* 3.2; Livy 26.22; Davies, 2017, 35.

context which the Pons Sublicius fitted, responding to a need to retain movement, providing easy movement for all the citizens of Rome between the banks of the Tiber.³⁶⁴

The most likely placement for the Pons Sublicius was just down river from the Pons Aemilius near the patterns of movement from the early settlement and close to the harbour and markets which were the entrance to the early city, and just upriver of the *Cloaca Maxima*. (see fig. 24) This placement had the added bonus of bypassing the major stream of the *Cloaca* which ran along the *Velabrum* from the *Forum Romanum* and drained at the Tiber. This location offers excellent access to both the predecessors of the *Via Campana* and the *Via Aurelia*, enabling access to both the Janiculum and the salt road toward the sea. It also situates the bridge right in the heart of Rome's entrance and reflects its role in the continuation of spatial practice rather than as a tool of urban development.

3.1.2. Conclusions

The location of the Pons Sublicius tells us a great deal about its early role in the process of spatial creation in Rome. Natural space determined early spatial practice which became ingrained in the landscape in the form of pathways, both on land and on the river. These pathways attracted structures and areas of social gathering which were created and recreated to accommodate the shifting spaces of the Tiber; markets were seasonal, temples were raised onto platforms to mitigate the flood waters demonstrating how the residents of Rome adapted to the natural topographical conditions of the city. When the Tiber altered between the mid-sixth and mid-fifth centuries BC, it coincided with increased human activity; building activity, new land management and deforestation all assisted the process of transformation and altered the hydrology of the river.³⁶⁵

As the Tiber silted up the ford became harder to cross, this corresponded with a period in which both economic and defensive considerations required an increase in the scale of access between the banks. The space of the bridge was not conceived in a way that the later bridges were, it did not require the redevelopment of the local area, or a complex process of

³⁶⁴ Bridges having always been a popular form of infrastructure with the people, see the earlier discussion in this chapter related to ferries.

³⁶⁵ Marra, et al., 2018, 1-14.

production as Livy, Dionysius of Halicarnassus and Florus imagined. The bridge utilised existing spatial practice and shared the familiar trackways of the ferries and ford; planning was limited to the construction of the bridge itself rather than as part of a planned intervention. The Pons Sublicius was built to address the loss of a pre-existing route, to fulfil the continued need to pass between the banks of the Tiber between the Forum Boarium and the Janiculum.

Space is not static! It changes with the rhythms of nature and society and is intertwined with the temporal, when the rhythm of nature changed in early Rome so did its space.³⁶⁶ The introduction of the bridge usurped the effect of the natural rhythms of the Tiber; allowing for freedom of movement between the banks, it altered the flow and set in motion the process for the river and the bridge to become part of Rome's conceived spaces. It was only in the Republican period that the river's natural movement was curtailed, and a new bridge was built.

3.2. The Pons Aemilius – The Bridge as Conceived Space

Today, standing on the eastern side of the Ponte Palatino in Rome, if you look upriver toward the Tiber Island, you will see the single remaining arch of a bridge known as the *Ponte Rotto* (the broken bridge). The solitary arch is all that remains of the massive Republican era monumental stone bridge the Pons Aemilius.³⁶⁷ Rarely considered within studies of the city, this bridge marked a significant change in the production of the city's urban spaces. It was the first stone bridge to traverse the Tiber within sight of Rome and required the alteration of the spaces around its bridgeheads, marking it as the first conceived space to traverse the Tiber at Rome's historic front door.

As demonstrated in the previous section of this chapter, the Pons Sublicius was created to ensure the continuation of existing spatial practice; a functional solution to a pattern of movement. In contrast, the Pons Aemilius was Rome's first planned bridge; it transcended its functional role, requiring a new process of production with a degree of complexity. The bridge

³⁶⁶ Elden, 2007, 114- 115.

³⁶⁷ The association between the remaining bridge arch and the Pons Aemilius is undisputed. For a discussion of the relationship between the two, see chapter 1, section 4.2 the Pons Aemilius.

captured the existing spatial practice created by the Pons Sublicius, but its stone form required a significant alteration to the landscape which in turn changed patterns of movement and connections within the spaces of the *Velabrum* and the Forum Boarium. As part of the second century BC building activities and the most prominent on the Tiber itself, the bridge represents a new phase of urbanisation, one designed to utilise infrastructure to expand and connect the city both physically and in the perception of all those who experienced the city. As such, the Pons Aemilius was the first bridge in Rome, which could be considered a tool of urban production.

3.2.1. A New Process of Production

From the second century BC, the Pons Aemilius gathered more than the banks of the Tiber, it gathered flows; it was the hub of a process which included a much broader set of entities, all of which had to be in place to enable each to fulfil its role.³⁶⁸ It was set apart from its predecessor, the Pons Sublicius, by its materiality, association with a specific *gens* and the complexity of its process of production.³⁶⁹ The Pons Aemilius did not stand alone, it functioned within a meshwork of things and movement; the technology and talent required to build a stone bridge, the space and infrastructure to construct solid abutments, roads capable of the increased scale of movement the bridge would attract, and the desire and wealth to make it all possible. Temporality is also a critical component of the meshwork; things do not just emerge among things but are a web of interwoven processes of production and conceived spaces. The bridge gathered not just things, but the burgeoning social and cultural meanings of their contextual surroundings.

The Pons Aemilius was the first conceived bridge space in sight of the city, it required a process of production which physically altered the area of the Forum Boarium. The road from the bridge severed the connection between the harbour and the Temple of Portunus, altering the spatial relationships in the area. The conceived space of the bridge cut through the natural patterns of movement and the existing meshwork of the temple and its connection to the

³⁶⁸ Heidegger, 1971, 53. For the Heideggerian concept of gathering and its influence on this thesis see chapter 2.

³⁶⁹ By materiality I mean its physical properties are different which sensorially make the bridges different even if they are both functionally similar.

harbour. This altered the rhythms of daily movement between the harbour and temple of Portunus, and around the river and market area, suggesting that by the mid-second century BC the harbour in the Forum Boarium was migrating downriver to the area below the Aventine, beyond the *Porta Trigemina*.³⁷⁰ In addition, an increase in the scale and flow of movement over the stone bridge led to the addition of a viaduct on the western side of the Via Aurelia to overcome an area of wet ground.³⁷¹ The change in the interaction between the bridge *in* space, and the patterns of movement *to* and *through* the *space* redefined the scale of urbanism in Rome's ancient river front. The alterations of the early second century BC were a unified change, a number of which can be attributed directly to the introduction of the bridge to the existing movement within the area.³⁷² The connection between the bridge and the Temple of Portunus in the second century BC was topographical, it was an imposed space, a conceived layer which was added over the more organic spaces of the river and its early patterns of movement.

This section explores how the addition of the Pons Aemilius affected and connected with the movement and spaces of Rome's riverfront. It considers the process which had to be put in place to facilitate the bridge and the impact the bridge had on the surrounding spaces, breaking connections and altering movement. Lefebvre's spatial framework provides a way to deconstruct and understand different elements of space but in order to articulate how spaces interact over distance and time, the concept of meshwork is needed to connect them.³⁷³ Analysing the layers of space offers chronologies are akin to physical layers but with the added element of interaction; natural space, spatial practice and conceived space can be determined within the space of the Pons Aemilius but are also intertwined. The flows of

³⁷⁰ Purcell, 2013, 190. See note for a discussion of the port and ship sheds. The daily routine of urban movement was an integral part of the temporal structure of the Roman day. Movement associated with the *salutatio* structured movement to the forum. The change in vehicles on the streets before and after the admission of larger vehicle traffic after the tenth hour.

³⁷¹ Patterson, 1999; Gatti, 1940, 129-142; Galliazzo, Vol. 2, 1995; Carandini, 2017, Vol. 1, 571 n. 107. Eleven arches were located near the *piazza Sonnino* and were dated to the mid second century BC.

³⁷² Ruggiero, 1991-1992, 26.

³⁷³ Lefebvre, 1991.

communication between the spatial layers and the wider city demonstrate how the bridge can be approached as a tool of urban production.³⁷⁴

Livy provides the only specific literary evidence for the introduction of a stone bridge in Rome. He states that the contract for the bridge was split into two phases, the first during the censorship of Marcus Aemilius Lepidus and Marcus Fulvius in 179 BC when 'Marcus Fulvius put out for contract a larger number of works, and ones that were also more practical: a harbour and pillars for a bridge on the Tiber.'³⁷⁵ The second phase was in 142 BC when 'some years later the censors, Publius Scipio Africanus and Lucius Mummius, contracted out the work of setting arches on these pillars.'³⁷⁶ Livy is clear that the process of building the bridge was split into two distinct phases, and this is supported by modern analysis of the structure. The second century BC dates for the bridge have been widely accepted, with the exception of Filippo Coarelli who argued that the Pons Aemilius was built around one hundred years earlier during the period in which the Via Aurelia was paved, between 240 BC and 236 BC.³⁷⁷ The hundred-year difference significantly alters the contextual meshwork of the bridge and the process of its spatial production; therefore the following section considers the evidence for the temporal placement of the bridge, and demonstrates that the earlier third century BC dates are not substantiated by the production of the bridge's spaces.³⁷⁸

³⁷⁴ For an explanation of this methodology see chapter 2, section 1.

³⁷⁵ Livy, 40.51, '*Fulvius plura et maioris locavit usus: portum et pilas pontis in Tiberi*' Marcus Aemilius Lepidus was also *princeps senatus* and *Pontifex Maximus* that year.

³⁷⁶ Livy, 40.51. '*quibus pilis fornices post aliquot annos P. Scipio Africanus et L. Mummius censores locaverunt imponendos*' For a discussion of the evidence relating to the bridge, see chapter 1, section 4.2 Pons Aemilius.

³⁷⁷ Coarelli, 1988, 139-147 The building of the Pons Aemilius was, he states, directly connected to the creation of the Via Aurelia attributed to the censor C. Aurelius Cotta in around 241 BC, though he accepts that the road was likely to have been in existence since at least the foundation of Cosa in 273 BC. As illustrated in chapter 3, section 1 routes that became metalled and paved roads were often well-established trackways long before they were remade, as in the case of the Via Aurelia which led toward the Janiculum. The Pons Sublicius had been the connection between the Forum Boarium and the Via Aurelia before the road was metalled in 241 BC. The period between Livy's history of 284 and 220 BC is largely lost and along with it any evidence that a bridge was built during that period.

³⁷⁸ Coarelli, 1988, 139-147 who suggests a date between 298-218 BC accepted by Wisemen, 1998, 113; Bernard, 2018, 124. On general acceptance of a second century date; Delbrück, 1907, 12; Le Galla, 1953, 79; Galliazzo, 1994, vol. 2; Richardson, 1992; Taylor, 2000, 188; *LTUR IV* Pons Aemilius. On the Pons Aemilius literary references and acceptance as the Ponte Rotto see chapter 1 section 4.2 the Pons Aemilius.

As noted earlier, Polybius stated that the Forum Boarium was ‘in front of the town’; suggesting that in the second century BC the river and the Forum Boarium valley were still considered a vital access route into the city via river and road, reflecting the riverine origins of Rome.³⁷⁹ The connection between the rapidly expanding city and early spatial practice was retained by the roadways and the crossing point of the Pons Sublicius; the bridge, harbour and markets were hubs within multiple meshworks which, in the second century BC, underwent a significant process of reproduction.³⁸⁰ The work of the censors of 179 BC was the beginning of the transformation of the area around the Forum Boarium and riverfront which created a new series of complex public urban spaces.³⁸¹

Following the Second Punic War and a period of austerity the city was damaged by a series of disasters over a ten year period between 203 and 192 BC, when floods and fires ravaged the riverside areas and swept away two unidentified bridges.³⁸² Rome was in a state of neglect as recounted by Livy in his story of the Macedonians who in 182 BC mocked the appearance of the city’s public and private spaces for their lack of embellishment, little time or wealth had been spend on aggrandising or developing the city.³⁸³ The second century BC was the period in which the elite of Rome, in Penelope Davies’s words ‘construct(ed) an urban presence’ and changed the experience of Rome with roads, porticoes, grand basilicas and updated harbour

³⁷⁹ Poly. 655. ‘τῆς γεφύρας πέρατι τῆς ἐπὶ τοῦ Τιβέριδος, ἣ κεῖται πρὸ τῆς’

³⁸⁰ See Newsome, 2010 on *locus cerriberimus* which is discussed in detail in chapter 5, section 1, the city was made up of multiple centralities which shifted over time.

³⁸¹ Davies, 2017, 135.

³⁸² Aldrete, 2007; Davies, 2017, 130-131. Livy, 30.26 on the fire of 203 BC; 30.38 on the flood of 202 and 193 BC; 35.21 on the flood of 192 BC. Other disasters in the same period 24.47, 25.7, 35.9, 35.40. Evidence for the presence of a stone bridge before the mid-second century is problematic. Livy. 27.51 refers to the destruction of two bridges in 192 BC ‘The Tiber made a more violent attack on the city than on the occasion of the previous flood and destroyed two bridges and numerous buildings, particularly in the area of the *Porta Flumentana*.’ ‘*Tiberis, infestiore quam priore impetu inlatus urbi, duos pontes aedificia multa, maxime circa Flumentanam portam, evertit.*’ The problem lies in the absence of specifics, it is possible Livy refers to bridges which crossed the Tiber and it is plausible there was more than one wooden bridge crossing the river in the early-second century BC, but it is equally possible that he is referring to bridges which crossed streams in the city itself, see above natural space section one, especially in the area of the *Porta Flumentana* which was in close proximity to the Tiber.

³⁸³ Livy 40.5. Before the second century BC, defensive considerations would have played a part in any decision to create a permanent bridge. Cassius Dio, 14, Zon. 8.25, states that when Hannibal was approaching Rome during the second Punic war, all the bridges were removed with one exception (most plausibly the Pons Sublicius as it was the only bridge in sight of the city). The threat from Hannibal in Italy lasted from 218 BC until 203 BC. It suggests that stone bridges were not in place enabling bridges to be removed for defensive purposes. Holland, 1961, 235-236; Griffith, 2009, 301-303; Davies, 2017, 130.

and shipping facilities; the mid to late Republic was a period in which the population of the city grew rapidly, increasing the pressures on Rome's existing infrastructure.³⁸⁴ It was the work of the magistrates between 193 BC and 174 BC (notably M. Aemilius Lepidus, L. Aemilius Paullus, and M. Fulvius Nobilior) which began the monumentalisation and re-formalisation of the riverfront space; early in the decade (193 BC and 192 BC) building work had been undertaken on the river with the creation of a wharf and three porticoes and in 179 BC the piers for a bridge (the Pons Aemilius) were commissioned along with a harbour, basilica, fish market, shops, a forum and colonnade outside the *Porta Trigemina*, colonnades behind the dockyard, three temples and a theatre and seating area.³⁸⁵ The background of the river experience, was also changing as the Temple of Jupiter was refurbished, cleaned and whitened, and had some of statues and shields removed.³⁸⁶ These works began a grand project of rejuvenation and change on the riverfront, of which the bridge became a key element.

The development of Rome's urban experience offered an opportunity for Rome's most powerful families to consolidate their legacy with some well-placed self-advertisement; over a hundred and fifty years before Augustus stamped his authority on the city the *Aemili* asserted their dominance on the city with multiple building works including the Pons Aemilius, two *porticus Aemiliae*, a *basilica Aemilia* and an *ades Aemiliana*.³⁸⁷ In 174 BC another censorship focused on the city's infrastructure when 'The censors, first of all, let contracts for paving the streets in the city with *silex* and for laying the bases of roads outside the city with gravel and constructing footpaths along their edges, and for the construction of bridges in many places.'³⁸⁸

³⁸⁴ Davies, 2017, 82, my addition in brackets. See Aldrete & Mattingly, 2000, on the pressures of supplying food to the expanding population of Rome, esp. 142-144 for the Republic.

³⁸⁵ Livy, 35.10; 40.51 focus on the river front of the city reflected both the redevelopment of the damaged areas of the city and the importance of trade on the river. Davies, 2017, 135-139. Livy, 31.1. Aemilius Lepidus had spent time in the east and had experienced different cities which may have influenced his ideas on how a city front should be experienced.

³⁸⁶ Davies, 2017, 85; Laurence, Esmonde Cleary, Sears, 2011, 15.

³⁸⁷ Wiseman, 1998, 114.

³⁸⁸ Livy 41.27 '*Censores vias sternendas silice in urbe, glarea extra urbem substruendas marginandasque primi omnium locaverunt, pontesque multis locis faciendos.*' In 174 BC. On the 'many bridges' reference; Coarelli, 1988, 140-141. Coarelli rules out the Pons Mulvius as it was outside the city. It is possible that other temporary wooden bridges crossed the Tiber in Rome during this period. However, in the account of Horatius Polybius. 6.53, who lived through this period, he refers to the wooden bridge in front of the city in singular terms. It is more likely

Situating this within the wider work of the second century BC, the censors of 174 BC (Q. Fulvius Flaccus and A. Postumius Albinus) began the process of facilitating quicker and easier movement around the city, paving some of the main routes; in particular, the *Clivus Capitolinus*, the road from the *Porta Trigemina* to the Aventine and the warehouse outside the gate, which was laid with stone and enclosed, a stairway was also added to facilitate access between the Tiber and the warehouse.³⁸⁹ The riverfront was transforming, so where did the Pons Aemilius sit within this process of production?

The Tiber embankment has been dated to the early second century BC, the motivation for its construction has been studied in terms of the defence of the city from flooding, and as a result of the need for more substantial port facilities, but its presence in the Forum Boarium area has not been considered as a result of the construction of the Pons Aemilius.³⁹⁰ When Marcus Fulvius contracted for the bridge piers, a process of production was initiated which included the reinforcement of the Tiber banks to support the bridgehead, the consequences of which transformed the spaces of the riverfront in the Forum Boarium. To be clear, before these works the embankment was a natural bank which had both sloping and steep sides, by turns enabling and blocking access to the river.³⁹¹ The embankment around the area of the Temple of Portunus, at the bridgehead, was raised from its mid-Republican level of 6.5 m.a.s.l to 9.9

that Livy refers to small bridges which crossed streams within the city itself. The steppingstones in Pompeii demonstrate that, within a Roman city, attempts were made to provide dry crossing points, see Poehler, 2018.

³⁸⁹ On the impact of paved vs un-made roads see Laurence, 1999; 2013; McNeil and Riello, 2005. Pliny the Younger on the importance of a good road between a villa and Rome, Plin. 1.24 '*vicinitas urbis, opportunitas viae*' and on the difficulties of using an unpaved road with a 2.17 'leave the first at the fourteenth milestone and the other at the eleventh. Whichever way you go, the side road you take is sandy for some distance and rather heavy and slow-going if you drive, but soft and easily covered on horseback.' '*sed Laurentina a quarto decimo lapide, Ostiensis ab undecimo relinquenda est. Utrisque excipit iter aliqua ex parte harenosum, iunctis paulo gravius et longius, equo breve et molle*'. Zanker, 1988, 18-20; Laurence, 1997, 67. The romans used the word *silex* to refer to paving of the roads in durable stone. Livy.41.27 'and built a stairway from the Tiber to the warehouse.' '*gradibusque ascensum ab Tiberi in emporium fecerunt*.' The introduction of the stairway between the Tiber and the banks is significant and will be discussed in section three, below the bridges. Spaces both inside and outside of the *Porta Trigemina* received attention from the censors; the gate marked a point in the Servian wall on land but not on the river.

³⁹⁰ Collini, 1980, 46 and 1986, 190-191; Coarelli, 1988, 36-38, 139-147; Lanciani, 1897, 63; Cressedi, 1984, 265, 271-276; Davies, 2017, Carandini, 2017, vol. 1. Del Buono, 2009, dating of the embankment is based on ceramics found in the fill and on the construction of the wall tufa blocks with *opus caementicium*. For an overview see Mocchegiani Carpano, 1984, 21-81; Aldrete, 2007, 192-194.

³⁹¹ See section one on the challenges of natural riverbanks.

m.a.s.l.³⁹² This had a significant impact on the Temple of Portunus, raising the ground level around the temple and redefining its spatial connections.

The Pons Aemilius and the Temple of Portunus have been approached as connected structures due to their topographical and epigraphic relationship, from the *fasti Allifani and Amiternum* and a small fragment from a *fasti* from Rome, which located them '*Portuno ad Pontem Aemilium*'.³⁹³ However, a study of the space around the temple and the bridge offers a different conclusion. The earliest phases of the Temple of Portunus dates back to the end of the fourth or the beginning of the third century BC.³⁹⁴ Raised on a six-metre high podium, it mirrored the fifth century BC temples of *Castor*, *Apollo Medicus Sosianus* and that of *Fortuna* and *Mater Matuta* which sat at the height of approximately five metres above ground level.³⁹⁵ These temples, and that of Portunus, were constructed during a period when the Tiber still dictated elements of building design. The Temple was located at the edge of the harbour area and was dedicated to Portunus the god of harbours, landings and coming ashore, which in turn was connected to the deities of Janus (who had a temple in the *Forum Holitorium*) and *Tiberinus* (who may have had a temple on the Tiber Island); these temples, built around the fourth or third centuries BC, were ritually and topographically linked to waterfront activities.³⁹⁶ If we accept the mid-second century BC date for the creation for the

³⁹² Lanciani, 1897; Colini and Buzzetti, 1986; Coarelli, 1998, 113-127; Ruggiero, 1991-1992; *LTUR IV Portunus, aedes*; Del Buono, 2009; Ammerman and Fillipo, 2004; Carandini, 2017, vol. 1 and 2.

³⁹³ See chapter 1 the Pons Aemilius. The *Portunalia* was held on the 17th August. *Fasti Allif.*, *Amit.*; *pons Aemili*; ad XVI Kal. Sept. *CIL* I2. 217, 240, 244, 325; Degrassi, II, 13.2, 181, 191 dating from the reign of Tiberius in the first century AD. For the Temple of Portunus: Varro *Ling.* 6.19; 5.146 '*Portunalia dicta a Portuno, cui eo die aedes in portu Tiberino facta et feriae institutae*', *Fasti* August 17th the *Portunalia*, *Fast. Allif. Vell. Amit. ad XVI Kal. Sept.*, *CIL* I2. 217, 240, 244, 325 '*Portuno ad pontem Aemilium*' Ov. *Fast.* 6.478. Mommsen, *CIL* I2, 325; Fowler, 1899, 202-203. Varro, *Ling.* 22.6; Front. *Epist.* I, 7. *LTUR IV Portunus aedes*, Buzzetti, 1999; Adam, 1994; Ruggiero, 1991-2; Colini and Buzzetti, 1986.

³⁹⁴ Ruggiero, 1991-1992, based on height of the platform (six metres above ground level), which she argued is comparable to Temple C in Largo Argentina and the use of *Grotta Oscura*; Blake, 1947. Del Buono, 2009, 16. Del Buono, 2009, 24-25 advocates for an earlier date between the early to mid-fourth century BC after the conquest of Veii in 396 BC and compares the structure to the rebuilt city walls after the Gallic fire of 390/386 BC. Del Buono, 2009, 16; Ruggiero, 1991-1992, 24; Coarelli 1983 185-6; 1988 113-127. Adam, 1994, 101-103. Buzzetti and Colini, 1986, 114-115. Though the *Portunalia* ritual associated with the area stretched back into the sixth century BC and it is possible that the oldest phase of the temple has not yet been identified.

³⁹⁵ *LTUR II Fortuna et Mater Matuta aedes*; *LTUR I Apollo* and *LTUR I aedes in Circo*; Davies, 2017, 20-21.

³⁹⁶ Holland, 1961; Degrassi 1963, 13.2 24; Davies, 2017, 58. On the role of Portunus in festivals see Scheid, 2012, 289-304. On the Temple of Janus, Holland, 1961, 200-223; Richardson, 1991, 206 (though he disagrees with the location); On the temple of *Tiberinus* Degrassi, 1963, 13.2 24; Ziolkowski, 1992, 164-167.

Pons Aemilius, the Temple of Portunus pre-dates the bridge by at least one hundred and fifty years; meaning that the temple and the bridge do not share a ritual or sacred connection, just a topographical one. In fact, the creation of the bridge and embankments severed the physical connection between the harbour and Temple of Portunus, altering long established rhythms of movement between the two.

Excavations at the site of the Temple of Portunus revealed one and a half arches of a viaduct running parallel to the river toward the harbour from under the platform (see fig.26).³⁹⁷ The arches are a crucial piece of evidence for tracing movement in the Forum Boarium before the introduction of the Pons Aemilius. The viaduct is contemporaneous with the fourth or third centuries BC phase of the temple but was buried during the raising of the embankment during the second century BC, disappearing underneath the later temple podium. Despite the temple being raised on a six-metre platform, there is no evidence of stairs to enable access to the structure; the stairs that can currently be seen on the temple were a first century BC addition.³⁹⁸ The viaduct has been suggested as the temple access point during periods of flooding, but it is far too complex a structure for only occasional seasonal usage.³⁹⁹ At a width of 5.45 metres, the arches are narrower than the roadway of the Pons Aemilius (8 metres) but approximate to that of the Pons Fabricius (5.6 metres), meaning it could carry traffic between the temple and the harbour year-round, avoiding wet areas or small streams.⁴⁰⁰ It may even have connected to a slipway in the harbour where boats pulled into the shore. The viaduct represents a physical connection between the temple and the harbour, a pattern of movement which ran parallel to the river. As the temple was situated close to the river bank the viaduct marks the only space that a road, running from the Pons Sublicius could have run parallel with the river. Alternatively, the Pons Sublicius could have turned left to run alongside

³⁹⁷ Colini, 1986; Gros and Adams, 1986; Coarelli, 1988; Colini and Buzzetti, 1986; *LTUR IV, Portunus aedes*, Ruggiero, 1991-1992; Richardson, 1991; Adam, 1994; Del Buono, 2009.

³⁹⁸ Ruggiero, 1991-1992 argued that the stairs could have been removed but Del Buono, 2009, rightly finds this a difficult argument to support. There was also a viaduct on the west bank built in 142 BC by the same censors who added the arches of the Pons Aemilius. This was added to a particularly wet stretch of the Via Aurelia built in the same Aninio Tufo as aqua Marcia. Galliazzo, 1994, 35.

³⁹⁹ Colini, 1986; Ruggiero, 1991-1992.

⁴⁰⁰ It is possible that the viaduct connected through the temple platform to the Pons Sublicius but without further evidence this is purely speculative. Davies, 2017, 50.

the east of the Temple where *taburnae* were added sometime after the embankment was constructed.⁴⁰¹

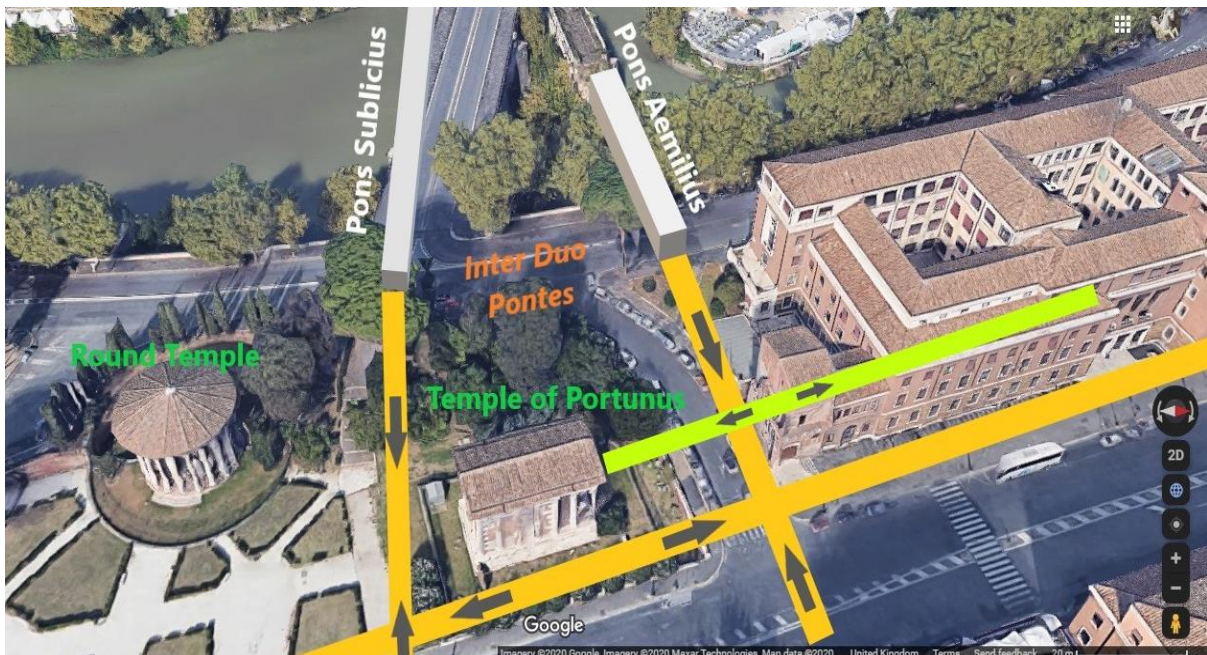


Figure 26: The Temple of Portunus in relation to the Pons Sublicius and the Pons Aemilius. The yellow lines represent suggested roads and the green line a possible continuation of the viaduct on the river side of the Temple of Portunus. Image: Google Map Data 2020 with author annotations.

The exact form of the temple before the first century BC rebuild is not well understood, due to a paucity of evidence, but at some point between the second century BC and the rebuilding in the first century BC, concrete was added to sections of the west side of the podium.⁴⁰² This indicates that attempts were made to shore up the walls which were shifting and causing the misalignments which can be detected within the structure of the podium and viaduct,

⁴⁰¹The wall structures to the east of the temple of Portunus are contentious. Which Colini, 1986, observed as an older phase than the second century BC works and suggested it was contemporary with the fortification walls, similar to the viaduct and platform of the temple of Portunus. Coarelli, 1988, and Cressedi, argue for an embankment wall which connected the temple and the port giving the area a unified plan. Ruggerio, 1991-1992, and Colini, 1986, found a similar section of wall in the port area. Carandini, 2017, 427 and tab 171 B, suggested that the rectangular building near *Santa Maria Cosmedin* a short distance from the wall is the bulwark of the *Porta Trigemina* connecting it to the fourth century wall. See Coarelli, 1988, 42-50, 36 and 39. The addition of shops dates after 179 BC.

⁴⁰² See note 392 for a list of sources for the Temple of Portunus. A date of late third to second century BC for the works on the Temple of Portunus are given by the stratigraphy of the ground at the south-east corner of the temple. The stratigraphic evidence indicated a layer of burning corresponding to the third century BC, which fits with the literary evidence.

suggesting a shift westward toward the river.⁴⁰³ The evidence of subsidence attests to the soft and shifting nature of the terrain along the Tiber banks in that area, and the need for a more substantial embankment and the filling of the area before bridge abutments could be added. It also indicates that the Roman engineers were aware of the problem during the construction of the bridge, and that effective buttressing of the embankments was a critical element in the process of creating space for the bridge.⁴⁰⁴

By the time the arches of the Pons Aemilius were added in 142 BC, the Temple of Portunus and its surrounding precinct had undergone a series of significant changes; the ground level around the podium had risen from 6.5 m.a.s.l. to 9.9 m.a.s.l., the arches of the viaduct had been buried, and a new access point for the temple was added to the northeast enabling direct access to the *tabernae*.⁴⁰⁵ The infrastructure was put in place to enable the next phase of bridge building – the arches and the connecting road which was constructed from the Pons Aemilius bridgehead to the Forum Boarium; the road ran passed the front of the Temple of Portunus and severed the ancient pattern of movement between the Temple and the Harbour.⁴⁰⁶

Further evidence of the extent of the embankment works come from Marra et al., in the form of a coring sample (FB49), taken near the point where the Pons Aemilius bridgehead reached the east bank, an anomaly was discovered in the anthropic fill at a very low-level ca. 1 m.a.s.l.

⁴⁰³Gros & Adam, 1986, 33. The laying of concrete on the long west side at the same time as the 179 BC works, was interpreted as an attempt to shore up the embankment. Collini, 1986, 26-27, argued that it was underpinning for the late Republican era temple, however, Del Buono, 2009, 25, successfully argued that this was not the case but that the addition of concrete was contemporaneous with the early second century BC building works to stabilise the shifting podium.

⁴⁰⁴ See note directly below. See also chapter 1, section 4.6.1.

⁴⁰⁵ The works of 179 BC created a staircase to the east and it is likely that there is a precedence in the temple of Castor and Pollox, Del Buono, 2009, 25. See Carandini, 2017, tab 171b. See Plautus, *Cure*. 476 who states that open drains in the forum were covered over as the city became urbanised. The same can be said in the case of the Forum Boarium where the need for the bridge led to more filling of the area which no longer needed the viaducts to cover the wet areas. Aldrete, 2007, 170.

⁴⁰⁶ It should be noted that this road is unlikely to have existed before the introduction of the bridge (see the section on the viaduct and the wet area) therefore the attribution of the Porta Flumentana, which was a feature of the fourth century wall, should be aligned to this road because of its connection to the bridge. It is possible that the bridge and road were created in this spot because it was near the gate, but roads can bend and twist and do not necessarily run in a straight line. See also the argument for the Pons Sublicius and the *Porta Trigemina* earlier in this chapter. Carandini, 2017, tab 171b. Coarelli, 1998. *LTUR VI*.

which incorporated ceramics dated 150 BC or later. This deposition could have been caused by sediment compaction and/or human intervention; we can also speculate that it could be interpreted as a deep incision to reach stable ground with back fill added to create a stronger embankment and to shore up the soft and shifting river banks, in order to support the bridgehead of the Pons Aemilius.⁴⁰⁷ The date also puts it within range of Livy's date for the completion of the bridge in 142 BC.⁴⁰⁸

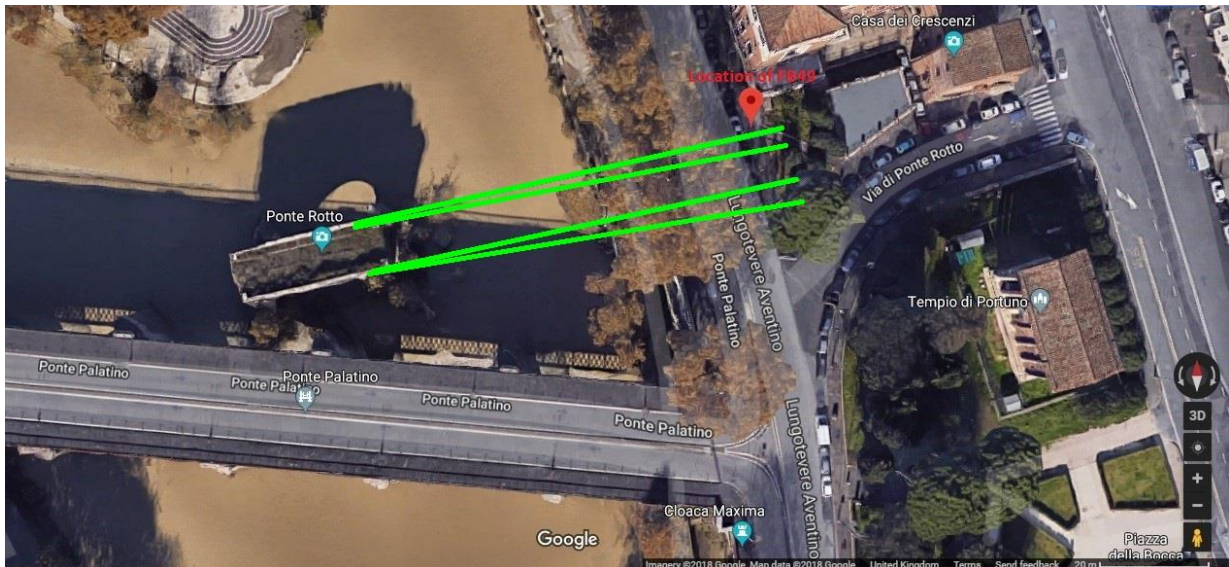


Figure 27: The image shows the remaining arch of the Pons Aemilius and its proximity to the Temple of Portunus and the location of FB49 (marked). The green lines, added by the author, indicate two of the possible lines of the bridge. Source image: Google Maps 2018.

According to Livy, there was a thirty-seven-year gap between the creation of the piers for the bridge and the addition of the arches. Coarelli, Le Gall and Galliazzo advocated for the addition of a wooden superstructure on the piers based on the testimony of the mid-fourth century AD author Julius Obsequens who wrote in a book of portents that in 156 BC after a storm the '*pontis*

⁴⁰⁷ Parke & Hewson, 2008, 165–184, esp. 172. The Institution of Civil Engineers' Manual of Bridge Engineering discusses in detail the requirements for appropriate abutments but states that, in case where soft material is present (as with the Tiber) and a pile bridge is not suitable, the soft material can be 'replaced with well compacted granular material'. This would apply to the surrounding support for the abutment as well as the structure itself.

⁴⁰⁸ It should be remembered that abutments for the bridge were being sunk into soft sediment. Marra. et.al. 2018, 1-14 in particular 5-6, and accompanying diagrams. Though this is not definitive and would require more analysis.

*maximi tectum cum columnis in Tiberim deiectum.*⁴⁰⁹ However, the *Porticus Aemilia*, also a monumental structure, constructed near the river during the early second century, had a wooden roof and columns making it a better fit for the structure referenced by Obsequens, than proposing the Pons Aemilius had a wooden superstructure and roof.⁴¹⁰ There is a far simpler explanation for the gap between the addition of the piers and the arches.

It is important to remember that the Pons Aemilius was the first monumental bridge to be constructed in the Tiber, in sight of the city, in a challenging and busy section of the river. As discussed in chapter 1, section, 2, bridge building is, still, a perilous and difficult task which requires the gathering of money, technology, materials and manpower. A significant gap between the laying of piers and the addition of the arches should not be considered unusual, especially when we ponder the challenges which were set before the Roman engineers and builders. Laying stable foundations and piers is the first and most crucial step in the creation of a stone bridge, the abutments and piers account for the majority of the design, expenditure and work as, if built incorrectly, they can lead to the failure of the structure; the process of building the Pons Aemilius entailed the Romans creating cofferdams to carry out the pier work, and to adapt to the new medium of stone and concrete. The area of the river chosen also put the builders at a disadvantage; during normal river flow the slope of the riverbed was softer due to the large deposition of sediment, this made it easier to sink the cofferdams but more challenging to create stable abutments. It was also a natural fluvial crossbar where the river divided and reconnected after the island; this created uneven flows of fast-moving water which were released, from their restricted channels, at different pressures at either end of the bridge; when the river was in spate this pressure created eddies which soured the riverbed and piers with uneven ferocity. All these factors had to be understood and accounted for before the heavy superstructure of the bridge could be put into place; therefore it is likely that

⁴⁰⁹ Delbrück, 1907-12, 14; Le Gall, 1953; Coarelli, 1988, 140; Galliazzo, 1994; Planter & Ashby Pons Aemilius; Richardson, 1991; *LTUR IV*; Carandini. Jul. Obs. 16. 'The roof and columns of the great bridge were thrown down into the Tiber.'

⁴¹⁰ Livy, 41.27; Richardson, 1992, *LTUR IV*, Porticus Aemilius; Carandini, 2017; Davies, 2017.

construction of the piers, banks and preparation of the area contributed to the delay in adding the bridges superstructure (the arches).⁴¹¹

Bridges do not follow a specific typology, in terms of shape and style, that can often be identified in buildings, they are engineered based on available materials and the challenge of the obstacle they have to cross.⁴¹² By the mid-second century BC, and the move to add arches to the piers of the bridge, the development of the Roman urban experience was well underway, marble buildings stood in the Campus Martius providing a stark contrast with older tufo buildings.⁴¹³ The remains of the Pons Aemilius show that it had a core of *grotta oscura* and its gabine arch rested on a course of travertine which in turn rested on concrete.⁴¹⁴ The Pons Aemilius and the Pons Mulvius (second century BC) both had a core of *grotta oscura* stone which Tenney Frank argued would not have been used in such a heavy structure in a position where water could penetrate the core and destabilise the structural integrity, when there was a viable alternative; this is borne out by the later Pons Fabricius (62 BC) in which the material of the core of the piers was replaced with the stronger *Anio tufa*. Both the Pons Aemilius and the Pons Mulvius had gabine blocks as part of the stone covering of the arches, this material was still in use and present on the outside of the piers and the vaulting of the Pons Fabricius.⁴¹⁵ Therefore, we know that the Pons Aemilius utilised concrete and that it shared material traits with the Pons Mulvius which had changed by the construction of the Pons Fabricius.

The construction of the arches for the Pons Aemilius in 142 BC was predated by the construction of the Aqua Marcia in 144 BC, which would have provided valuable practice in arch construction. In Rome the advent of concrete, especially experiments with hydrolic

⁴¹¹ Parke & Hewson, 2008, 165. Symmachus details the perils of bridge building including the collapse of structures. *Sym. Ep. IV.70; V.76; Relat. 25, 26*. Parke & Hewson, 2008, 165; Karmon, 2011, 179-180 Today the piers of the bridges along the riverbanks are buttressed by armour stones; Delbrück, 1907-12, the bridge piers were one to two meters smaller than the later bridge piers of the Pons Mulvius and the Pons Aelius. For general discussion of the challenges of bridge building see Parke & Hewson, 2008, 165–184; Watson, Brigham, Dyson, 2001 on the multiple rebuilds of London Bridge from the Roman period onward.

⁴¹² Which is why it is possible to have a monumental bridge on a stretch of river and then fifty years, when money and materials are tight, a new wooden bridge is added.

⁴¹³ Lancaster, 2005, 8; Davies, 2017, 145-146.

⁴¹⁴ Frank, 1924, 139-143; Le Gall, 1953, 79.

⁴¹⁵ Frank, 1924, 139-143.

concrete (which sets underwater), have obvious advantages for bridge building, but the specific chronology is unclear. Initially thought to have been used in Rome during the mid-Republican period, Marcello Mogetta successfully argued for a later date, of the mid-second century BC, for its diffusion.⁴¹⁶ The *Porticus Aemilius*, the vast structure located on the Tiber waterfront in the Emporium district (near Monte Testaccio), had previously provided a fixed date for the early use of concrete in Rome, between 192 BC - 174 BC, but recently questions have been raised about its identification creating uncertainty over its chronology.⁴¹⁷ This makes the Porticus Metelli the earliest securely dated structure to use concrete in Rome between 141-131 BC.⁴¹⁸ The combination of travertine and concrete, used in the foundations of the Pons Aemilius, was found in the Temple of Magna Mater which has been dated between 150-100 BC.⁴¹⁹ This situates the construction of the Pons Aemilius within a period of engineering and architectural advancement, in terms of building technics and materials, in Rome, which enabled its successful construction.

The Pons Aemilius facilitated a new scale and rhythm of movement through the Forum Boarium and the Transtiberium; the ferries and the Pons Sublicius still retained their own patterns of movement, but the Pons Aemilius created a new flow which attracted larger and heavier vehicles creating a meshwork of flows which overlapped. The choice to capitalise on the pre-existing route created by the ferries and the Pons Sublicius attests to both the success of the crossing point and the need to increase the scale of movement it was capable of facilitating. Bridges in close proximity are still used today where different scales of traffic flow are required; London's Blackfriars road bridge and railway bridge sit alongside one another (within 45 meters) enabling two different flows and scales of movement into the same spaces. The addition of the Pons Aemilius may have been vital to relieve crowding caused by restricted flows across the Pons Sublicius and the ferries; at Rome's Jubilee celebrations in 1450, the Ponte Sant'Angelo was the sight of a disaster caused by the convergence of a

⁴¹⁶ Mogetta, 2015. For an example of the earlier dating see Lugli, 1957, who argues for third century BC; Coarelli, 1977 late third century BC and more recently Giuliani, 2006, fourth-third centuries BC.

⁴¹⁷ Cozza and Tucci, 2006, 176-180, who argue for the building to be considered as a Navalium and date it to the second or latter half of the second century BC; see also Coarelli, 2007, 42-43 on a mid-second century date; Tuck, 2000.

⁴¹⁸ Mogetta, 2015, 8.

⁴¹⁹ Mogetta, 2015, 8.

number of busy routes onto a single bridge; the rebuilding of the Ponte Sisto was a direct result of this disaster.⁴²⁰ The increase in wealth and building work during the second century BC increased the movement of people and trade into the city, putting pressure on the meshworks which were already in place; adding a new bridge in such close proximity to the can be seen as expedient in the context of an already successful route and expanding urban development.⁴²¹

Situating the Pons Aemilius within the meshwork of Aemilian second century BC works marks the bridge as part of a programme of works rather than as a reaction to an individual event.⁴²² The works included the *basilica Aemilia* and the *macellum* in the Forum Romanum, the *porticus Aemilia* and warehouses outside the *Porta Trigemina* next to the commercial centre by the Tiber, and another long portico which connected to the *Porta Frontinalis* along the Via Flaminia, and a viaduct on the Janiculum and paved roads around the city. The Aemilian meshwork connected the Forum Romanum, the Tiber, the river bank areas and even the norther road out of Rome.⁴²³ The complex process of production which the Pons Aemilius initiated in the Forum Boarium, is demonstrated in both the archaeological and literary evidence. Additional changes to the Temple of Portunus's stairs, mooring rings, paving, road widening and monumental porticoes all dating to the same period have been identified, which along with the embankment works make a second century BC date of the bridge completion more plausible than Coarelli's third century BC date.⁴²⁴

As the bridge changed the nature of spatial production on the riverfront, it also changed the perception of the space. The *Fasti* dating from the reign of Tiberius in the first century AD

⁴²⁰ Temple, 2011, 48. Overcrowding caused a panic in which animals and people were crushed, eventually causing a failure of the bridge ballustrades and tipping those onto the bridge into the Tiber. After the disaster the areas preceding the bridge on both sides was re-designed and an arch removed to widen access and reduce the likelihood of future overcrowding.

⁴²¹ Taylor, Rinne, Kostof, 2016, 253.

⁴²² On the Aemilian building programme Livy 25.40; 26.27; 40.51; Censorship of Cato 37.44; see chapter 3, section 2. See Wiseman, 2008.

⁴²³ Livy 40.51 For 179 BC and 41.27 for 174 BC; Wiseman, 1998, 112-114, 118. See chapter 3 for a detailed description of the alteration in the area during the second century BC.

⁴²⁴ Davies, 2017, 138-139; Carandini, 2017, vol. 1 and 2.

provides the earliest surviving reference to a bridge called the Pons Aemilius in Rome.⁴²⁵ The regional catalogues confirm that both the bridge and the name were still in use in the fourth century AD. There are no surviving archaeological traces to indicate why the bridge was assigned the toponym the Pons Aemilius, but taking the Pons Fabricius as an example (see chapter 5, section 1), it is certain the bridge was named for its patron who would have featured prominently in any dedicatory inscription adorning the bridge. In an ideal world Livy's account of the creation of the bridge would confirm the Aemilian connection, however he specifically assigns the contract for the pillars to the censor Marcus Fulvius, rather than his counterpart Marcus Aemilius Lepidus, and the arches to Publius Scipio Africanus and Lucius Mummius, all of whom provide alternative toponyms for the bridge. Plutarch adds further confusion by identifying the builder as an Aemilian but assigning it to a quaestor rather than to the censors.⁴²⁶ Therefore, without any further archaeological data, any attempt to assign the bridge to a specific member of the Aemilian *gens*, and by implication an associated date, can only ever be conjectural. That said, we can be confident that between the first and fourth centuries AD the bridge was perceived as an Aemilian structure, which enabled it to be situated within the spaces and meshwork of the Aemilian building works.⁴²⁷

⁴²⁵See section above. *Fast. Allif. Vell. Amit. ad XVI Kal. Sept.*, CIL I2. 217, 240, 244, 325 *Fasti* August 17th referring to the *Portunalia* 'Portuno ad pontem Aemilium' Degrassi, *Inscr. Ital.* 13.2, 181, 191. The only sources which reference the bridge by name are the Tiberian era *Fasti. Allif.* CIL I2. 217, 240, 244, 325. Juvenal 6.523; *Hist. Aug. Egb.* 17 and the regionnaires. Plutarch suggests the name by stating that the stone bridge was built by a quaestor with the name Aemilius *Plut. Num.* 9.

⁴²⁶ The Aemilia was one of the oldest patrician families in Rome responsible for many building projects both in and outside of Rome, see ODC. *Plut. Num.* 9 'The stone bridge was constructed during a much later period, when Aemilius was quaestor.' 'ού γὰρ θεμιτόν, ἀλλ' ἐπάρατον ἡγεῖσθαι Ῥωμαίους τὴν κατάλυσιν τῆς ξυλίνης γεφύρας.'

⁴²⁷ Coarelli draws attention to the disparity in the naming conventions for the bridge which he argues should reflect Marcus Fulvius, as in the case of the Basilica Fulvia in the Forum Romanum, which would make the bridge the Pons Fulvia. However, the Basilica is also known as the Basilica Aemilia as M. Aemilius Lepidus and subsequent members of the *Aemili* family completed and restored the basilica after the death of Fulvius, which could provide an explanation for the bridge. In the same vein, the bridge could plausibly, and most likely, be attributed to Scipio Aemilianus who was responsible for the creation of the arches in 142 BC. Coarelli, 1988, 139-145. Challenges the connection to a Marcus Aemilius Lepidus suggesting instead a Manius Aemilius Lepidus who was listed in the *fasti Capitolini* in the third century BC. The rarity of the prenome of Manius he argues makes him a candidate for the person responsible for building the bridge in the mid-third century BC. The naming conventions followed the function of the structure or location such as the Pons Sublicius or the Via Salaria until the dedication of the Via Appia (started in 312 BC) which was named for its censor, Appius Claudius. The precedence was also followed by the creator of the Via Aurelia in 241 BC. Davies, 2017, 68; 143-144. On the Aemilian structures of the mid second century BC Livy 40.51, 41.27. *Aemili* in Rome built two long porticos one of which was outside the *Porta Trigemina* next to the commercial centre by the Tiber and the other connecting the *Porta Frontinalis* along the Via

In the first century BC Cicero also offered praise to a L. Aemilius Paullus, for restoring or rebuilding the Basilica Aemilia.⁴²⁸

The creation of the Pons Aemilius between the early and mid-second century BC is supported by both the literary sources and the archaeology, which situates the bridge firmly within the context of wider infrastructure works of that period. The engineering requirements for the erection of a stone bridge between the Tiber Island and the Temple of Portunus necessitated the strengthening and raising of the embankments with solid fill to support the bridge.⁴²⁹ The river area on the east bank was paved, and stairs and mooring rings were added to the riverbanks.⁴³⁰ The Temple of Portunus was cut off from the harbour by the introduction of the bridge, creating a new movement pattern in the area. On the west bank toward the Janiculum, there was an increase in the use of the area, including residences, *horti* and tombs, and the addition of a viaduct on the via Aurelia to cross a swampy section along the west bank of the Tiber.⁴³¹ The bridge was not an isolated entity, it was the hub of a meshwork the flows of which reached across both banks of the river to alter the spaces of Rome's riverine region. It is not outside the realms of possibility to suggest that one of the Tiber embankment's primary functions (in the Forum Boarium) was to provide a bridgehead for the Pons Aemilius, and that the added flood protection the embankment provided was a supplementary benefit.

The stone bridge also created a spatial and experiential link between itself and its wooden predecessor, the Pons Sublicius. The Pons Aemilius is often understood as the successor or replacement of the Pons Sublicius, which suggests that the wooden bridge became obsolete, but this is a misunderstanding of the role both bridges held within the spaces of Rome.⁴³² As Harvey comments '...within the context of specific practices, the organization of space can

Flaminia, both were given the toponym *Aemiliana*. 179 BC basilica and *macellum* in the forum credited to Fulvius (bridge also known by one source as the Pons Lepidi), Wiseman, 1998 112-114, 118; see also Hales, 2000, 48-50 on the Basilica Aemilia and the Basilica Fulvia.

⁴²⁸ Cic. *Att.* 4.16.8, 50's BC, also known as the Basilica Fulvia, Paulli or Paulus; Latham, 2016, 137 see chapter 3. Tac. *Ann.* 3.72.; see also Plut. *Caes.* 29; Dio Cass. 54.24; Livy. 11.51; Plin. *NH.* 36.102.

⁴²⁹ The challenge of adding stone piers and abutments is emphasised by the depth of fill near the bridgehead and indications of subsistence in the west side of the Temple.

⁴³⁰ This will be discussed in the next section.

⁴³¹ See chapter 1, the Pons Agrippae and chapter 4 on the 'other' across the Tiber. Carandini, 2017, 554.

⁴³² Karmon, 2011, 173. Le Gall, 1953, 60.61.

indeed define relationships between people, activities, things, and concepts,⁴³³ the Pons Sublicius becomes obsolete in modern eyes because of its contrasting rustic materiality. However, there is no suggestion that the wooden bridge did not continue to be used, wooden does not mean weak; that is a matter of load, rather than of materials.⁴³⁴ The connecting roads to the bridges ran on either side of the Temple of Portunus and may have connected along the temple's east side; the meshwork of both bridges overlapped and became a new place which will be discussed in detail in chapter 4. There is one final element of space which needs to be explored, and that is the space below the bridges of the Forum Boarium.⁴³⁵

3.2.2. The Space Below the Bridges

As the bridges altered the spaces and movement on land, they also added a physical presence to the open spaces of the Tiber, but how much did the addition of the bridges affect movement on the river? The following discussion focuses on the bridges below their roadways – that is the spaces of the river itself.⁴³⁶ In Lefebvre's terms, the river and its bridges were a combination of natural and conceived spaces; initially, a natural space which was then controlled in a planned way (in the construction and control of the river banks and piers) but one in which the natural flows sought to reassert themselves.⁴³⁷ The relationship between

⁴³³ Harvey, 1991, 216.

⁴³⁴ Parke and Hewson, 2008, 165-184.

⁴³⁵ The role of these two bridges in the social life of Rome will be discussed in detail in chapter 4. A brief comment about the association of *Inter duos pontes* and the marble plan. Literary sources refer to a place called *inter duos pontes* which has been suggested by scholars to be either between the Pons Aemilius and the Pons Sublicius or between the two bridges of the Tiber Island. Mac. Sat. 3.16 '*qui inter duos pontes captus fuit?*' Plin. NH. 9.168-69; Varro *Ling.* 5.146 Ovid, *Fasti* 6.477-8. Plutarch however equates the term to the island bridges 'Tiber island [...] is now a sacred island over against the city, containing temples of the gods and covered walks, and is called in the Latin tongue '*Inter duos pontes.*' Plut. *Poplic.* 8.3 '*ἔχει δὲ ναοὺς θεῶν καὶ περιπάτους, καλεῖται δὲ φωνῆ τῆ Λατίνων Μέση δυοῖν γεφυρῶν.*' This reference describes a place between two bridges, but he also refers to the island itself as Tiber Island. Richardson, 1992, recognises the term in relation to the Tiber Island; Le Gall, 1953, and Coarelli, 1988, to the area between the two bridges. For details of the quotes see chapter 4, '*Inter duo pontes.*' Fragments from the Severan marble plan (*FUR*) which include the phrase '*inter duos pontes*' have been assigned to the area between the two bridges on Tiber Island, despite the phrase '*insula Tiberina*' already being identified on the map. Both Le Gall, 1953, and Coarelli, 1988, have pointed out that it would be difficult to fish (which is the focus of much of the sources references) between the two bridges with an island in the way. The fragment in question Slab V-13, Identified as 32 and 34 c on the Stanford *FUR*, on inspection looks far more like the pier of a bridge and river side buildings than anything relating to the Tiber Island.

⁴³⁶ The meaning ascribed to the river and the tension between the river and the bridges will be discussed in chapter 4.

⁴³⁷ Lefebvre, 1991.

the river and the settlement of Rome reflects the tension inherent in space; the attempt to control and plan the course of the river against the agency of the Tiber which regularly overflowed its banks.⁴³⁸

Until the second century BC the Pons Sublicius was the only bridge across the Tiber within sight of the city. The name of the bridge itself (the pile bridge) has led scholars to consider the bridge's form as a structure close to that of Julius Caesar's Rhine bridge.⁴³⁹ The only image which survives of the Pons Sublicius is on a second century AD medallion from Antoninus Pius (see fig. 28). Le Gall asserted that the image represented on the medallion was a good likeness for the ancient bridge, and would enable the passage of larger shipping, but there is no evidence to support his assumption; images on Roman coins were representative of the thing they sought to capture, or in this case event, rather than a faithful depiction of a specific structure.⁴⁴⁰ Barring any new evidential finds, there is currently no way to determine the exact form of the Pons Sublicius, but it is almost certain that the bridge was maintained as a wooden pile structure; which could have had a significant impact for movement on the river.⁴⁴¹ Pile bridges do not have the same effect on river currents as bridges with wider stone piers, the piles are often much closer together potentially creating a barrier to shipping, so did the Pons Sublicius and the later stone bridges cause such an obstacle to shipping on the Tiber?⁴⁴²

⁴³⁸ For a comprehensive assessment of the Tiber floods and the Roman attempts to control them see Aldrete, 2007. See also Le Gall, 1953a on the *Cippi* found along the Tiber.

⁴³⁹ Caes. *Bel. Gal.*; Galliazzo, 1994; 1995. Griffiths, 2009; Malmberg, 2015.

⁴⁴⁰ Kleiner, 1991; Elkins, 2015; Crawford, 1985 see chapter 5 for a discussion of bridges and coins. Le Gall, 1953, believed that there could have been an arch in the middle of the bridge to allow for shipping. As the coin is depicting the defence of Rome by Horatius Cocles the arch may simply be a device to represent a broken bridge rather than a bridge with an arch.

⁴⁴¹ See chapter 1 and 4, Pons Sublicius for an overview of sources and evidence for the Pons Sublicius and its continuation as a wooden bridge. See also section one in this chapter.

⁴⁴² Parke & Hewson, 2008, 175-177 on the different pier sizes.



Figure 28: Medallion of Antoninus Pius from AD 140-143 depicting Horatius Cocles at the Pons Sublicius. Image: A Dictionary of Roman Coins, Illustrated by Fairholt, 1889.

Based on the third and fourth century inscriptions the *codicari nav(icularii) infra pontem S(ublicium)* and the *codicari nabiculari infernates*, Simon Malmberg has argued that the Pons Sublicius represented the furthest line of travel for larger ships travelling up the Tiber, citing the lack of evidence of *codicarii (collegium)* above the Pons Mulvius. There are very few references to the term *codicarii* and the majority are from the Tiber between Rome and Ostia, therefore the reference is too rare to make assumptions about its use above the Pons Mulvius.⁴⁴³ Lionel Casson suggested that the division attested to in the inscriptions referred

⁴⁴³*CIL* XIV.185 (third century AD) and *CIL* XIV.131 = *ILS* 687 (early fourth century AD) were the *collegium* (trade guilds) operating above and below the Pons Sublicius. The use of these inscriptions also adds to the assumption that the relationship between the river and those who worked upon it was stable throughout its history. Malmberg, 2015, 194-196 cites the lack of tow paths and boundary markers above the Pons Mulvius. Examples of other *codicarii* inscriptions; from Rome *CIL* IV, 01649 (p 3163, 4725); EDCS 00344 {Manfred Clauss}; from Ostia Antica *CIL* XIV, 00131 = D 00687; *CIL* XIV, 00185 (p 481) = *CIL* VI, 01639 (p 3163, 3811, 4724). As Casson argues, different types of vessel can be used to navigate different elements of the river (see note 402) but the lack of tow paths and boundary stones (*cippi*) can also be explained by the move from the urban to rural areas around Rome where traces of tow paths may have been lost due to erosion by the river Casson, 1965; 1971; Le Gall, 1953 149-173 undertook a survey of the boundary stones inside and outside of Rome but as Taylor, 2000, 81 points out, there are far more *cippi* located on the west bank 67 verses, the 29 from the east bank, so the results of his survey should be treated with caution. *Cippi* located near the river's banks are vulnerable to the river's changing course and erosion increasing the chances of the loss of the *cippi*. Campbell, 2012, 317-318. For a

to a boundary between different types of vessels; heavier boats which were towed upriver to the Pons Sublicius, and the lighter tug boats which could be rowed upriver beyond the bridge.⁴⁴⁴ Steven Tuck conjectured that the construction of the bridges on the Tiber, between the Late Republic and Early Principate, altered the nature of shipping on the Tiber, excluding large sea-going vessels in favour of river boats.⁴⁴⁵ The Pons Sublicius may have acted as a waypoint on the Tiber, a well-known place to demarcate movement, but that does not necessarily equate to a shipping restriction.

According to Plutarch, writing in the first century AD, L. Aemilius Paullus sailed a Macedonian royal galley, along the Tiber, through Rome in 167 BC. 'which had sixteen banks of oars [...] the Romans actually came in throngs from out the city, as it were to some spectacle of triumphant progress whose pleasures they were enjoying in advance, and followed along the banks as the splashing oars sent the ship slowly up the stream.'⁴⁴⁶ This event happened after the commissioning of the piers for the Pons Aemilius but before the addition of the arches. The Pons Sublicius was the first bridge Aemilius Paullus would have encountered in sight of the city. If he had continued past the Pons Sublicius, it is possible that a section of the bridge was removed to allow passage (the bridge was designed without iron for swift removal – see chapter 4, section 2), and then swiftly replaced, but the galley would still have had to negotiate the smaller channels around the Tiber Island. Traffic on the river had been negotiating the Pons Sublicius since the latter part of the fifth century BC and there is no evidence to suggest the bridge restricted river traffic. Recent finds of Roman warships in the red sea had a width of six metres, therefore, the wooden piles must have been spaced at least eight metres apart to

detailed discussion of the role of boats and *codicarii* on the Tiber, see Casson, 1965. Le Gall, 1953, 357, 216-31. On tow paths Propert. 1.14; Procop. *Goth.* 4.22. Le Gall, 1953, 218-220.

⁴⁴⁴ Casson, 1965.

⁴⁴⁵ Tuck, 2013, 328. See note 481 above for a discussion on ancient warships. Rankov, 2008, 62-63 suggests a comparison oared ship (for the ancient period) this type of ship, which may have been used to transport troops up river during the ancient period, was approximately 21.6 m long, 2.79 m broad and ca. 1.9 m high with its *aphlaston* and 1.1 m without. Marsden, 1994, 55-76, Blackfriars ship from the period of Domitian's reign was 18.5 m long, 6.12 m wide, 2.86 m high to the gunwale with a mast of 12.7 m.

⁴⁴⁶ Livy, 45.35; Plut. *Aem.* 30 'Αίμιλιος μὲν οὖν τοῦτο πράξας μάλιστα παρὰ τὴν αὐτοῦ φύσιν ἐπιεικῆ καὶ χρηστὴν οὔσαν εἰς Ὀρικὸν κατέβη· κάκειθεν εἰς Ἰταλίαν μετὰ τῶν δυνάμεων περαιωθεὶς ἀνέπλει τὸν Θύβριν ποταμὸν ἐπὶ τῆς βασιλικῆς ἐκκαιδεκῆρους κατεσκευασμένης εἰς κόσμον ὄπλοις αἰχμαλώτοις καὶ Ζφοινικίσι καὶ πορφύραις, ὡς καὶ πανηγυρίζειν ἕξωθεν καθάπερ εἶς τινα θριαμβικῆς θεᾶν πομπῆς καὶ προαπολαύειν τοὺς Ῥωμαίους, τῷ ῥοθίῳ σχέδην ὑπάγοντι τὴν ναῦν ἀντιπαρεξάγοντας.'

allow for larger ships to pass with stepped oars. It is not possible to calculate the width of the Pons Sublicius piles as none have survived, the form and load capacity of a wooden bridge is dependent on the size of the piles and ingenuity of the Roman engineers, as long as the piles were large enough the bridge could cross the Tiber and allow access to larger shipping; it is also worth remembering that the form of the bridge may have adapted over time to accommodate new traffic requirements.⁴⁴⁷ However, it is of course plausible that movement of the largest vessels may have stopped before both the up and down river sides of the bridge.

When the Pons Aemilius was added to the river, the changes for river traffic increased not just in the river but along the banks and in the city. The bridge had five piers approximately 5.36 metres wide, which restricted the channel by over twenty-six metres, causing the river to run faster between the piers and creating eddies which resulted in dangerous currents and whirlpool effects behind the bridge; this made areas around the bridge treacherous for river traffic.⁴⁴⁸ There is no evidence to suggest that the bridge caused a major problem as demonstrated by the introduction of the medieval London bridge, which at 276 metres long was supported by a nineteen and later eighteen piers (the later Rennie bridge had five), which greatly restricted the river, causing a hazard to river traffic to the extent that only fools were said to pass under the bridge while the wise passed over. The restriction of the channel also caused a build-up of ice on the Thames which spawned London's famous frost fairs (the bridge acted as a barrier for the movement of cold-water channels), which ceased when the bridge was finally removed and replaced in the 18th century.⁴⁴⁹

For those plying their trade on the Tiber, the bridges meant an adjustment to their daily patterns of movement. When the Hollands rowed down the Tiber, they noted that 'the piers broke the impetus of the river, but set up even more cross-currents and whirlpools' an effect

⁴⁴⁷ For references to ships on the Tiber see Tac. *Ann.* 15.18; Livy 8.14; Pol. 36.5. Plut. *Cat. Min.* 39; Vell. *Pat.* 4.45; Plin. *NH.* 18.20. On width of Roman vessels Casson, 1970. Marsden 1978, 101, for a detailed discussion of ships and masts on the river Thames; height was not such an issue as Roman boats were low keeled, and masts could be stepped. The literary sources are silent on any problems related to access for ships under the bridges crossing the Tiber at Rome. The width of the stone arch bridges on the Tiber ranged from approximately 16.5 metres (Pons Aemilius) to 24.5 metres (Pons Fabricius).

⁴⁴⁸ Parke & Hewson, 2008, 175-177 the wider the piers the more they affect the river flow, pile bridges are not as restrictive as their stone counterparts. Conversely, it became a good place for fishing see above.

⁴⁴⁹ Watson, Brigham, Dyson, 2001, 83-170.

commented on by Claudian who recounted ‘the bridge whose obstructing piers churn turbid Addua to yet fuller foam.’⁴⁵⁰ Today the Pons Mulvius can act as a dam during high water, channelling overflowing water down the Via Flaminia as far as the *Porta del Popolo*. The Pons Aelius’s ability to dam the river was exacerbated by the removal of its flood arches, which resulted in flood waters penetrating further into the Campus Martius.⁴⁵¹ Bridges can also cause the formation of sandbanks through the increase in sedimentation rates in the channel, if not effectively managed.⁴⁵² During the creation of the Tiber embankments, Lanciani recalled that the widening of the east channel around the Tiber Island caused the river running around the east (under the Pons Fabricius) to completely silt-up, demonstrating how activity on the riverbanks and in the channel can have serious consequences for the river.⁴⁵³

There is little doubt that the Pons Aemilius altered the way people plied their trade on the river; apart from the currents, the introduction of the large embankment in the second century BC meant the use of the existing natural harbour inlet, where boats could be pulled up and unloaded near the area where the Pons Aemilius would stand, was either curtailed or removed altogether.⁴⁵⁴ After the introduction of the embankment, boats would have had to rely on the introduction of steps and mooring rings to access the banks.⁴⁵⁵ This was not always a popular change for ferrymen, in the absence of examples from the Roman world, the River Thames offers an illustration; the planned addition of a second bridge in the eighteenth century (at Westminster) met with significant resistance, ferrymen organised strikes and pickets to ensure that (among other things) adequate stairs would be added to the new embankments to ensure access to the riverfront for their customers at low tide.⁴⁵⁶ Movement between the land and the river was vital for the continuation of river trade; additions of stairways and mooring ropes were part of the process of river production, and one which had

⁴⁵⁰ Clau. Pan. Hon. 456-8 ‘*medius sed clauserat hostisinter me socerumque viam pontemque tenebat, Addua quo scissas spumiosior incitat undas.*’; Holland & Holland, 1950, 91.

⁴⁵¹ Kamon, 2011.

⁴⁵² Home, 1951, 278, 36-37; Cooper, 2006, 22.

⁴⁵³ Lanciani, 1897; Holland, 1950,92.

⁴⁵⁴ Holland,1961, 144.

⁴⁵⁵ Lanciani, 1897; Dumser, 2013, 135. Stairs and mooring rings were referenced in the works of 174 BC, Livy, 40.27, and remains of mooring rings were visible and uncovered along the embankments.

⁴⁵⁶ Cookson, 2006; Pierce, 2002. The river Thames, in London, only had one bridge, London Bridge, until the introduction of the Westminster Bridge. The ferrymen saw the bridge as a direct threat to their livelihoods and campaigned against its introduction.

to be considered before the new bridge and its associated embankment were added. The daily rhythm of the boatmen would have been altered to accommodate the changes, but it did not reduce the use of the river, as Tacitus's reference to a river full of boats in the first century AD attests.⁴⁵⁷

Augustus took the first known steps toward managing the river, but it was Tiberius who set up a board of five curators, *curatores riparum et alvei Tiberis*, who were assigned responsibility for the banks and the bed of the Tiber to ensure that it did not overflow in the winter or dry up in the summer.⁴⁵⁸ Both Augustus and Trajan conducted extensive reviews and maintenance of the river, but it was an on-going battle.⁴⁵⁹ In the first century, AD steps were taken to free the river from blockages and restrictions, banning any structures which impeded navigation and any unauthorised structures from the river banks. This included the removal of bridges which did not allow for the passage of boats to their full height and width.⁴⁶⁰ However, problems with silting of the Tiber and encroachment of the banks were not a direct result of the bridges themselves but had been a continuing problem throughout the history of the settlement.⁴⁶¹ There is stratigraphic evidence for dredging of the river channel, near the old Roman harbour between the fifth and the third century BC, however due to the need to keep the river channel open, it is certain that dredging was an on-going concern. During late summer when the river flow was significantly decreased dredging and the removal of obstacles from the river bed would have been necessary to keep the river channels free.⁴⁶² The bridges, in particular, the Pons Aemilius, may have exacerbated the

⁴⁵⁷ Tac, *Ann.* 15.18

⁴⁵⁸ It is unclear who retained responsibility for the bridge, whether they fell under the remit of the river or of the roads

⁴⁵⁹ On Trajan Plin. *NH.* 8.17; *CIL* 14.88; On Augustus Suet. *Aug.* 30; Dio. Cass 55.8; 57.14. For a detailed overview see Le Gall, 1953, 117-119, 149-173; Mocchegiani Carpano, 1995, esp. 86-88; Taylor, 2000, 80-83; Campbell, 2012, 317-318. Though responsibility for the bridges is unclear and may also have fallen to the *curatores* of the roads. Augustus and Trajan conducted the most extensive review, but other reviews were also undertaken, Plin. *NH.* 3.66 recounts the Flavian census of AD 73. see Le Gall, 1953 for a comprehensive list of the *cippi* of the Tiber.

⁴⁶⁰ D. 39.1.1.17; 43.12.1.12-14; 39.2.24; Taylor, 2000, 81-83.

⁴⁶¹ See section 2 in this chapter.

⁴⁶² Marra, et. al., 2018. See this chapter, section 2. On the issues of the channel issues Le Gall 117-118, 301-302; Aldrete, 2007, 191-192 on the Roman tendency toward dumping in the Tiber. Livy 2.5. On Roman law which attempted to keep the river free see Digest 43.12.1.12-15 and 39.1.1.17; Suet. *Aug.* 30 and Hist. *Aur.* 47.2-3 on dredging and clearing the riverbed.

situation, but they did not represent the barrier to movement along the river which is sometimes assumed.⁴⁶³

The Pons Aemilius was also introduced during the period in which Rome's harbour migrated down river, but it was not the reason for the migration; the move down river was underway by 193 BC with the construction of a wharf outside the *Porta Trigemina*, though it is plausible to suggest that the reduction of the harbour facilities over the following years may have released the space required to make the introduction of a new bridge viable.⁴⁶⁴ The Pons Sublicius and the Pons Aemilius together did alter movement on the river; they created a 'between place - *inter duo pontes*' where fishing took place (see chapter 4, section 1 and 4) and transformed the experience of passing the river spaces of the Forum Boarium and the Janiculum, but bridges of Rome were not referenced in any of the sources as a restriction to trade on the river; the only mentions of a bridge blocking the river relates to a flood, where Tacitus, in the first century AD, recounted that the collapse of the Pons Sublicius dammed the river and increased the level of flooding in the city.⁴⁶⁵

The design of the stone bridges, which were erected when the population of Rome was increasing, would have taken account of the requirements of river traffic (as the small arches for towing suggest). The vessels travelling both up and down river were adapted to deal with the seasonal variations and the hydrology of the Tiber itself, not the bridge which crossed her flow. The bridges certainly added to the challenges for river borne vessels, with the eddies they created making movement challenging for shipping and ferries alike. A far more powerful contributor to the design and restrictions on shipping was the hydrology of the Tiber itself. On land, the bridges were the hub in a meshwork of connections which renegotiated their role within the process of urbanisation. In the Tiber, the bridges altered spatial practice, but did not determine its limits or path; that role was determined by the agency of the Tiber alone, which despite numerous attempts at management, always maintained its own flow.

⁴⁶³ See Malmberg, 2015.

⁴⁶⁴ For the harbour works see earlier in this section.

⁴⁶⁵ For a detailed analysis of the Tiber floods see Aldrete, 2007, Tac. *Hist.* 1.86

3.3. Conclusions

In order to understand the process of spatial production for each bridge, this chapter started with the landscape. In Lefebvre's words, 'The initial basis or foundation of social space is nature – natural or physical space. Upon this basis are superimposed – in ways that transform, supplant or even threaten to destroy it – successive stratified and tangled networks which, though always material in form, nevertheless have an existence beyond their materiality [...]' The theory has shown that no space disappears completely...not even the natural place where the process began.⁴⁶⁶ The natural space of early Rome did not disappear and can still be detected in the roadways and the footprint of the ancient structures themselves; if we ignore the founding principles of natural space, we ignore a crucial component of the process of the production of space. Spatial practice in a developing city can tell us much about the way people interact and move within their city. Literature and even archaeology can be subjective, but movement remains entrenched within the landscape, silently pointing to clues about the past. For a study of bridges, so often overlooked, movement and space offer a way to demonstrate how vital the bridge was in the transformation of Republican Rome.

The Pons Sublicius was added to natural space; it captured the existing spatial practice created by the ford and transformed movement across the riverbanks. The challenging seasonal crossing was replaced by quick and easy movement, which could be undertaken day or night throughout the year, which altered the perception of distance between the Tiber banks. The bridge did not require any adaptation of the landscape or advanced planning, it was required and built and even its name reflected its functional role. The Pons Aemilius, on the other hand, was the city's first conceived bridge space in sight of the city; it required a physical alteration of the area, which ultimately cut off the Temple of Portunus from the harbour and changed movement patterns in the Forum Boarium. The bridge increased traffic and required a viaduct to be erected on the Via Aurelia as a reaction to increased traffic and loads. The bridge received the name of its benefactor, further situating it within the meshwork of movement and that of the Aemilian *gens*. This was not just a functional bridge but a statement of intent for the city and a tool of planned urban production.

⁴⁶⁶ Lefebvre, 1991, 402-403.

Why does this matter? Rome was a riverine city whose urbanisation began down at the riverfront. To understand the process of spatial production in the city, we have to start at the river and, if we accept this, the bridge becomes an integral part of the city's development. It is hard to imagine today the freedom which Rome's first bridge offered travellers in Rome. Rather than planning a journey far in advance and then dreading the muddy slog across the river, the perception of what was near and far in relation to a journey completely changed. It is no coincidence that a series of building works undertaken by the censors in the early to mid-second centuries BC focused on the riverfront as it was, even then, perceived as Rome's front door. The Pons Aemilius represented a major step forward in the urbanisation of the city. It built on the existing spatial practice of the Pons Sublicius, but the complexity of its spaces and its process of production altered the meshworks and flows of movement in the Forum Boarium. The Temple of Portunus was effectively cut adrift from the harbour, becoming isolated behind the bridge's road; movement along the riverfront was curtailed and a heavier flow of traffic headed for the new, stronger and smoother bridge.

This chapter has outlined the different spatial process of the Pons Sublicius and the Pons Aemilius; the next chapter demonstrates how that difference coupled with the materiality, proximity and temporality of the two bridges created a betweenness of place which brought the past into the present for the city's inhabitants. The two bridges offered the city a new perception of ancient and authentic, which enabled the creation and recreation of socio-cultural identity within the temporal meshwork of the two bridges.

4. Meaningful Places: Bridges in the Socio-Cultural Life of Rome

This chapter will demonstrate how the materiality of bridges created a flow of temporal correspondence, which enabled a becoming and rebecoming of Roman traditional values and identity within the socio-cultural life of the city; the materiality of Rome's bridges was able to bring the past physically into the present for its inhabitants.⁴⁶⁷ To do this we need to explore how Rome's bridges transcended their functionality to become more than a way to cross the Tiber. All the bridges affected movement and rhythm within the city by facilitating routes across the river, but not all the bridges had the same social meaning. In terms of social significance, two bridges stand out; the Pons Sublicius and the Pons Aemilius. Both represented a first in the life of the city, the first bridge and the first stone bridge, respectively.⁴⁶⁸ It was not their antiquity or materiality which made them meaningful but their proximity to each other within the foundational spaces of Rome's trading doorway.⁴⁶⁹

Chapter 3 explored the bridges through the conceived and perceived elements of Lefebvre's spatial triad; this chapter adds the third element - lived space; the historical, the imagined the symbolic and the fluid space of the people which reflected the complexity and unpredictability of the human experience.⁴⁷⁰ The action of adding a second bridge, which was materially distinct from the first, created a juxtaposition which produced a socially constructed 'between' space, which became meaningful within the lived spaces of the city. The two bridges together created an 'imageability' of form, moving across either created a rhythm of experience which brought the past into the present, it created a perceived and physical 'betweenness' of place which enabled the evolving social identity of the Romans to retain a correspondence with the traditional values of the past.⁴⁷¹

⁴⁶⁷ The discussion of the socio-cultural life of Rome will focus on the shared values, traditions and identity of the inhabitants of the city and the wider Roman community.

⁴⁶⁸ See chapter 1 for an outline of each of the bridges and chapter 3 for a detailed discussion of both their processes of production.

⁴⁶⁹ See chapter 3, section 1. The Forum Boarium area was referred to as Poly. 655 as being in front of the town and was the location of the early harbour and markets.

⁴⁷⁰ See chapter 2 for the theory.

⁴⁷¹ Lynch, 2006, 4-10 and 126-7.

Literary and archaeological evidence demonstrates that as the physical and social elements of the Rome altered the perception and understanding of the bridges changed. Movement informed the way people understood their world, as the inhabitants of Rome moved through the changing spaces of their city, they were subconsciously connected to a myriad of correspondence from the past and present. Access to literary sources shows how the myths and legends of the past were appropriated within their current social context to become meaningful.

At this juncture, it is important to reiterate the limits of both the evidence and the reach of the sensory approach within this thesis. As Day acknowledged, one of the biggest obstacles to the adoption of sensory studies in Roman scholarship lies in convincing traditional scholars of its validity; that use of the bodily experience to understand the Roman world is more than a subjective attempt at 'populating the past with people like us'.⁴⁷² Therefore, this thesis rejects any imaginative sojourns into the Roman world and avoids any first-person narration of the past, to show that a methodology which utilised sensory studies does not mean a trip into the abstract and unverifiable.⁴⁷³ This approach raises some challenges as the abundance of Roman literary evidence, which is so vital to the study of Rome, provides us solely with an elite perspective of city life. However, by combining the sources and the material evidence with an illustration of the different textures and nuances of the bridges, and by concentrating on how these elements changed the background of experience over time, a new more meaningful sensescape for the bridges emerges which was experienced by all the inhabitants of Rome, even if not in the same way.

The materiality of the city was a social variable which defined the way a building or area was perceived and used. The materiality of things changes the way the body interpreted and understood the places it inhabited; for the residents of second century BC Rome, wood was an abundant and familiar building material and the Pons Sublicius represented the standard bridge form. The material form of the Pons Aemilius created a new set of possibilities and habits; the newly paved streets of the city created a smooth and even surface enabling faster

⁴⁷² Day, 2013, 20-21.

⁴⁷³ It also recognises the valuable contributions of Diana Favro, 1996, walking tour of Rome, which while based on an imagined walk through Rome, paved the way for a new perspective and approach to the urban Roman landscape.

movement for both foot and vehicular traffic, which in turn made the paved streets a preferred and busy route, especially for heavier vehicles or those carrying litters.⁴⁷⁴ Building bridges created a new conception of space in Rome, but the complex production of the bridges meant that no two bridges were the same, they all sat within their own unique contextual spaces giving each a different meaning and role within the city.⁴⁷⁵ When the Pons Aemilius was built; far from becoming obsolete the Pons Sublicius ‘became’ ancient in the collective perception of the Rome’s inhabitants, it was observed and understood through the embodied perception experienced both upon the Pons Aemilius and within the bridges ‘between’ spaces.⁴⁷⁶

4.1. Between Wood and Stone: Becoming Rome

For over three hundred years, until the addition of the Pons Aemilius in the second century BC, the wooden Pons Sublicius was the only Tiber bridge which connected the east and west banks of the Tiber at Rome’s archaic front door.⁴⁷⁷ Before the creation of the Pons Aemilius, the Pons Sublicius, and its history, represented the familiar and every day experience of a bridge for the inhabitants of Rome. However, the wooden bridge should not be regarded as small, weak or primitive; it had to be large enough to stretch across the banks of the Tiber (four hundred Roman feet according to Dionysius of Halicarnassus) and strong enough to withstand the force of the river’s winter currents.⁴⁷⁸ The Pons Sublicius was a large and imposing structure which made a significant impression on the landscape.

The Pons Aemilius was Rome’s first stone Tiber bridge; at one hundred and thirty-five-metres (four hundred and fifty-six Roman feet), the six-span travertine bridge created a new experience from both the land and the river.⁴⁷⁹ Both bridges were the result of different

⁴⁷⁴ Plin. *NH.* 1.24; Strabo. 4.187.

⁴⁷⁵ See chapter 3 for the different process of spatial production for each bridge.

⁴⁷⁶ Holland, 1961, 338 on the Pons Sublicius as an obsolete structure.

⁴⁷⁷ Livy. 1.33; Plut. *Num.* 9 who attributed the bridge to Ancus Martius 642-617 BC; Dion. Hal. *Ant. Rom.* 3.45; 9.68; Plin. *NH.* 36.100; Serv. *ad Aen.* 8.646. Holland, 1961; Coarelli, 1988, 25-35; Coarelli, 1996, 112-113; Le Gall, 1953, 80-86: For the site of the Pons Sublicius see the discussion in chapter 3.

⁴⁷⁸ Dion. Hal. *Ant. Rom.* 9.68. Galliazzo, 1994, Pons Aemilius. We do not know the form of the Pons Sublicius, but it cannot have been a small and spindly bridge as it would not have withstood the Tiber’s high water or been large enough to block the Tiber as recounted by Tacitus, *Hist.* 1.86 in AD 69. See chapter 3 for further comment.

⁴⁷⁹ See chapter 3, section 1 for the placement of both bridges. It should also be noted that the monumental element of the Pons Aemilius will be covered in chapter 5 as this chapter is focused on the dichotomy and spaces

processes of production; the older bridge represented natural and perceived space and the stone bridge conceived and complex space. It is worth remembering that when the Pons Aemilius was constructed, in the second century BC, it was a new experience for the many of Rome's inhabitants.⁴⁸⁰ A monumental bridge within the spaces of the Tiber was not an experience with which they were familiar; they may have experienced stone bridges before, either themselves or through the stories of others, but they had not experienced a substantial stone bridge within the urban space of Rome. The Pons Aemilius disclosed a new world of possibilities for the people of Rome.⁴⁸¹

The bridges were located within the city's foundational spaces of the Forum Boarium, within sight of the Capitoline, Palatine, and a short walk to the Forum Romanum; this point which is reiterated as it is critical to understanding how and why the bridges retained a place in the socio-cultural life of Rome.⁴⁸² Their proximity and location created a dichotomy, a dialogue in the spaces between the two structures which enabled the Pons Sublicius to 'become' ancient.⁴⁸³ The material and temporal juxtaposition between the two bridges enhanced and strengthened the social and cultural relevance of the Pons Sublicius. It became one of the Rome's most enduring physical reminders of its past, in the same way that the antiquity and simplicity of the hut of Romulus or the home of Scipio Africanus accentuated the greed and opulence of the Roman lifestyle for authors from Cicero in the first century BC to Seneca in the first century AD.⁴⁸⁴

Today standing alongside the last remnants of the Pons Aemilius the view of the Capitoline and the Palatine are obscured, but this was not always the case. Even at the end of the nineteenth century (see fig. 29), the Capitoline could be seen clearly from the bridge. The

created by adding another bridge to the spaces of the Pons Sublicius rather than focusing on the meaning of the Pons Aemilius itself.

⁴⁸⁰ Quilici, 2008, 570. It is not possible to date any of the surviving bridges in Italy prior to the beginning of the second century BC. The Pons Aemilius is the fixed reference point for the construction of the first Roman stone bridge.

⁴⁸¹ Carmen, 2008, 186-187; Merleau-Ponty, 1967, 114; Wallace-Hadrill, 2003, 190-192.

⁴⁸² See chapter 3, section 1.

⁴⁸³ Lefebvre, 1991, 40-42. See also chapter 5 for a discussion of the Pons Aemilius as a complex monumental structure.

⁴⁸⁴ Val. Max. 1.1.10; Sen. *Ep.* 86.1-2; Cic. *Att.* 4.16.8. On the Hut of Romulus: Edwards, 1996, 33-43; Griffith, 2009, 319.

Palatine was also visible, today it is still possible to make out the Tiber from the western point despite the multitude of buildings in between. In the late second century BC, the experience from the bridge encompassed the fundamental elements of Rome's identity; the sacred (Temple of Portunus and the Temple of Jupiter Optimus Maximus), the foundational (Lupercal and the altar to Hercules), the economic (markets and harbour) the technical (Pons Aemilius itself and the *Cloaca Maxima*), even the Circus Maximus was part of the experience from the bridge.



Figure 29: View of the ancient remains of river front and centre of Rome with the key areas annotated. The white arrows indicate the ancient routes of the *vicus Tuscus* (to the left) and the *vicus Iugarius* (to the right). Google Map Data 2020.

The construction of the stone Pons Aemilius less than fifty meters from the wooden Pons Sublicius emphasised the antiquity and authentic nature of the older structure. The material differences between these two bridges directly affected the socio-cultural understanding of their combined spaces. Materiality changes the way we understand our world; Vitruvius stated that theatres were sometimes built in wood, as opposed to stone and marble, for the acoustic properties which enabled the sound to travel clearly across the tiers.⁴⁸⁵In the mid-

⁴⁸⁵ Viti. *De Arch.* 5.5.7

second century BC; stone theatres were perceived by some members of the elite as a serious threat to Roman values, encouraging the hardy Romans to sit rather than stand, and opening the possibility for dissent. Consequently, a stone theatre contracted in 154 BC for the Palatine, was raised to the ground. It was a hundred years before a permanent theatre (the theatre of Pompey) was constructed in Rome.⁴⁸⁶ A modern example can be found in the wooden form of Shakespeare's Globe in London, where its material properties mark the theatre out as experientially different from its modern brick and concrete counterparts; the materiality (wood) and the shape (round) of the theatre encouraged different behaviours and reactions from an audience. The distinctive round shape of the theatre can be seen from across the river, its design identifying it as historic despite it being only twenty years old. The current site of the theatre, being near the original Globe, adds a further element of authenticity. The link with the past, the materiality and its form all set the theatre apart from its contemporary counterparts and reminds all viewers of London's Shakespearean connections.⁴⁸⁷

The way people react to different textures also influences perception, as Merleau-Ponty pointed out a blue carpet is not just blue, it has a texture; woolly, soft or glossy. People do not separate the carpet and the texture within perception, they are part of the unity of the world, for example a bridge is never simply understood as a wooden or stone thing, perceiving the texture of the bridge will tell us if it is old or new, strong or weak, Roman or medieval.⁴⁸⁸ In the case of the Pons Sublicius the texture of the wood embodied a rustic and authentic element. The sensory affordances of each bridge provided a stark contrast for the perceiving body; what was perceived emerged out of the structure's involvement within its surroundings, including the season, time of day and the weather conditions.⁴⁸⁹ The wood of the Pons Sublicius represented a simplistic and natural form which merged into the banks of

⁴⁸⁶ Val. Max. 2.4; Tac. *Ann.* 14.20; Wallace-Hadrill, 2008, 160-169; The reasons behind the destruction are not clear but they had a corrupting effect, enabling Roman's to sit permanently would weaken them, however Andrew Wallace-Hadrill points out that wooden theatres also provide seating but may have been limited to the elite and the addition of a permanent theatre would mean an extension of the seating. The concern for structures which allowed for assemblies, such as those of classical Greece, where the careful order of Roman society by wealth and rank would be lost, with everyone seated on the same level. Richardson, 1992, *Theatrum Pompeii; LTUR, V, Theatrum Pompeii*.

⁴⁸⁷ See wood vs stone theatres

⁴⁸⁸ Merleau-Ponty, 2012, 326.

⁴⁸⁹ Ingold, 2007, 15.

the city, fading into its surroundings at night. In contrast, the dense and stable form of the Pons Aemilius contrasted sharply with the river and was always visible.

Urban spaces are made up of a multitude of overlapping and intertwined spaces which inform the daily routines of its inhabitants and visitors. The addition of paving to the streets altered the experience of moving around the city; as Terry Pratchett illustrated with a character who liked to wear his boots 'until the soles were so thin that he could tell where he was [...] on a foggy night by the feel of the cobbles.' Pratchett captured how the city could be navigated by the material feel of the different road surfaces, which enabled familiarity despite reduced visibility, allowing for the use of the subconscious navigation system which informs the body of its place and heading.⁴⁹⁰ In the early second century BC, the wooden material of the Pons Sublicius was typical within the context of Rome's structures, and further out in the Italian countryside, where roads crossed rivers via wooden bridges.⁴⁹¹ From the 190's BC the river-facing city experienced a material change as the wealth and spoils from campaigns in the east and west were incorporated into its spaces⁴⁹² Contracts were undertaken which began to transform the city; *tuf*o wharfs and warehouses were created along the Tiber with an embankment, stairs and travertine mooring rings altering the experience of the riverbanks.⁴⁹³ Monumental porticos with wooden roofs were built or repaired around the riverfront area, and many streets were paved in *silex*.⁴⁹⁴ Wooden moles and jetties adorned the river, but the Tiber Island remained a predominately rustic space until the first century BC.⁴⁹⁵ In the Forum

⁴⁹⁰ Pratchett, 1993. O'Sullivan, 2011; Macaulay-Lewis, 2011. Wooden bridge would have had wooden surfaces with wooden longitudinal beams upon which the wooden slatted deck was placed. It is possible that material was added between layers of decking to strengthen and alter the texture of the surface, but we have no evidence for the Pons Sublicius. See Galliazzo, 1995, 55-68; Hill, 1984, 64.

⁴⁹¹ Laurence, 1999, 76; Quilici, 2008, 570. Stone bridges were constructed across Italy in the second century BC but cannot be securely dated by the materials alone, relying on epigraphic or literary evidence. The first date attested for a stone bridge is the Pons Aemilius in Rome (142 BC).

⁴⁹² Capitoline Temple gilded shields were added to the roof of the temple and gilded *quadrigae*.

⁴⁹³ Davies, 2017, 138-139; Carandini, 2017, vol. 1 and 2.

⁴⁹⁴ Le Gall 1953 109-11 119-20 Rodriguez Almeida 1984; Mocchegiani Carpano, 1985; Coarelli 1988, 145-146; Cornell, 2000, 42-60; Dumser, 2013, 135; Davies, 2017, 137-139.

⁴⁹⁵ Degrassi, 1907; *LTUR II, Insula Tiberina*; Ziolkowski, 1992; Davies, 2017, 58-59; Temples were built on the Island at the early third century BC, in the same period as the Temple of Portunus, but the Island was not monumentalised in stone until the first century BC. The form and dating of the monumentalisation of the Tiber Island are uncertain; due to the paucity of evidence the shape and materials of the temples and alters are speculative, but the first century BC monumentalisation is more certain, elements of which can still be seen at the south top of the Island in the form of travertine and a relief with a head and staff of Aesculapius, though still

Boarium itself, the *Ara Maxima* was monumentalised and the Temple of Hercules Victor with its Hellenic styling and Pentelic marble was created alongside the Pons Sublicius.⁴⁹⁶ The materiality and perception of the city was changing, but it was not yet the Augustan city of marble.⁴⁹⁷

The second century BC city was undergoing an urban transformation but with little to no cohesiveness in the city planning, its structures reflected the propaganda war which raged between the city's powerful elite as they sought the popular vote.⁴⁹⁸ The majority of buildings still had a rather rustic feel, built of the grey tuffs and limestones, interspersed with rare marble additions and statues of bronze, in amongst which new structures would be continually added by yet another ambitious magistrate.⁴⁹⁹ Neighbourhoods held a diverse mixture of life, even in the main monumental area of the forum, there were both large residences and poorer wooden topped apartment blocks.⁵⁰⁰ Into this cacophony of experience the Pons Aemilius entered the comparatively coherent space of the Tiber, which had largely resisted the attentions of the elite power struggle. Its wooden bridges were surrounded by ferries and boats plying their trade, but no stone had yet spanned the Tiber. The experiential impact of the new bridge on the inhabitants of the city must have been marked, even if we do not have access to the musings of Rome's working class, the bridge had a significant impact on both the experience and the movement of people around the Tiber.

The spatial alterations required to facilitate the Pons Aemilius had a significant impact on the physical space of the Forum Boarium. The bridgehead road ran past the front of the Temple of Portunus and into the Forum Boarium severing the connection between the temple and

based on a minimum of evidence. See *LTUR II, Faunus, aedes*; *LTUR V, Veiovis, aedes (Insula Tiberina)*; *LTUR I, Aesculapius, aedes, templum (Insula Tiberina)*.

⁴⁹⁶ Davies, 2017, 96-98. *LTUR I, Ara Maxima*. *LTUR III, Temple of Hercules Victor* c. 146 BC; Coarelli, 1988, 92-103; Davies, 2017, 96-98.

⁴⁹⁷ Sen. *Aug.* 18.3

⁴⁹⁸ Davies, 2017, 82-124.

⁴⁹⁹ Wallace-Hadrill, 2018, 65-87.

⁵⁰⁰ A list of buildings by regions is available for the late Empire in the form of the regional catalogues (see chapter 1). Galinsky, 1996.

harbour.⁵⁰¹ The road from the Pons Sublicius also ran perpendicular to the river bank, either toward a gate and/or turning left to run around the east side of the Temple of Portunus. This created a new area between the two bridges in which the Temple was located.⁵⁰² (see fig. 30) The building of two bridges created a new space of ‘betweenness’ both physically and in the perception of Rome’s inhabitants.

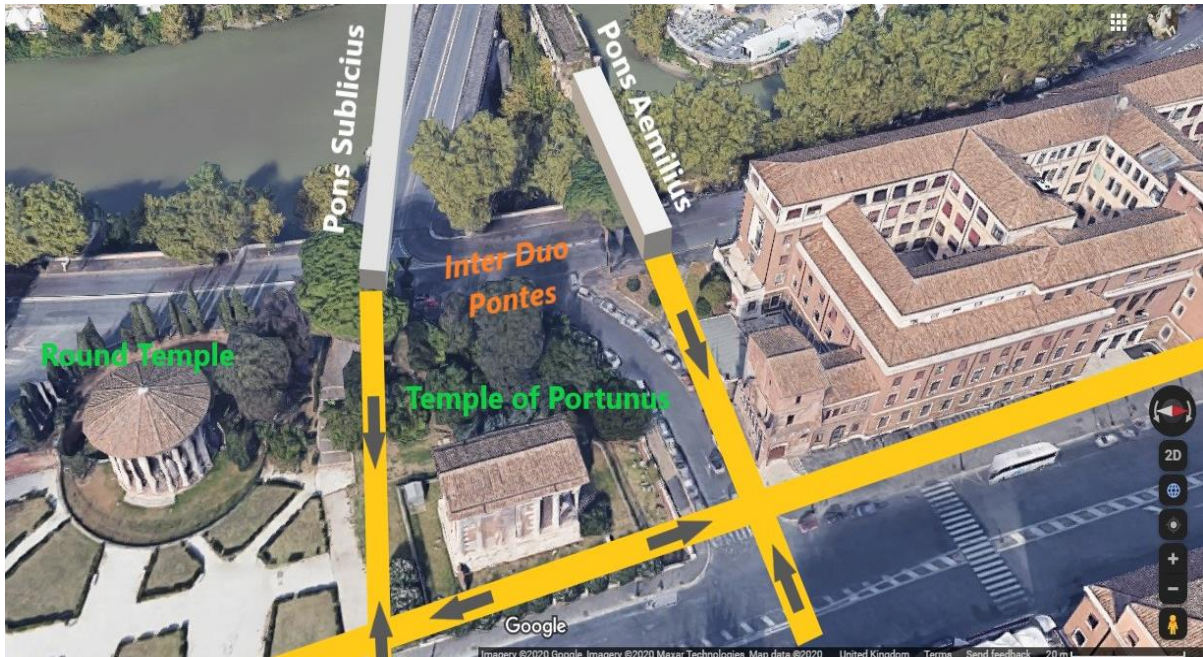


Figure 30: The Pons Aemilius and the Pons Sublicius and the creation of a physical between space encompassing the Temple of Portunus. Image: Google Map Data 2020 with author annotations..

How was the place of the Pons Aemilius understood? It was not a place of history or ritual but was associated with accessibility; it was a place alongside which other places were located ‘*Portuno ad Pontem Aemilium*’ in the first century AD, in a similar way that a Claudian era *cippus* used the Pons Agrippae to demarcate public space between its location and the *Trigarium*.⁵⁰³ In the second century AD, Juvenal suggests that rather than getting married, a person should seek ‘the Aemilian bridge’ which ‘offers itself to you so conveniently?’⁵⁰⁴

⁵⁰¹ See chapter 3, section 2 for a detailed overview of the changes necessitated by the creation of the Pons Aemilius.

⁵⁰² See chapter 3, section 2.

⁵⁰³ *Fast. Allif. Vell. Amit. ad XVI Kal. Sept.*, CIL 12. 217, 240, 244, 325, see note 108 in chapter 3 for references and discussion. CIL VI 31545 = ILS 5926 see chapter 1 section Pons Agrippae for discussion of the *cippi* stone.

⁵⁰⁴ *Juv. Sat. 6.523 ‘ferre potes dominam salvis tot restibus ullam, cum pateant altae caligantesque fenestrae, cum tibi vicinum se praebeat Aemilius pons?’* Hor. *Sat. 2.3.35* Horace also suggested the Pons Fabricius as a convenient

Elagabalus's body was also unceremoniously 'hurled it from the Aemilian Bridge into the Tiber' after his killers found themselves unable to fit the body into a drain after a trip around the Circus Maximus.⁵⁰⁵ The physical place created by the bridges was recognised and articulated in the literary sources as '*inter duo pontes*' between two bridges.⁵⁰⁶ The term delineated a between space which was most frequently used to denote the place where wolf-fish were caught.⁵⁰⁷ The perception of the two bridges as a 'between' space is essential as it represents a particular landscape definition of space specifically associated with the Pons Aemilius and the Pons Sublicius.⁵⁰⁸ Writing between the first and second centuries AD, during a period when there were multiple stone bridges crossing the Tiber at Rome, Plutarch states that 'the stone bridge was constructed at a much later period' than the Pons Sublicius.⁵⁰⁹ He refers to both bridges with a familiarity which suggests they were considered as the primary and most familiar of the bridges in the city. Their location and, in the case of the Pons Aemilius, the toponym did not need to be included for an identification.

The Pons Sublicius and the Pons Aemilius stood side by side just below the Tiber Island, and for

place to end the misery of life after a business failure 'unde ego miradescripsi docilis praecepta haec, tempore quo me solatus iussit sapientem pascere barbamatque a Fabricio non tristem ponte reverti. nam male re gesta cum vellem mittere opertome capite in flumen,' On Juvenal see Spencer, 2007, 174 on using the space of the city. Karmon, 2011, 171-198 on how the convenience label persisted into the medieval period 'The bridge that today is called the Santa Maria (The Pons Aemilius) [...] from 1557 onward in large part has been ruined, causing great inconvenience to the inhabitants of Rome, as it is no longer possible to cross the river without travelling far out of the way.'

⁵⁰⁵ Hist. Aug. Elag. 17 '*per pontem Aemilium, adnexo pondere ne.*'

⁵⁰⁶ As argued in chapter 3, section 2. Mac. Sat. 3.16. 11-18; Hor. Sat. 2.2.29-35; Juv. Sat. 5.103-6; Plin, NH. 9.168-169; Plut. Poplic. 8.3. Columella. Rust. 8.16-4

⁵⁰⁷ For a discussion of Macrobius's Saturnalia see Cavarzere, 2018; 153-170; Duggan, 2018, 13; Kaster, 2011, Vol. 1 and 2; Cameron, 2011, 231-272; on the use of sources see König, 2012, 201-208; Gunderson, 2009, 255-267. Plin, NH. 9.168-169, first century AD, '*sicut lupi pisces in Tiberi amne inter duos pontes*' 'for example sea-bass in the Tiber between the two bridges.' Hor. Sat. 2.2.29-35 writing in the first century BC '*unde datum sentis, lupus hic Tiberinus an altocaptus hiet, pontisne inter iactatus an amnis ostia sub Tusci?*' 'but what sense tells you whether this pike gasping here was caught in the Tiber or in the sea, whether in the eddies between the bridges or just at the mouth of the Tuscan river?'

⁵⁰⁸ Richardson, 1992. Le Gall, 1953. Plut. Poplic. 8.3, first century AD, connects the term '*inter duo pontes*' to the island bridges 'Tiber island [...] is now a sacred Island over against the city, containing temples of the gods and covered walks, and is called in the Latin tongue '*Inter duos pontes*' '*ἔχει δὲ ναοὺς θεῶν καὶ περιπάτους, καλεῖται δὲ φωνῆ τῆ Λατίνων Μέση δυοῖν γεφυρῶν.*' He is however, using the term to refer to a specific between place which he names as 'Tiber Island'. '*Inter duo pontes*' is a non-specific descriptive term and its use for one place which is between two bridges does not preclude its use to describe other places which could be described in a similar way.

⁵⁰⁹ Plut. Num. 9 '*λέγεται δὲ καὶ τὸ πάμπαν ἄνευ σιδήρου κατὰ δὴ τι λόγιον συγγεγομφῶσθαι διὰ τῶν ξύλων.*'

nearly one hundred years they were the only two bridges within that space, the stone and the wood. In 62 BC the sensescape of the Tiber changed with the introduction of the Pons Fabricius, which connected Tiber Island to the east bank, and soon after the monumentalisation of the Island itself.⁵¹⁰ The Pons Cestius completed the set of four bridges, connecting the Island to the east banks by the end of the first century AD.⁵¹¹ By the late first century BC, the temple of Portunus had been rebuilt and sat high on its podium, temples had been added to the Forum Boarium (as above), and the harbour area was migrating down river.⁵¹² This transformation is emphasised to remind us that the bridges of the Forum Boarium and the Tiber Island did not just appear all at the same time but were gradual additions to the river.⁵¹³

Standing on the bridge today, it is striking how close the Pons Aemilius was to the Tiber Island and its bridges. At the end of the first century BC, in the space of fewer than three hundred meters there stood four bridges. All had different shapes and forms, and in the case of the Pons Cestius, the western end is so close to the Pons Aemilius that a person can shout from one bridge to the other and observe hand signals and gestures. Numismatic evidence demonstrates that that view from the Pons Aemilius was familiar and meaningful to the Romans. Two bronze medallions from the reign of Antoninus Pius struck between AD 140 and AD 143 depict *Tiberinus* reclining before the arches of a bridge from which the prow of a ship is emerging. A snake emerges from the prow and to the right are buildings which suggest the image represents the Tiber Island and the arrival of the Epidaurian snake (see fig. 31 & 32).⁵¹⁴ The image is depicting a view of the story as if from the vantage point on the Pons Aemilius. Today, on a sunny day, it is still possible to make out remains of the snake on the front of the marble bow from the bridge. The second medallion depicts Horatius Cocles's defence of Rome

⁵¹⁰ Degrassi, 1907; *LTUR II, Insula Tiberina*; Ziolkowski, 1992; Davies, 2017, 58-59; Temples were built on the Island in the fourth century BC at the same time as the Temple of Portunus, but the Island was not monumentalised until the first century BC.

⁵¹¹ See chapter 1 for a discussion of the Pons Cestius. Planter & Ashby; Richardson, 1991, Coarelli, 1988; Carandini, 2017.

⁵¹² See chapter 3 for a discussion of the changes to the area.

⁵¹³ As many histories of the city deal in large periods of time, maps often do not reflect the periods in between the creation of the bridges but fifty years is a considerable period in 'lived' years, see for example Robinson, 1992; Dyson, 2007; Claridge, 2010.

⁵¹⁴ Le Gall, 1953b, 81; *LTUR IV Pons Sublicius*; Rowan, 2012, 131-132. Struck for nine hundredth birthday celebrations of Rome in AD 147 renewal of Roman religious practices/cultural renewal.

from the Pons Sublicius (see fig. 32). The Romans stand to the left of the coin, representing the east bank of the river, suggesting again that the vantage point was the Pons Aemilius.⁵¹⁵



Figure 31 and 32: Medallions of Antoninus Pius from AD 140-143; one depicting the arrival of the snake of Epidaurus at the Tiber Island, in which *Tiberinus* reclines in the foreground and a prow of a ship can be seen sailing under the arch of a bridge, and a depiction of Horatius Cocles's stand at the

⁵¹⁵ Stenton, 2009, 64-65.

Pons Sublicius. Both coins represent scenes which could have been derived from a vantage point on the Pons Aemilius.⁵¹⁶ Image: Figure 31, British Museum. Image 32, *A Dictionary of Roman Coins*, Illustrated by Fairholt, 1889.

The relationships between these bridges are difficult to ascertain just from studying a map but are part of the experience of walking their roadways. All three of the bridges which connected to the west bank converged toward the Via Aurelia while those on the east banks slotted into the busy and crowded spaces of the Forum Boarium. The difference between the sensescapes of the eastern and western banks is still marked today. Walking across the Ponte Palatino, alongside the remaining arch of the Pons Aemilius, the view of the Tiber Island is still striking as it reaches its bow shaped point upriver. The experience of the Janiculum and Trastevere are very different from the ancient and monumental sites of the east bank. The Tiber still marks the seasons with different heights and colours despite being hemmed in by the embankment walls, and the introduction of dams upriver to regulate flow; the experience from the modern bridge is still a liminal one which accentuates the different spaces of each of the Tiber banks.

⁵¹⁶ Tiber Island: BMCRM, 4, p.7. Horatius Cocles: Image from *LTUR IV.436*.



Figure 33 & 34: Views from the Ponte Palatino facing upriver toward the Tiber Island. The view in the upper image shows the distance between the remaining arch of the Ponte Rotto and the Pons Fabricius. The view in the lower image shows the Ponte Rotto and the Pons Cestius.

4.2. Corresponding with the Past

To explore how the juxtaposition of the two bridges created meaningful spaces, we must consider how the inhabitants of Rome may have perceived the bridges over time. There are different and varied approaches to the study of cultural memory in the Greco-Roman world, but for this thesis, the focus will be on the spatial and experiential.⁵¹⁷ Memory, in this thesis, is not about a static image fixed in space or about the mind's ability to hoard images of the past; it is about habit and experience.⁵¹⁸ Memory, as theorised by Merleau-Ponty, is the result of embodied perception; multiple overlapping sensory experiences (both individual and collective) which evolve to create a unity of perception; people understand the present through their frame of reference to past experience and social and cultural knowledge.⁵¹⁹

Embodied perception or the background of the bridges is vital to the understanding of how the materiality of the bridges can evoke the past. Rome and its bridges were the creation of a multitude of overlapping and fluid representations of the city. When the people moved, they moved through a city which, for them, already had an unreflective background, all previous experience, knowledge, and expectations of Rome were interwoven to create the whole.⁵²⁰ Though not actively aware, their perception of Rome was in continuous flux, created and recreated daily. The city's inhabitants did not just see the bridges they experienced them within their temporal surroundings; as they crossed they absorbed the colour and height of the Tiber and the smells and sounds of the market and related them to the time of year and the seasons; the presence of the structures on the Capitoline and the Palatine and those in the Forum Boarium framed their journeys adding context and familiarity. Every new or altered element changed their meshwork of understanding, causing a reflective or unreflective adjustment to their perception of both the bridges and their relation to the wider city.⁵²¹

⁵¹⁷ Restrictions on the size of this thesis do not permit a lengthy discussion on the topic of cultural memory which has been studied from many different perspectives from the scientific to the sociological, philosophical and historical. See Galinsky, 2016, introduction for a broad overview and relevance to the study of the ancient Roman world. See also note 28. Assmann, 2010, 2011; Galinsky, 2016; Flower, 2011; Gowing, 2005. On general discussion of cultural memory Assmann, 2012, on definition specifically 6-7.

⁵¹⁸ Bachelard, 1994, 8-9. See chapter 2, section 2 for a discussion of these concepts.

⁵¹⁹ Merleau-Ponty, 2012, 140-141; Matthews, 2006, 30-31, 99-102.

⁵²⁰ Merleau-Ponty, 2012, 127; Harvey, 1991, 218; Matthews, 2006, 51-55.

⁵²¹ Merleau-Ponty, 2012, 127; Ingold 2005, 102.

Multiple connections gathered the vibrations of experiences which flowed along the meshwork and connected to other webs across the city, transcending the temporal to ensure the continuation of place and meaning across time; a statue of Horatius Cocles in the Forum Romanum connected the space to the wooden Pons Sublicius, the bridge in turn was connected to sacred rituals and to the most important religious figure in Rome, the *Pontifex Maximus*, and to the ancient values of Rome through the preservation of its wooden form, becoming increasingly meaningful as the city's architecture became richer and more unified. The web of understanding which flowed around the city ensured that the Pons Sublicius retained meaning as the city developed. These meanings relied on some understanding of the city's history, for example, Rome's foundation myths centre on the Forum Boarium valley; an inhabitant of Rome aware of the legends of the Forum Boarium would understand the space differently to a visitor of the city who has no knowledge or investment in the city's history.⁵²² However, that did not preclude a visitor from gaining knowledge and understanding as they moved through Rome; the collective flow of correspondence around the city would have altered their perception; experiencing rituals being performed or as Polybius recounted, witnessing a funeral procession, helped to contextualise the spaces of the city and, in his case, gain an insight into understand the Roman character.⁵²³ The meshwork of connection which flowed around and through spaces created a collective ideology of which even visitors could partake.⁵²⁴

In the Roman world *historia* (history) and *memoria* (to remember) were closely connected, the recording of history gave the possibility of eternal life to the city's past cultural ideology through the continuation of its collective memory.⁵²⁵ Cicero famously praised Varro for his skill in bringing the city's past back to its streets and enabling the Romans to reconnect with

⁵²² In the case of Polybius, 6.55, above who was not native to Rome but identified character traits of the Roman's by watching funeral processions moving through the spaces of the city.

⁵²³ See section 4, 2, for a detailed discussion.

⁵²⁴ For a detailed discussion of meshwork see chapter 2 section 2.

⁵²⁵ Cic. *de Orat.* 2.36; Cic. *Orat.* 1.120; Gowing, 2005, 10-11; Galinsky, 2016, 4-5 on the links between memory and history in the Roman world. The history of the Roman period is not comparable to the objectively driven and sourced histories of the modern world.

their social identity through his writings.⁵²⁶ Recording *historia* enabled the preservation of past ideology, such as *res publica* within the social memory of the *civitas* giving the past meaning through *memoria*; keeping the basis for Roman ideals alive.⁵²⁷ Cultural memory was continuously adapting and developing to retain relevance for each generation; the story of Horatius Cocles did not have the same meaning for Cicero, writing in the first century BC during the Republic, as it did for Juvenal who lived in the Empire in the early second century AD, despite their use of similar tropes, an assumption which we can apply to all of Rome's residence despite the paucity of direct evidence.⁵²⁸ Historical commemorations were fundamental to the creation of the collective identity of Rome, and to the ideology of the ruling elite who controlled the images and stories which persuaded and influenced the population of the city; all of which relied on an element of familiarity.⁵²⁹

If we understand Roman society as an embodied subject made of changing subjective individuals who continuously shared meaning and perceive their 'lived' world in a similar way; we can recognise a society which had an identity founded on its perception of the past and the immediate present. That is not to suggest that everyone in the city would have understood the city in the same way; an elite reading would have been very different to that of the poor working classes or rural Romans, and the experience of frequent travellers would have been different from non-native Roman residents. Evidentially we are restricted to an elite perspective of the city, both from native and non-native residents, but commonalities would have existed; the sensescape is materially the same even if the way it is understood is different. People who resided in Rome were likely to have been aware of the city's myths and legends from oral traditions, public readings and word of mouth. Folklore and stories have a way of crossing class and literacy divides and were facilitated by the meshwork of

⁵²⁶ Cic. *Aca. Post.* 9; Wallace-Hadrill, 2008, 259-312. MacDonald, 2016. MacDonald, 2016, for a masterful discussion of the use of topography and history in Varro's *De Lingua Latina* and Propertius four. Spencer, 2007, 2011 and 2019 on Varro and movement, in particular Spencer, 2011, 80.

⁵²⁷ Gowing, 2005, 15.

⁵²⁸ Juv. *Sat.* 8.260-265. Cic. *Para. Stoic.* 1.2.12; *De. off.* 1.28.61; *De. Legi.* 2.3.9. See below for extended discussion. Halbwachs, 1980; 1992, recognised the importance of the group memory one which is related to cultural identity and is constantly evolving, Bergson, 1991; Gowing, 2005, 4. See below for references to the stories of Horatius Cocles. Little is known about the life of Juvenal though the OCD estimate cite his works as being written in the second century AD.

⁵²⁹ Holliday, 2002, 210-219.

correspondence which flowed spatially and temporally throughout the city, altering meaning to fit the current political and social requirements.⁵³⁰ Past events which defined Roman collective identity flowed along the lines of the collective consciousness re-emerging when required, as in the case of the Pons Sublicius and the story of Horatius Cocles which was appropriated under both Augustus and Antoninus Pius, as part of the renewal and return to Rome's *mos maiorum*.⁵³¹

Literary sources play a significant role in the socio-cultural understanding of any city, and its familiarity as an environment; Kevin Lynch pointed out 'Charles Dickens helped to create the London we experience as surely as its actual builders' Dickens descriptions of London added another flow of correspondence to the city's sensescape becoming a familiar part of London's identity with its dirty narrow streets, filthy odours, hordes of children and characters such as Fagin and the Artful Dodger, even movement over the bridges was immortalised:

'chance people on the bridges peeping over the parapets into a nether sky of fog, with fog all around them, as if they were up in a balloon, and hanging in the misty clouds'

The London fog forming an unreflective element of the background of movement across its bridges.⁵³² Dickens was hugely popular in his lifetime, what made him so successful was not the ability of the wider population to physically read his works but the variety of media through which his work was disseminated. As David Vincent explained, Dickens 'reading public was composed of multi-media consumers. They engaged with Dickens visually, aurally, and orally', the public were exposed to Dickens through illustrations, public readings and on-stage.⁵³³ While we cannot compare the literacy rates of Republican Rome to those of

⁵³⁰ For example, Dionysius of Halicarnassus and Plutarch who was from Chaeronea in Greece but later lived in Rome and provide insights into the Roman culture – see sections below. Howes, 2003, 44. Memories evoked by objects are always embodied within people and are part of the living process; cultural differences mean sensing is different across the world but as this thesis is focused on a predominantly western culture rather than an understanding of sensory experiences that is finite. Physicality of the bridges and spaces, ensures continuity of place and memory but there is also mutability.

⁵³¹ Matthews, 2008, 125.

⁵³² Lynch, 1981, 147-50; Dickens, Bleak House; Burke, 1989, 98 on the capability of text to create memories. The nineteenth century was plagued by industrial fog. The bridge as a haunted foggy and desolate place was captured in stories and artwork of the period most famously in T.S. Eliot, The Waste Land.

⁵³³ Vincent, 2006, 191.

nineteenth century London, the wide dissemination of the written work was also reliant on the oral medium such as the public reading (*recitatio*).⁵³⁴ It is possible to draw parallels in Rome with public readings of Julius Caesar's dispatches from Gaul designed to remind the voting populace of Caesar's presence, where traditional communication with the public was through criers (*kerukes, praecones*)⁵³⁵ The myths of Rome were present all around Rome in the form of statues, coins and orally through readings in public places as detailed by Strabo who mused how people were affected by myths when they were recounted by poets and Dio Chrysostom who while walking through the hippodrome heard people reading out poems and recounting histories and tales.⁵³⁶ Therefore, while it is important to remember that not everyone in the Rome was literate, there were plenty of other ways they could absorb and become familiar with the city's myths and legends.

Unreflectively, many of Rome's inhabitants who moved across the Pons Sublicius would associate the bridge with the tale of Horatius's last stand or the story of Hercules and the *arcei*. Stories are at their most tangible when they are grounded in the physical, in things which bring the past into the present and connect them to shared cultural ideology. In this chapter, it is the evidence from the Augustan-era authors and in particular Livy, which figures prominently in our understanding of the perception of the bridges. Livy conveys a palpable sense of rebecoming, a desire and need for a return to the traditional values from which the Roman character was developed; there is perhaps, an element of hope mixed with wariness for the future of the new Augustan regime.⁵³⁷ After a period of turmoil and threat to the

⁵³⁴ Harris, 1989, 225; Lloyd, 2007. Literacy rates higher in nineteenth century England which three quarters of people were literate (though this statistic is based on marriage registers and it is recognised that there is a difference between being able to sign your name and read a novel).

⁵³⁵ Caes. *B. Gal.* 7.90; Harris, 1989, 208-209.

⁵³⁶ Strabo 1.1.19; Dio Chrys. 20.10; Harris, 1989, 226.

⁵³⁷ There are a multitude of introductions to the literature of the Augustan age but for an introduction that covers many authors and topics see Galinsky, 1996. For Livy's approach and the influence of Augustus see Syme, 1959; Ogilvie, 1965; Miles, 1995; Gaertner, 2008 and Vasaly, 2015. For the famous speech of Camillus which will be discussed below see Miles; 1995, 89, note 36 for a bibliography for the comparisons between Augustus and Camillus in the speech. Notes of caution on suggesting a straight link between the speech and creating Augustus as a hero see Syme, 1959 and for criticism within the narration Petersen, 1961 and Sailor, 2006. Ogilvie, 1965 on Livy as a man non-political man appealing for the restoration of the city. Miles, 1995, whom this thesis is in the greatest agreement, for Livy's hope for a similar re-becoming for the city.

Roman way of life, the cues and reminders of the past became more important for the stability and direction of the Roman present.

The most well-known event associated with the Pons Sublicius was re-told in literature multiple times from at least the second century BC until the fifth century AD; the legendary *exempla* of one man against many (*uns vir*) was played out on the Pons Sublicius creating a between space which represented the perceived difference between Rome and the 'other'.⁵³⁸ In the early sixth century BC the deposed Roman king Lucius Tarquinius Superbus allied himself with the Etruscan king of Clusium, Lars Porsenna, who then marched on Rome and established his army on the Janiculum. Porsenna intended to attack Rome by crossing the Pons Sublicius into the city but was stopped by Horatius Cocles who defended the bridge alone until the eastern section could be cut away and the natural barrier of the Tiber re-established.⁵³⁹

The earliest account of Horatius and the Bridge comes from Polybius, writing in the second century BC, during the period in which the Pons Aemilius was built.⁵⁴⁰ He used the story as an *exempla* narrated within the context of an elite funeral, in which the masks of dead ancestors were displayed, and their deeds were eulogised.⁵⁴¹ The *exempla* of Cocles at the bridge in conjunction with the spectacle of the funeral was used to inspire Rome's young men 'to endure every suffering for public welfare in the hope of winning the glory that attends on

⁵³⁸ The earliest version was recorded by Polybius 6.55 and the latest by Claudian 28.484-488 in the fifth century AD. All references relate to Horatius and the bridge not just to Horatius. Cic. *Parad.* 1.2.12; Prop. *Elg.* 3.11; Verg. *Aen.* 8.646; Dion. Hal. *Ant. Rom.* 5.22-26; Livy. 2.10; Val. Max. 3.2; Plin. *NH.* 36.23.100; Sil. *Pun.* 10.484-492; Flor. 1.4; [Aur. Vict.] *De Vit. Ill.* 11-13. Serv. *ad Aen.* 8.646.

⁵³⁹ The main elements of the story come from Polybius 6.55; Dionysius of Halicarnassus 5.22-25 and Livy, 2.10, see below for a discussion of the different accounts see notes 36-39 in chapter 3. Plin. *NH.* 34.139 and Tac. *Hist.* 3.72 suggest that Porsenna did capture the city see Cornell, 1986; 1995, 217-18. Horatius had assistance from Spurius Larcius and Titus Herminius (the spelling of Larcius is Lartius in Livy) until the end of the defence when he ordered them back across the bridge before it was cut down.

⁵⁴⁰ Polybius was a Greek writing for a Greek audience to explain the customs and values which enabled the Romans to triumph against the Carthaginians, but he had lived in Rome and had experienced many of the events he was recounting. Roller, 2004, 1-2 Polybius does not situate the account within a historical context suggesting that the tale is already well known in his lifetime. Poly. 4.2. On not including events outside his own lifetime or his father's stating it would simply be 'hearsay on hearsay'. Polybius was the teacher of Scipio Aemilianus and when on campaign with him. He would have been well acquainted with the Pons Aemilius the arches of which Scipio added. Roller, 2004, 1-2. In the first century AD, Silius Italicus offered a similar treatise on Roman character using Horatius Cocles in *Punica* 10. 484-5. Wiseman, 2008, 17; Hopkins, 1983, 201-202.

⁵⁴¹ Poly. 6.53-54 on the funeral and 6.55 on Cocles and the bridge. Flower, 1996 on funeral masks.

brave men.⁵⁴² The setting also lends itself to wider accessibility, as the spectacle of the funeral moving through the city's streets and the subsequent orations could be witnessed by the public.⁵⁴³ Polybius provides the earliest written account of the legend and the only one in which Cocles does not survive, setting it firmly within the heroic military context; the choice of an *exempla* which took place within the city, and which continued to have a physical presence, enabled the young men experiencing the procession to connect the bridge within a meshwork of physical cues, all designed to reinforce the Roman military ideology and character.⁵⁴⁴ Polybius, as a non-native Rome, used the story to explain to his fellow Greeks how the Romans overcame the Carthaginians which he attributed to the repetition and reinforcement of the message of eternal glory through sacrifice, which their young men were able to experience within the spaces of the city.⁵⁴⁵

The historical accuracy of the ancient stories is a moot point in the context of this chapter; even in the late first century BC, Livy was sceptical of the Horatius Cocles legend, noting that it was more famous than credible. A sentiment reflected again in the second century AD by Florus who reiterated the fantastical nature of the story, professing that it would not have been believed had it not been recorded in the annals.⁵⁴⁶ The importance of this story lies in

⁵⁴² This passage should be read in the context of Polybius' understanding of the weaknesses of youth which is discussed in McGing, 2013; Roller, 2004 for a detailed discussion of exemplar with a focus on the story of Horatius and the bridge. There is a possible reference to the story in Ennius' Annals however it is not definitive and in fragment form see Goldschmidt, 2013, 183-187. Davidson, 1991, 11-19 on Polybius on great events in Polybius.

⁵⁴³ For example, Clodius and Julius Caesar's, App. *Bell. Civ.* 2.143-147, funerals and Augustus which is recreated by Favro, 2006.

⁵⁴⁴ References to Horatius Cocles and the bridge as an *exempla* can be found as late as the fifth century AD In the first century AD Frontinus *Stratagemas* 2.5 and Manilius *Astronomica*, 1.781 referenced Cocles as an *exempla*. Late fourth to early fifth centuries AD Maurus Servius Honoratus, A confusing reference to Cocles which he cites the wooden bridge but suggests that it is, in his time, the stone bridge. Claudian against Eutropius I 445, in which he calls on the past deeds Panegyric on the sixth Consulship of the Emperor Honorius (A.D. 404) 485 – 488. Fifth century AD, Sid. *Po.* 2.5.70.

⁵⁴⁵ On collective memory in the Republic see Fentress and Wickham, Hölkeskamp, 1996 and 2010. Gowing, 2005. *Exempla* designed to affirm values studies include David, 1998 and Roller 2004 and Holliday, 2002, Morgan 2007, Hölkeskamp 2010, esp. 62-67. Hölkeskamp 2006. *Mos maiorum* included traditional exempla show the 'ideal type' of behaviour. 2010, 106. *Virtus* in the collective memory. Memory cues Morstein-Marx, 2004, 78-79.

⁵⁴⁶ Livy 2.10; Florus 1.4.10, he also includes the story of Mucius and Cloelia who also displayed selfless behaviour during the siege of Porsenna. Cicero in the mid first century BC also remarked on the power of written records in the validation of past events Cic. *de Inv.* 1.39. On the myth being placed within a historical context at a later date (historicized) see Philips, 1982, 1002; Gage, 1988, 242-245; Forsythe, 1994, 253; Wiseman, 1986; 2008.

its longevity and its representation of the best elements of the Roman character. In the same way that today the Arthurian legend is a part of the ideology of Britain, even though it is understood as largely a work of fiction.⁵⁴⁷ The Cocles legend was retold throughout the history of the Republic and Empire and was a part of the shared socio-cultural experience of Rome; fact or fiction the story had meaning for the inhabitants of the city and the Pons Sublicius was its stage.

The re-telling of the legend of Horatius Cocles encompasses several themes which fed into the meshwork of the two bridges and created a place of meaningful 'betweenness.'⁵⁴⁸ Writing in the first century BC Cicero referenced the legend on three separate occasions as moral *exempla*, people from history who encapsulate the Roman ideals of ethics and morality, and Horatius Cocles on the bridge was the archetypal lone stand, the ultimate individual sacrifice for the state.⁵⁴⁹ In all three references, he juxtaposes the example of Republican heroes, men of virtue and greatness who sacrificed for the common good, against men in his present time who were focused on gaining individual wealth and power.⁵⁵⁰ Transposing this onto the two bridges, it is possible to see the state versus the individual in the natural and conceived spaces of the Pons Sublicius and the Pons Aemilius. The wooden bridge where Cocles was prepared to sacrifice himself for the state versus the conceived space of the Pons Aemilius, the named bridge of the Aemilian *gens* dedicated to the power and wealth of a man. Cicero used 'things' and places to appeal to experience and the senses in his oratory, grounding his arguments in the places of the city rather than in the abstract. By naming Cocles, Cicero is giving a cue to

⁵⁴⁷ White, 1997.

⁵⁴⁸ The examples of the legend referred to in this thesis span from the mid-Republic until the fall of the Empire, all mention the bridge and range from full accounts to brief allusions (see note 58 and 59) One from the second century BC, five from the first century BC; seven in the first century AD; three in the second century AD; three in the fourth to fifth century AD.

⁵⁴⁹ Cic. *Para. Stoic.* 1.2.12 written in defence of the classic stoic ethical paradoxes for detail on the debate surrounding this work see Colish, 1990, 127-132; *De. off.* 1.28.61, in a dialogue with Plato he again questions the nature of virtue, emphasising the sacrifice of men like Cocles against those are driven by individual reward, see Dyck, 1996; Altman, 2016, 84-85; *De. Legi.* 2.3.9 on natural, moral law as the root of a Cocles heroism, again he was not made to stand on the bridge but steadfastness and obedience to natural law compelled him. On Cicero's concern for the loss of *res publica* see Cic.*Rep.* 5.1 and *de Orat.* 1.38; Gowing, 2000; 2005; Zetzel, 1994.

⁵⁵⁰ An example of thinking on *exempla* see Chaplin, 2000; Roller, 2001, in particular 2004 for the legend of Horatius Cocles; Kraus, 2005; Levene, 2006; Stem, 2007. See also Goldschmidt, 2013, 183-186.

the inhabitants of Rome, which engages their experience of the two bridges and grounds the collective values of the past in the present.⁵⁵¹

Juvenal relies on a similar trope in the second century AD comparing the self-obsessed elite of his day to people of humble origins from the past who gave all to defend the state.⁵⁵² In both the first century BC and the second century AD the tension between the perceived morality of the past and the decadence of the present is played out in the between lived spaces of the bridges; the product of relationships between populace and authority it seen in the betweenness of the two bridges. The place occupied by the Pons Sublicius was a social construct where the tension between perceived *maiores* of the past and the evolving present converged to confer meaning. It is the meaning attached to the bridge in its place which differentiates it from the more fluid space; it enables the attribution or experience of time within a place. All these elements overlap to give places multiple meanings which fluctuate over time.⁵⁵³ Cicero recounting a discussion with Piso ‘even the sight of our senate-house at home [...] used to call up to me thoughts of Scipio, Cato, Laelius, and chief of all, my grandfather; such powers of suggestion do places possess. No wonder the scientific training of the memory is based upon locality.’⁵⁵⁴ The focus on tradition and the physical presence, as Cicero noted, is stronger and more immediate than the written word and a combination of both more compelling still. The flow of lived experience in the city is played out mainly in its connecting places, and in order to be effective in commemoration, a thing must be set within the rhythm of the social and cultural experience of the city.⁵⁵⁵

⁵⁵¹ Vasaly, 1993, esp. 128-130; 256-257; Cicero used the Temple of Castor and Pollux Cic. *In. Verr.* 2.1 in a similar way. Corbeill, 2002.

⁵⁵² *Juv. Sat.* 8.260-265.

⁵⁵³ Smethurst, 2000, 58.

⁵⁵⁴ Cicero describing an imagined discussion with Piso about tradition and memory Cic. *de Fin.* 5.2, ‘*Equidem etiam curiam nostram [...] solebam intuens Scipionem, Catonem, Laelium, nostrum vero in primis avum cogitare; tanta vis admonitionis inest in locis; ut non sine causa ex iis memoriae ducta sit disciplina.*’

⁵⁵⁵ Cic. *Pro. Cae.* 36. The advantages of the river as given by Cicero in relation to Villa (Clodia's) views. Plin. *NH.* 3.54-55 talking about the Tiber being the focus of panoramas of country estates and the object of their cultivated attention. Aldrete, 2007; Campbell, 2012. The Tiber was the perfect place for monuments, visible and durable

The symbolism of the bridge and the deed of Horatius was recreated in the flight and death of Gaius Gracchus in 121 BC. Retold in the first century AD, it featured another last stand at the Pons Sublicius but in very different circumstances:

‘As for Laetorius, he took his stand at the Pons Sublicius and barricaded it with his spirit’s ardour until Gracchus crossed; finally, overwhelmed by force of numbers, he turned his sword against himself and with a rapid leap sought the depth of the Tiber.’⁵⁵⁶

The story told by Valerius Maximus and Velleius Paterculus both explicitly compared the last stand of Gracchus’s friends to the *exempla* of Horatius Cocles. The Pons Sublicius again becomes the place of *exemplar* but, as Roller asserts, the deed is inverted, their lives sacrificed not for the collective good of the *res publica* but for *amicitia*.⁵⁵⁷ The lived spaces of the bridge make it the place for a symbolic last stand bringing the past into the present and creating another flow of correspondence between the bridge and the history of the city.⁵⁵⁸

Subjectivity arises from the space in-between the different bodies of experience, of the ‘between’, the juxtaposition of texture and elements of the background are what creates the embodied and meaningful understanding of the world. This process alters the Pons Sublicius from a bridge to a physical representation of *memoria* in the present, emphasised by the contrasting material and technology of the Pons Aemilius. Writing after the civil war at the beginning of the reign of Augustus, Dionysius of Halicarnassus situated the story within the context of Rome’s history and provided the first direct correlation between the Pons Sublicius

⁵⁵⁶ Plut. *C. Gracch.* 17.12; Vell. Pat. 2.6.6; Val. Max. 4.7.2; Macr. *Sat.* 2.12. App. *B. Civ.* 1.3.26 does not mention the last stand at the bridge. Val. Max 4.7.2 ‘*Laetorius autem in ponte Sublicio constitit et eum, donec Gracchus transiret, ardore spiritus sui saepsit, ac vi iam multitudinis obrutus converso in se gladio celeri saltu profundum Tiberis petiit, quamque in eo ponte caritatem toti patriae Horatius Cocles exhibuerat, unius amicitiae adiecta voluntaria morte praestitit.*’

⁵⁵⁷ Roller, 2004, 25-27. Argues that the Valerius Maximus account of Laetorius is a critic of a friendship which enabled a man to give his life for one friend rather than for his country as a positive military role model. Griffiths, 2009, 315-319; Le Gall, 1953a.

⁵⁵⁸ Val. Max. 4.2; ‘The love for all the fatherland which Horatius Cocles once showed at that bridge, Laetorius gave to a single friendship’ ‘*quamque in eo ponte caritatem toti patriae Horatius Cocles exhibuerat, unius amicitiae adiecta voluntaria morte praestitit.*’ Vell. Pat. 2.6 ‘On the same day Pomponius, a Roman knight, gave remarkable proof of his fidelity to Gracchus; for, after holding back his enemies upon the bridge, as Cocle had done of yore, he threw himself upon his sword.’ ‘*Quo die singularis Pomponii equitis Romani in Gracchum fides fuit, qui more Coclitis sustentatis in ponte hostibus eius, gladio se transfixit. Ut Ti.*’ Spencer, 2019, 140-142. connects this to the bridge and Horatius and the *arpei* 2019

of the first century BC, and the bridge of the city's past. While narrating Cocles's decision to defend the bridge he stated;

'there was but one bridge in those days, which was built of wood and fastened together with the timbers alone, without iron, which the Romans preserve even to my day in the same condition.'⁵⁵⁹

Similarly, Pliny the Elder, writing in the first century AD connects the construction of the Pons Sublicius, without iron, to its historic removal, comparing it to the council house in Cyzicus, the rafters of which also do not have iron nails, which made it much easier to repair.⁵⁶⁰ Both accounts are explicit in bringing the past into the present; they draw attention to the preservation of the bridge as a timber structure, alluding to its unique material properties and attributing its form and preservation to antiquity. The Pons Sublicius of the first centuries BC and AD in Roman *historia* is the bridge upon which Cocles saved Rome.

Places emerge in spatially and temporally specific ways; different times and spaces offer different conditions and possibilities which allow for different effects to emerge.⁵⁶¹ Social memory and meaning develop as people move figuratively and physically through life, as Ingold pointed out, life is lived *along* paths rather than *in* a place.⁵⁶² The perception of an urban place is often static and based upon its longevity, name and its ability to retain an identity and meaning such as the Colosseum or the Forum. Space, on the other hand, has a mobile and fluid element which offers possibilities for reinterpretation and change.⁵⁶³ Roller recognised that the Pons Sublicius could serve as a 'monument to Horatius's deed' its construction without iron nails making it distinctive enough for people to speculate about its materiality and to connect it with the story of the defence of Rome; Pliny and Dionysius both accepted that the Pons Sublicius was constructed in wood with no iron in order to facilitate

⁵⁵⁹ Dion. Hal. *Ant. Rom.* 5.24. ἦν δὲ μία κατ' ἐκείνους τοὺς χρόνους ξυλόφρακτος ἄνευ σιδήρου δεδεμένη ταῖς σανίσιν αὐταῖς, ἦν καὶ μέχρις ἐμοῦ τοιαύτην φυλάττουσι Ῥωμαῖοι' written as part of an exploration of Roman hegemony and character. Gabba, 1991; Schultze, 2000.

⁵⁶⁰ Plin. *NH.* 36.100. D'Onofrio suggests the reason for the lack of iron is that it had been banned in the late Bronze, but the Romans of the first century BC/AD believed it was to ease the removal of the bridge; see Griffith, 2009, 301 for a discussion.

⁵⁶¹ Bissell, 2010, 81-82.

⁵⁶² Ingold, 2011, 12, 97.

⁵⁶³ Harvey, 1996, 263.

its swift removal.⁵⁶⁴ It is the combination of the fluidity of space and the permanence of place which make the physical bridge meaningful to the present.

Collective ideology is shaped as people move through urban spaces experiencing the multiple indicators and cues of the past and the reminders of their cultural ideology.⁵⁶⁵ The meshwork of the Pons Sublicius encompassed another physical reminder of the deed in the form of a bronze statue of Horatius Cocles which, in the first century AD, was understood as being ancient. Dionysius of Halicarnassus stated that a bronze statue was erected fully armed ‘in the principal part of the Forum’ and Livy situated it within ‘the *comitium* (in the Forum Romanum) in the centre of Rome’s political and religious life.’ In both accounts, the statue was erected by the authority of the people (the Romans) whom Cocles saved, and placed in the *locus celeberrimus* of the Forum reflecting the importance of the legend to the city’s identity.⁵⁶⁶ The recognition, by the community of the past, of the virtuous nature of the deed and its consequences for the continued safety of Rome, gave the Pons Sublicius and the Statue of Cocles greater resonance and influence within the spaces of the city.⁵⁶⁷ In the first century AD, Pliny stated that the statue still survived, though by the late first to early second centuries AD Gellius recounted that the statue had been moved ‘to an elevated place and set up in a more commanding position in the area of Vulcan,’ through it still commanded respect and a favoured position.⁵⁶⁸

⁵⁶⁴ Roller, 2004, 11-12. While Roller did recognise the Pons Sublicius ‘may’ have been a monument to Horatius’s deed he does not recognise the significance of the bridge within the physical spaces of the city outside of its unique construction.

⁵⁶⁵ Corbeill, 2002, 202.

⁵⁶⁶ Dion. Hal. *Ant. Rom.* 5.25 ‘έν τῷ κρατίστῳ καὶ χώραν ἐκ τῆς δημοσίας ἔδωκεν’; Livy, 2.10 ‘*statua in comitio posita*’. Livy, 2.10; Dion. Hal. *Ant. Rom.* 5.25; Plut. *Popl.* 16.7; *De viris. illus.* 11.2; Plin, *NH*, 34.11; Aul. Gell. 4.5. On the *comitium* and its visibility see Vasaly, 1993, 60-72; Roller, 2004, 2-10 on the statue connecting *exempla*. Trifiló 2008 on the significance of placing statues in busy spaces (*locus celeberrimus*) which will be discussed in detail in chapter 5. For images of the Forum and the statue see Coarelli, 2008, 52.

⁵⁶⁷ Roller, 2004, 5.

⁵⁶⁸ Plin. *NH*. 34. 11 ‘*statuae—quae durat hodieque*’. Gell. *Att. Ni.* 4.5 ‘*Statua Romae in comitio posita Horatii Coclitis, fortissimi viri, de caelo tacta est.*’ ‘*in locum editum subducendam atque ita in area Vulcani sublimiore loco statuendam*’ which was just outside the *comitium*. For a discussion about this tale and Gellius retelling see Frier, 1979, 56-66. Confirmed by Plut. *Pub.* 16.7 ‘*πρὸς δὲ τούτοις εἰκόνα χαλκῆν ἔστησαν αὐτῷ ἐν τῷ ἱερῷ τοῦ Ἥφαιστου*’ Lincoln, 1991, 247-248; fourth century AD Aur. Vic. 11.2 ‘*Statua quoque ei in Vulcanali posita*’ on the statue being in the *Vulcanal*.

Cassius Dio, in the late second century to early third centuries AD, narrated an account of a speech by Cicero which used the statue of Horatius Colces to compare a virtuous deed to the inappropriate behaviour of Anthony, who gave a speech, while semi-clothed in the forum, 'It would be fitting, would it not, to set up a statue of Antony also, so that as the one man is seen armed even in the Tiber so the other might be seen naked even in the Forum'.⁵⁶⁹ Dio's use of the event at the bridge makes swimming with the addition of clothes and armour a virtuous act, creating a juxtaposition and a moral contrast to Anthony's behaviour.⁵⁷⁰ In this example, the act of swimming is brought into the meshwork of the bridge and the statue.

The first century BC account of Dionysius of Halicarnassus also features the act of swimming from the bridge 'he leaped with his arms into the river and swimming across the stream with great difficulty (for the current, being divided by the piles, ran swift and formed large eddies)' he emphasises not just the difficulty of swimming fully armoured, but of swimming around the piles of the Pons Sublicius, creating a sensory and place-specific experience for the deed.⁵⁷¹ In first century AD, Seneca also related how Horatius 'plunged headlong, taking as great care to come out armed from the midst of the dashing river-channel as he did to come out unhurt; he returned, preserving the glory of his conquering weapons, as safely as if he had come back over the bridge.⁵⁷² Seneca again compares the act of swimming in full armour directly to the simplicity and ease of crossing the bridge; swimming is seen here as a test of character and strength and the bridge as a place of safety.⁵⁷³

⁵⁶⁹ Dio Cass. 45.31 'ὁ δὲ καὶ μετὰ τῶν ὀπλῶν ἐς τὸ ῥεῦμα ἑαυτὸν ἐνέβαλεν. ἄξιόν γε (οὐ γάρ;) καὶ τούτου τινὰ εἰκόνα στήσαι, ἵν' ὁ μὲν καὶ ἐν τῷ Τιβέριδι ὀπλισμένος, ὁ δὲ καὶ ἐν τῇ ἀγορᾷ γυμνὸς δόρωτο.'

⁵⁷⁰ Roller, 2004, 34-35.

⁵⁷¹ Dion. Hal. *Ant. Rom.* 5.22-25 'κατάλλεται σὺν τοῖς ὀπλοῖς εἰς τὸν ποταμὸν καὶ διανηξάμενος τὸ ῥεῦμα χαλεπῶς πάνυ (περὶ γὰρ τοῖς ὑπερείσμασι τῶν σανίδων σχιζόμενος ὁ ῥοῦς ὄξυς ἦν καὶ δίνας ἐποίει μεγάλας) ἐξεκολύμβησεν εἰς τὴν γῆν οὐδὲν τῶν ὀπλῶν ἐν τῷ νεῖν ἀποβαλὼν'. Dionysius was a Greek living in Rome around the time Augustus came to power, see OCD Dionysius of Halicarnassus.

⁵⁷² The obvious exception is Polybius where Cocles dies; as is more likely when armoured and carrying weapons, drowns. Sen, *Ep.* 120.7-8 'He plunged headlong, taking as great care to come out armed from the midst of the dashing river-channel as he did to come out unhurt; he returned, preserving the glory of his conquering weapons, as safely as if he had come back over the bridge.' *'se in praeceps et non minus sollicitus in illo rapido alveo fluminis ut armatus quam ut salvus exiret, retento armorum victricium decore tam tutus rediit, quam si ponte venisset.'*

⁵⁷³ Roller, 2004, 19-20 for references and discussion of swimming. Florus in the late first and early second centuries AD suggested that swimming was only a virtue when it was a choice, therefore the Roman ability to build bridges and use boats set them apart from the barbarians who had to swim. Flor. *Ep.* 1.38 'Attempting at first to cross the river Atesis, not by a bridge or in boats, but, with the stupidity of barbarians, by swimming',

The meshwork of the Pons Sublicius stretched out to encompass the statue in the Forum Romanum; the correspondence between the ancient places reinforced the connection between past and the present and between the *mos maiorum* of antiquity and Rome's present identity.⁵⁷⁴ The moving body understood the places of the city through the temporal flows which existed between the hubs of the different meshworks.⁵⁷⁵ For a person familiar with Roman and the story of Horatius at the bridge it meant they could be standing in the Forum or down by the Pons Sublicius and still make the connection between the two places; this is because the perceiving body does not need to physically see a thing in order to include it within its background. In the same way that a person cannot see what is behind them but fill the gap unconsciously through their familiarity with the space. When Cicero refers to 'things' in Rome in his oratory, he is relying on peoples familiarity with Rome and their ability to recall the temple, bridge or inscription related to a person or deed; it is not based on the immediacy of sight but on their prior experience of the thing which is revalidated every time it is re-experienced.⁵⁷⁶ It makes the concept of the 'gaze' somewhat reductive when considering how things connect, both in the present and temporally within an urban landscape; rather than analysing what things can be seen we should be studying how things correspond in the perception of a city's inhabitants.⁵⁷⁷

Place is meaningful both for individuals and societies, things such as bridges can frame and alter the way the space is perceived and understood, they can be functional and act as an element of change within place but they are not meaningful in isolation, as shown with the example of London Bridge in chapter 2, section 3. Place can be historicised and given a fixed

'provoluti veluti ruina descenderant, Atesim flumen non ponte nec navibus, sed quadam stoliditate barbarica primum corporibus adgressi'.

⁵⁷⁴Corbeill, 2002.

⁵⁷⁵ Merleau-Ponty, 2012, 152, he argued for the idea of time 'flowing' like that of a river, there is never a before or after but a rhythm of flow, Like the body, the waves illustrate the complexity of flow, the idea that one wave can never be distinguished from the whole. He also uses the term body polyrhythmic - different rhythms which all flow interactively. Lefebvre, 1991, 87-88 and 113, also relates the interconnectedness of spaces and time to the flow of water describing 'great movements, vast rhythms, immense waves – these all collide and 'interfere' with one another; lesser movements, on the other hand, interpenetrate' he emphasises that spaces are 'traversed by myriad currents,' which make it difficult to trace and object or thing back to the exact activity from which it was produced and/or created.

⁵⁷⁶ Vasaly, 1993, 256 for example Cic. *Orat.* 405.

⁵⁷⁷ Merleau-Ponty, 2012,14-15.

narrative (the Forum Boarium as a market place) but a thing, such as a bridge or a statue within a place, can be the repository for a rebecoming (a wooden bridge within the Forum Boarium becomes a symbol of Roman values within the landscape of the city). Literary references and social understanding focus on the narrative as mutable 'lived' spaces, available for appropriation by each new generation; the story of Horatius Cocles is anchored to an archaic place by the Pons Sublicius which enabled it to remain alive, bringing the past into the present. Like the bridge itself, encountering the statue created a temporal displacement, the past in the present which encompassed the collective values associated with the person or event which was being experienced.⁵⁷⁸ The person, much like the writers, is consciously or unconsciously down at the bridge staring into the Tiber or seeing an army advancing toward Rome.⁵⁷⁹ People exist in a world shared with other human beings, where the meaning of cultural things are shared through the correspondence along with the flows of multiple overlapping meshworks; Rome was an open-air museum with the past on display.

4.3. The Space Between

Bridges have a long been associated with the notion of between; crossing a bridge creates a sense of liminality, of being between two different places, the one just left, and the destination. The Tiber river at Rome was the natural boundary which sat between two distinct and evolving sensescapes. Rivers often provided the barrier between different cultures or territories; unlike walls or the *pomerium*, the Tiber was a natural and fluid boundary which, in Rome's early history was perceived as the demarcation line between Etruscan and Roman territory it was in the words of Virgil 'On this side we are hemmed in by the Tuscan river.'⁵⁸⁰ The lived spaces of the Pons Sublicius encompassed the evolution and perception of the Tiber as a boundary; not just between the two bridges, as in the previous sections, but between

⁵⁷⁸ Harvey, 2006, 137-138, based on concepts by Walter Benjamin, 2015.

⁵⁷⁹ Roller, 2004, 32; Favro, 1996, 6 on movement as a way for people to learn and remember.

⁵⁸⁰ The Pomerium an important religious boundary for the Romans marking out the territory of the city and dating back to Romulus Varro. *Ling.* 5.143. It was extended over the history of the city see Richardson, 1992, *Pomerium* and *LTUR IV Pomerium*. Virg. *Aen.* 8.473 '*hinc Tusco claudimur amni*'. Purcell, 2012, 377-378; Val. Max. on bravery. 3.2 also cites the Tiber as a defence against the Etruscans. Gell. 4.5 on the Etruscans who deceived the Romans and necessitated the relocation of the statue of Horatius, see above. Juv. *Sat.* 8.260-265 '*quod miraretur cum Coclite Mucius et quae imperii finis Tiberinum virgo natavit.*' 'something to be admired by Mucius or Cocles or the girl who swam the Tiber, the empire's boundary.'

the banks of the Tiber. The following section explores the temporal socio-cultural role of the bridges but in particular the Pons Sublicius, in the creation and recreation of the 'other' in relation to the values and identity of Rome.⁵⁸¹

From the archaic period to the fall of the Empire, the threat of invasion was always a part of everyday life in Rome. The threat waxed and waned throughout the city's history, but the evidence from both the literary sources and the archaeology attest to a continued concern.⁵⁸²

In the first century BC, the Tiber was perceived as a formidable barrier:

'some sections of the walls, [...] have been fortified by Nature herself [...] others are protected by the river Tiber, the breadth of which is about four hundred feet and the depth capable of carrying large ships, while its current is as rapid as that of any river and forms great eddies. There is no crossing it on foot except by means of a bridge, and there was at that time only one bridge, constructed of timber, and this they removed in time of war.'⁵⁸³

According to Dionysius of Halicarnassus, the Tiber provided a natural line of defence for the west facing side of the city. The addition of the wooden bridge changed that boundary, offering unrestricted access, but the material of the bridge enabled its removal in order to re-establish the physical boundary.

The deed of Horatius Cocles was successful as an *exempla* because it embodied the primary elements which encapsulated Rome's character and identity, and demonstrated the significance of Roman space. The sacrifice of one man for the state, the pivotal moment when Rome was fighting for the continuation of the new Republic, and the place on Rome's ancient bridge in the liminal world between the Romans and the 'other'; two opposing cultural

⁵⁸¹ Said, 1978 is still the principle work on the concept of 'otherness'; for the meaning in antiquity Gruen, 2011, provides a comprehensive and wide-ranging discussion.

⁵⁸² See the literary examples which follow. Archaeology includes the Servian walls and the Aurelian walls, see Dey, 2011 and Richmond, 1930; Carandini, 2017.

⁵⁸³ Dion. Hal. *Ant. Rom.* 9.68 'καθοπλισάμενοι παρὰ δύναμιν τοῖς τείχεσιν ἐπέστησαν, τοῦ περιβόλου τῆς πόλεως ὄντος ἐν τῷ τότε χρόνῳ ὅσος Ἀθηναίων τοῦ ἄστεος ὁ κύκλος· καὶ τὰ μὲν ἐπὶ λόφοις κείμενα καὶ πέτραις ἀποτόμοις ὑπ' αὐτῆς ἐστιν ὠχυρωμένα τῆς φύσεως καὶ ὀλίγησ δεόμενα φυλακῆς· τὰ δ' ὑπὸ τοῦ Τεβέριος τετειχισμένα ποταμοῦ, οὗ τὸ μὲν εὐρὸς ἐστὶ τεττάρων πλέθρων μάλιστα, βάθος δ' οἷόν τε ναυσὶ πλεῖσθαι μεγάλαις, τὸ δὲ ρεῦμα εἴτερ τι καὶ ἄλλο ὅζυ καὶ δίνας ἐργαζόμενον μεγάλας· ὃν οὐκ ἔνεστι πεζοῖς διελθεῖν εἰ μὴ κατὰ γέφυραν, ἣ ἦν ἐν τῷ τότε χρόνῳ μία ξυλόφρακτος, ἣν ἔλυον ἐν τοῖς πολέμοις'

sensescapes in the perception of the first century BC Romans.⁵⁸⁴ In this story, the bridge had a dualistic quality; it enabled the *exempla* to exist, but it also represented a weak spot in the city's defences. The fort on the Janiculum was, according to Livy, created to protect the city 'lest it might someday become a stronghold of Rome's enemies. It was decided not only to fortify it but also to connect it with the city, for greater ease in passing to and fro, by a bridge of piles, the first bridge ever built over the Tiber.'⁵⁸⁵ However, when Porsenna's forces took the fort 'the bridge of piles almost afforded an entrance to the enemy,' the inference being that the bridge then became a weak point in the city's defences necessitating the heroic stand while it was removed.⁵⁸⁶ The Pons Sublicius was perceived as a bridge which could be removed in time of crisis. By sacrificing the bridge 'he brought as effective a defence to our city with his shield as did Tiber with his channel.'⁵⁸⁷ The Roman's succeeded in protecting the city from imminent invasion returning the Tiber to a defensive barrier; it also enforced the perceived difference between the west and the east banks of the city.⁵⁸⁸

Building the Pons Aemilius in stone was a conscious decision by its creators; its process of production was not based on functionality but a new representation of the city's power and technical capabilities. As a direct consequence of the decision to build in stone, the option to remove the bridge if the city was threatened. In the first century BC, there was a fear of hostile forces in the vicinity of Rome. Cicero points to the Janiculum as a place where a garrison could

⁵⁸⁴ Spencer, 2011, 73.

⁵⁸⁵ Livy 1.33 on Ancus Marcius alterations to the city during the Regal period. '*Ianiculum quoque adiectum, non inopia loci, sed ne quando ea arx hostium esset. Id non muniri solum sed etiam ob commoditatem itineris ponte sublicio, tum primum in Tiberi facto, coniungi urbi placuit*'

⁵⁸⁶ Livy 2.10 '*Cum hostes adessent, pro se quisque in urbem ex agris demigrant, urbem ipsam saepiunt praesidiis. Alia muris, alia Tiberi obiecto videbantur tuta: pons sublicius iter paene hostibus dedit, ni unus vir fuisset, Horatius Cocles; id munimentum illo die fortuna urbis Romanae habuit. Qui positus forte in statione pontis, cum captum repentino impetu Ianiculum atque inde citatos decurrere hostes vidisset trepidamque turbam suorum arma ordinesque relinquere, reprehensans singulos, obsistens obtestansque deum et hominum fidem testabatur nequiquam deserto praesidio eos fugere; si transitum ponte a tergo reliquissent, iam plus hostium in Palatio Capitolioque quam in Ianiculo fore.*'

⁵⁸⁷ Val. Max. 3.2.1 '*denique unus urbi nostrae tantum scuto suo quantum Tiberis alveo munimenti attulit.*'

⁵⁸⁸ The threat to Rome from the Western side of the river was a threat into the late Republic. During the Carthaginian wars Hannibal marched on Rome causing the removal of all but one of the bridges across the Tiber, Cass. Dio 14, Zon 8.2. App. B. Civ. 1.58 Sulla's march on Rome took one of the bridges. As late as 59 BC there was a flag on the Janiculum which was a signal to Rome of an impending invasion. Campbell, 2012, 21 There is only one inscription which uses the Transtiberium as a noun. CIL 6.9847 CIL 1².1000, 1001 = 62219,2220 refer to *pagus Ianiculensis* from 100 BC. Cicero uses the term '*trans tiberim*' Cic. Att. 12.19.1.

be placed to threaten the city and was able to appeal successfully to that same fear in a speech against Rullus's agrarian law which he argued could result in a new settlement by colonists on the Janiculum.⁵⁸⁹ Cassius Dio reports that during the trial of Rabirius the flag which flew on the Janiculum during the *comitia centuriata* to warn of impending danger was pulled down causing the trial to cease.⁵⁹⁰ Rome in the late Republic was still aware of its vulnerabilities and the historical threat which could approach the city from across the Tiber; there was still a palpable element of betweenness between the east and west banks of the river.⁵⁹¹

Staying within the military sphere, Appian appropriated the symbolism of the Pons Sublicius in his second century AD account of the Sullan march on Rome in 88 BC, 'Sulla took possession of the Esquiline gate and the adjoining wall with one legion of soldiers, and Pompeius occupied the Colline gate with another. A third advanced to the Wooden bridge.'⁵⁹² Significantly Appian chooses to reference only the crossing of the wooden bridge, despite the presence of the Pons Aemilius during Sulla's march on Rome. The movement between the west and the east bank is specifically connected to the ancient bridge and its links to the protection of Rome and the *mos maiorum*.⁵⁹³ Appian was writing during the tenure of Antoninus Pius, who had restored the bridge and released a medallion bearing the image of Horatius Cocles and the bridge as a symbol and reminder of his desire for a return to traditional Roman values.⁵⁹⁴

Ennius, early second century BC, stated that 'on old-time ways, the Roman state stands fast' and in the observance of the old ways Rome was kept strong, a sentiment which Augustus

⁵⁸⁹ Vasaly, 229-230. Cic. *de le agr.* 2.27. 'Quid igitur est causae, quin coloniam in Ianiculum possint deducere et suum praesidium in capite atque cervicibus nostris possint collocare?' Cicero was arguing against the law by appealing to a fear within the populace. See Tracy, 2012; Morstein-Marx, 2004, 210-213; Jonkers, 1963.

⁵⁹⁰ Cass. Dio. 37.27-28. The trial was held in the first century BC and judged by Julius Caesar. The flag was removed by Metellus Celer to stop what he perceived to be an unlawful trial rather than due to enemy action.

⁵⁹¹ Appian B. Civ. 4.22 documents and incident during the proscriptions of the Second Triumvirate when a proscribed man was attempting to throw himself from a bridge into the Tiber and was subsequently killed by the soldiers manning the bridge. Which bridge is not specified but the flight of the proscribed and the reference to fisherman makes the Pons Aemilius the likely candidate; it also suggests the bridge was guarded.

⁵⁹² App. B. Civ. 1.58. 'Καὶ Σύλλας μὲν τὰς Αἰσχυλείας πύλας καὶ τὸ παρ' αὐτὰς τεῖχος ἐνὶ τέλει στρατιωτῶν κατελάμβανε, Πομπήιος δὲ τὰς Κολλίνας ἐτέρω τέλει' καὶ τρίτον ἐπὶ τὴν ξυλίην γέφυραν ἐχώρει, καὶ τέταρτον πρὸ τῶν τειχῶν ἐς διαδοχὴν ὑπέμενε.'

⁵⁹³ Gowing, 1992, 19-20; Alexander, 2002, 170-171, Sulla stated he was marching to defend the *mos maiorum*.

⁵⁹⁴ Rowan, and point to the next section and the discussion about the medal.

embraced after the instability of the civil wars.⁵⁹⁵ In first century BC, there was a noticeable concern in the sources over the neglect of religious, political and moral order, which Augustus sought to re-instate through a process of cultural renewal.⁵⁹⁶ Augustan literature appropriates the power of place to strike a contrast between Roman values as advocated and demonstrated by Augustus and the threat from the East in the form of Cleopatra.⁵⁹⁷ The Pons Sublicius and Horatius Cocles were appropriated by Augustus to represent his triumph as the collective success of the Roman character over the 'other' ensuring the continuation of the *res publica*.⁵⁹⁸

The concept of the other was fluid in relation to the Pons Sublicius changing temporally from the Etruscans, to the Gauls and then Carthaginians. When the threat to the city came both internally (Anthony) and externally (Cleopatra), but did not involve a physical crossing of the bridge, the *exempla* became representative of the importance of place to the Roman identity. Augustan literature treated Cleopatra as the terrifying and depraved 'other', the antithesis of the Roman character. In Propertius's celebration of the victory at Actium, Cocles and the cutting down of the bridge grounded the *exempla* in the current spaces of Rome 'the path of Cocles still tells of the cutting of the bridge,' placing the character and resilience of Rome within the city in direct contrast to the external female Egyptian threat.⁵⁹⁹ Livy also uses the *exempla* within its historical context as the fight for *libertas* against outside forces, and Horace focuses the threat on both the character and the city of Rome.⁶⁰⁰

⁵⁹⁵ Ennis, *Ann*, 5.1.156. FRL I. '*moribus antiquis res stat Romana virisque*' Who may have been an influence of Livy with a very similar Tiber pray in *Ann*.26. Goldschmidt, 2013, 183-186.

⁵⁹⁶ For example; Cic. *Rep.* 5.2. Zanker, 2000, 101-104; Wallace-Hadrill, 2019, 34-35, 112-114.

⁵⁹⁷ Wallace-Hadrill, 2019, 112-114.

⁵⁹⁸ Gros, 1976, 21-26; Edwards, 1996, 49-50 on the neglect of Roman religion and customs and the restorations of the temples under Augustus.

⁵⁹⁹ Prop. *Ele.* 3.11.67, '*Coclitis abscissos testatur semita pontes.*' Edwards, 1996, 54; Gurval, 1998, 394-396 and 204. Detailed commentary on the Elegies see Richardson, 1977. Wallis, 2018, 85-92 for a discussion of the gender relations in the poem.

⁶⁰⁰ Livy, 1.10 stated that the subject for his writing was *res gestae populi Romani*, and to explore how the culture and characteristics of Rome enabled its *imperium*. Hor. *Od.* 1.37. A guide to the best and worst behaviours of men and their role in the creation of the state. Ogilvie, 1965; L'Hoir, 1990; Vasaly, 2015, 29-35. On *libertas* a theme in Livy book two L'Hoir, 1990. Oakley, 2009 on Livy and his sources and historical approaches in Chaplin and Kraus, 2009.

The ultimate symbolic image of the bridge can be found in Virgil's *Aeneid* alongside the great and the good from Roman history on the shield of Aeneas 'There, too, was Porsenna, bidding them admit the banished Tarquin, and oppressing the city with mighty siege: the sons of Aeneas rushing on the sword for freedom's sake. You could see him shown as angry, as threatening, because Cocles dared to tear down the bridge.'⁶⁰¹ The image emphasises the character and valour of Cocles in making the difficult choice and tearing down the bridge as an act of moral courage, reminding the inhabitants of Rome that the city had struggled and overcome before.⁶⁰² The shield linked Augustus to the *exempla* of one man against many in a battle for the continuation of Rome itself. In Virgil's narrative just below the representation of Horatius Cocles, Augustus was connected to another famous bridge, that of Alexander the Great, which was built over the Araxes, and rebuilt by Augustus.⁶⁰³ Alexander was a figure revered by Augustus who had visited his shrine and used his image as his seal.⁶⁰⁴ Bridges and bridge building connected Augustus to a line of powerful bridge builders from the past which included his father and divinity Julius Caesar.⁶⁰⁵

Livy highlighted the connection between Roman ideology and the physical city in his narration of a fourth century BC speech by Camillus, in which he argued against moving the people of Rome to Veii.⁶⁰⁶ The speech emphasised the importance of the antiquity of the places where sacred rites were performed, enabling the Roman people to correspond and interact with their past.⁶⁰⁷ The speech implies that the Roman character lives within the spaces of the city, making its physicality integral to the continuation of the Roman identity. The Pons Sublicius became a symbol of the fight for the Roman character; on one bank 'the other' Anthony, Cleopatra and Egypt and the Roman bank Augustus as the city's protector, placing himself

⁶⁰¹ Verg. *Aen.* 8.646-650. '*nec non Tarquinius eiectum Porsenna iubebat accipere ingentique urbem obsidione premebat; Aeneadae in ferrum pro libertate ruebant. illum indignanti similem similemque minanti* 650 *aspiceres, pontem auderet quia vellere Cocles*'. Actium 8.714-728 Vulcan is connected to Horatius though their shared limp and the change of position of the statue to the *Volcanal*. Serv. Ad. 8.728; Thomas, 1988, 186-187

⁶⁰² Verg. *Aen.* 8.646. Zanker, 1988, 88-195.

⁶⁰³ Verg. *Aen.* 8.728 '*pontem indignatus Araxes*' 'Araxes chafing at his bridge' The bridge at Araxes which was built by Alexander the Great and rebuilt by Augustus was also included on the shield, linking Augustus to two bridges with meaningful pasts, see the next section on *Pontifex Maximus*.

⁶⁰⁴ Sen. *Aug.* 18 and 50.

⁶⁰⁵ See section five on the *Pontifex Maximus* and Julius Caesar.

⁶⁰⁶ Livy, 5.49-52 narration of a fourth century BC speech. See notes 475 and 429.

⁶⁰⁷ Edwards, 1996, 46-47.

within the tradition which looked to the past for future stability.⁶⁰⁸ Connecting the Augustan image to that of Cocles at the bridge placed the new *princeps* between Rome and those who did not value or understand the importance of the city to the Roman identity. It also situated Augustus physically within spaces of the Rome which he emphasised further with the restoration of the city and the traditional rites and values which were intrinsically connected to the spaces of the city itself making Augustus the protector of traditional Roman values.⁶⁰⁹

The meshwork of the Pons Sublicius extended to encompass the growing number of Augustan buildings across the city, extending out to the Pons Agrippa at the northern end of the Campus Martius and the Pons Mulvius at the northern entrance to Rome. The bridges, while not named for Augustus, were connected to his reign, which will be discussed in more detail in chapter 5. The Pons Sublicius also shared attributes with another symbol used by Augustus, the hut of Romulus; these two structures were both marked as ancient by their placement and materiality. The hut of Romulus was located on the Palatine providing a connection between Augustus, who had his complex on the hill, and the residence of Rome's founder. Dionysius of Halicarnassus states that the Hut was regarded as sacred, and was always restored to its former condition when damaged, mirroring his statement on the Pons Sublicius.⁶¹⁰ Both structures rebuilt on several occasions after they were destroyed by flood (Pons Sublicius) and fire (the Hut of Romulus) as near as possible to their original form. Unlike the modern attempts to restore things using their original materials, Catharine Edwards observed that the Romans were not as concerned with the authenticity of the material, as with restoring a thing so it showed no sign of age.⁶¹¹ This brings us back to a point made in the opening section of this chapter; old and authentic did not mean obsolete or fragile; it was the contrasting material and construction which made a thing authentic. The material form

⁶⁰⁸ *Res Gestae Divi Augusti (Res Gest.)* 8; Cooley *Suet. Aug.* 31; Wallace-Hadrill, 2019, 34-35, 112-114; Eck, 2002, 142-143.

⁶⁰⁹ Gros, 1976, 24-29; Zanker, 2000, 84; Eder, 2010, 18-22.

⁶¹⁰ Dion. Hal. *Ant. Rom.* 1.79 for the Hut compare to 3.45 for Pons Sublicius. Edwards, 1996 32-33.

⁶¹¹ Cic. *Rep.* 5.2. Edwards, 1996, 34-36. For the modern attempts at authenticity see chapter 1 and the bridge in Mostar.

of the Pons Sublicius was deemed sacred partly because it was reconstructed without iron and required rites to be performed by the college of pontifices when it was repaired.⁶¹²

The otherness of the west bank continued to evolve throughout Rome's history, even after the Transtiberium had become an official region of the city under Augustus, the two sensescapes of the river were perceived very differently.⁶¹³ These experiences changed temporally; during the Republic, the Janiculum was still perceived from a military stance as the city's boundary between the city and Etruria.⁶¹⁴ By the second century AD Juvenal perceived the west bank not as a threat but as a place where the city's more pungent industries resided 'don't let disgust for any kind of merchandise that has to be kept beyond the Tiber creep over you, and don't imagine that you should draw any distinction between perfumes and hides.'⁶¹⁵ Juvenal referenced the smell rich industries of the tanners, but the Transtiberium also housed many others such as specialist dealers in citron-wood and traders selling expensive purple cloth;⁶¹⁶ in the area of the *Cellae Vinariae Nova et Arruntiana* (near the site of the modern Villa Farnesina) wine merchants were documented and potters were

⁶¹² Hut of Romulus like the bridge was damaged and rebuilt in 12 BC and in 38 BC Dio Cass. 54.29 and 48.43. Edwards, 1996, 34, ancient did not mean shabby both structures were kept in good repair. Hallett, 1970, 226. The role of the *Pontifex Maximus* and the bridge will be discussed further below.

⁶¹³ Lott, 2004 for the authoritative work on the Augustan regions.

⁶¹⁴ See discussion above.

⁶¹⁵ Juv. *Sat.* 14.202 '*nec te fastidia mercisullius subeant ablegandae Tiberim ultra, neu credas ponendum aliquid discriminis interunguenta et corium.*' Referring to the smell of profit, Juvenal is remarking on how fathers encourage their avarice in their sons. Lott, 2004, 456. In the Digest 1,2,2,30-34 there is a reference to which demonstrates that in the Republic the Tiber was perceived as a barrier between two different places 'there were set up the five men for below the Tiber and the five men for beyond the Tiber' '*Et quia magistratibus vespertinis temporibus in publicum esse inconueniens erat, quinqueviri constituti sunt cis tiberim et ultis tiberim, qui possint pro magistratibus fungi.*' See also Livy 39.14 on 186 BC referencing five men for both sides of the Tiber. Briscoe, 2008, 270 on Livy. For further discussion see Purcell, 2012, 377-378. Flohr, 2017, 39-53. Miko Flohr study of the *fullones* challenged the assumption that *fullones* were noxious places which were banished to the far corners of towns. By combining archaeological, literary sources and taking a multi-sensory approach, he was able to compare the different sensescapes of a set of *fullones* in Pompeii to successfully challenge the idea that fullers were 'spatially or socially controversial' and were no more odoriferous than a number of other industrial processes from the period. Therefore, we should not automatically assume the industry of the Janiculum was foul outside of Satire but that it did represent a different sensory place.

⁶¹⁶ For a detailed study and list of the variety of trades in Rome see Holleran, 2012, especially 57-59 and 77-79 for the Transtiberium. For Tanners Mart. *Ep.* 6.93; Juv. 14.202-204. Specialist *negotiatores eborarii aut citriarii*, *CIL* 6.33885,4; Purpurarius *CIL*. 6. 9847 (=26217).

active within the Vatican area.⁶¹⁷ The persistence of the 'other' is also retained in the satires of Martial who refers disparagingly to the people from across the Tiber.⁶¹⁸ However, the sensescape on the west bank is only meaningful in contrast to the east bank.

Travellers crossing from the west to the east bank of the Tiber were inundated by the experience of Rome's capital city. The Capitoline and Palatine hills rose above the busy markets of the riverside fora, temples vied for space with temporary markets, ferries plied their trade below the bridges, loading and unloading passengers into the busy area. The gates of the ancient Servian city walls, which by the late first century BC the expanding city was increasingly absorbing, still marked, and maybe even slowed passage into the city.⁶¹⁹ The Forum Boarium was Rome's oldest commercial market; thought to be named either for its early function as a cattle market or the gilded statue of a bull which stood in the area,⁶²⁰ it is not known if it continued to function as a cattle market into the first century BC, but Livy's description of an escaped Ox suggests that livestock were viewed and sold in the area.⁶²¹ To the northeast was situated the Forum Holitorium, selling fruit and vegetables and alongside the river near the Temple of Portunus was the fish market (*forum piscarium*).⁶²² The sensorium of the area covered a wide range of products which created the unique and constantly changing sensescape of the east bank.⁶²³ The walk across the bridges, from one

⁶¹⁷ Potters: Mart. *Ep.* 1.18, 12.48; Juv. *Sat.* 6.334. This area provided a stark contrast between the sensescapes for the Pons Agrippae which was located at the northern end of the Campus Martius, see chapter 1 the Pons Agrippae.

⁶¹⁸ See notes 136 and 138 and Mart. *Ep.* 1.41 referring to a man as being from across the Tiber.

⁶¹⁹ Carandini, 2017, V2. Tav. 172; Coarelli, 1988, especially 36-48 on the line of the walls in the Forum Boarium. Cass. Dio. 53.22-33. The existence of the old city walls at the Forum Boarium is the subject of much debate but the city gates were still recognised, and some parts of the wall remained at some height: Coarelli, 1988. Many of the first century BC bridges restored by Augustus included arches suggesting this was a familiar combination for a full account of bridges with corresponding arches O'Connor, 1993, and Galliazzo, 1994 & 1995, for the bridges and arches Kleiner, 1991. There were more arches constructed in Rome during the Augustan period than during the previous Republican history of the city: Cooley, 2009; Goodman, 2007.

⁶²⁰ See the next section on the *argei* for the connection between the area and Hercules and Cattle. Ov. *Fast.* 6.477-8; Plin. *NH.* 34.10. Coarelli, 1988, 1-13.

⁶²¹ Varro. *Ling.* 5.146; Fest. P. 27L; Livy. 21.62.

⁶²² Holland, 2012, 95-96 on the Forum Holitorium: Tert. *Apol.* 13.5; Varro. *Ling.* 5.145; Varro, *Ling.* 5.146. '*Secundum Tiberim ad <Por>tunium Forum Piscarium vocant: ideo ait Plautus: Apud <Forum> Piscarium.*' 'Along the Tiber, at the sanctuary of Portunus, they call it the Forum Piscarium 'Fish Market'; Plautus says: Down at the Market that sells the fish' referring to Plautus Curculio, 474.

⁶²³ *Ludi Piscatorii* held 8th June opposite the Forum Boarium on behalf of the fishermen of the Tiber. Festus, 274L; cf. 232L; Ov, *Fast.* 6.235-40; Ov, *Fast.* 6.477-8 'Adjoining the bridges and the great Circus is an open space of far

bank to the other, represented the liminal journey between two different experiential worlds. As Ann Olga Koloski-Ostrow mused smell ‘unified the city in certain socially significant ways’ but rather than focusing on a single sense we must recognise that it was the unified embodied experience which identified the two places as separate, but it also unified them within their specific sensescapes as parts of the Roman whole.⁶²⁴

Transitional movement across the bridges recognised the divergence between the different sensescapes; on the bridges’ roadway the contrasting east and the west bank was proximate; until the end of the first century BC, the difference between the two banks was predominantly military based. The symbolism of Horatius Cocles protecting Rome from the liminal space between Rome and the ‘other’ was utilised effectively to represent the rebecoming of Rome within the physical spaces of the city. By the second century AD, the ‘other’ had rebecome to represent the industry of the Transtiberium and the west bank. The contrasting sensescapes were experiences through the daily rhythm of the city as it crossed the two bridges between the Forum Boarium and the Transtiberium.

4.4. Above the Gods and Between the Banks

One of Rome’s most significant natural boundaries, the Tiber, was venerated and played a central role in Rome’s foundation, defence, and continued success.⁶²⁵ The Tiber was also a central part of both the socio-cultural ideology and the daily life of the riverine city. The river created multiple natural and man-made rhythms relating to its agency and use; the flow of goods into the city via the river was dependent on river conditions, avoiding periods when the river was in spate or conversely very low.⁶²⁶ The city reflectively or unreflectively adapted its daily rhythms to that of the Tiber; whether it was the extra traffic and movement toward

renown, which takes its name from the statue of an ox’ *‘pontibus et magno iuncta est celeberrima Circoarea, quae posito de bove nomen habet’*; Varro, *Ling.* 5.146 ‘Along the Tiber, at the sanctuary of Portunus, they call it the Forum Piscarium ‘Fish Market’ ‘*Secundum Tiberim ad <Por>tunium Forum Piscarium vocant’*. When the bridge was destroyed in 1598 its remaining arches still stretched into the river providing a place for the continuation of the fishing tradition around the Pons Aemilius, Karmon, 2011.

⁶²⁴ Olga Koloski-Ostrow, 2013 but does not seek to take this analysis further despite its potential; Flohr, 2017.

⁶²⁵ Campbell, 2012, 20-22, 140-141. He also stresses the difficulties of analysing a single river during the ancient period due to the limited and inconsistent evidence regarding the role of the Tiber in Rome’s history, 29-30. Rivers were revered across the Roman world see Campbell, 2012; Jones, 2005; Holland, 1961; Le Gall, 1953b.

⁶²⁶ On the Tiber see Campbell, 2012; Le Gall, 1953 a and b; Malmberg, 2016; Aldrete, 2007 on the floods and the unpredictability of the river.

the river during the peak sailing periods or the inevitable increase in flooding during the high-water season, the Tiber was always altering movement in the background of city's life.⁶²⁷

The Tiber was a notoriously fickle river, capable of violent spates in the winter (see fig. 35 & 36) 'The Tiber made a more violent attack on the city than on the occasion of the previous flood and destroyed two bridges and numerous buildings,' and contrasting low water in the summer 'the yellow Tiber [...] where ships that have reached port stand fast in the shallows, held back by the filthy mud and struggling against the scanty water.'⁶²⁸ During the Republic, the river was never successfully controlled; it was not until the reign of Tiberius that the *Curatores Alvei et Ripae* were officially set up to maintain the river channel after eleven serious floods in a seventy-five year period between 60 BC and AD 15.⁶²⁹ The unpredictable relationship between the city and the Tiber during this period coincides with the writing of first century BC authors such as Livy, Virgil, Ovid and Dionysius of Halicarnassus, which likely increased their reverence and respect for the river.⁶³⁰

⁶²⁷ The impact of the Tiber on the urban morphology of the city has been underestimated but would benefit from a sensory and spatial study which detailed exactly how much of the city's infrastructure was dictated by the river. The notion that river transport in the winter was restricted in the winter does not do justice to the vagaries of the Tiber or account for the low water in the summer. This is an area where sensory studies could really make a difference to an understanding of a riverine city on a non-tidal river.

⁶²⁸ Livy, 35.21 '*Tiberis, infestiore quam priore impetu inlatus urbi, duos pontes aedificia multa.*' Virgil *Catalepton* 13. 21-26 '*flavumque propter Thybrim olentis nauticumvocare, ubi adpulsae rates caeno retentae sordido stant in vadismacraque luctantes aqua.*' Livy, 2.5 also mentions the low and sluggish water of the summer months.

⁶²⁹ Aldrete, 2007. After AD 15 the number of floods registered by the sources dropped.

⁶³⁰ See n. 148, 149, 152, 154.



Figure 35 & 36: Pons Aemilius in the winter of 2014. The photos were taken a day apart and illustrate just how quickly the Tiber level can change, even with the modern embankments. Author image 2014.

The Tiber was also venerated as a god (*Tiberinus*); Livy recounts the spectacle of Horatius Cocles standing alone on the Pons Sublicius; he is facing the Etruscan threat, and using his own body to block their passage to Rome until the bridge is cut down, at which point he calls upon the river god “O Father Tiberinus, I solemnly invoke thee; receive these arms and this soldier with propitious stream!” and leaps into the river.⁶³¹ In the sensescape of the bridge the familiar spaces of god and people are reversed; the perceived inversion which exists when crossing a bridge is created by the sensation of people looking down on the river (or in this case the deity) rather than looking up to the sky from land. It allows the Tiber to interact directly with people as in Ovid’s *Fasti* where the *Tiberinus* is asked directly about the origins of the rituals of the *argei* and in the *Aeneid* where the god offers council to Aeneas.⁶³² In the story of Horatius Cocles, the hero has the river ‘on the right and left as his defence’ and then saves him from drowning as he jumps into the river in full armour.⁶³³ In these examples, the Tiber is a boundary but firmly on the side of the Romans.

The Pons Sublicius was a space from which to look down on the god of the Tiber within sight of the place where Hercules and Aeneas landed in Rome, and where once a year on the ides of May the ritual of the *argei* was concluded. The ritual situated the bridge within the religious movement of the city and added a different set of meanings to the space. The reason for the ritual itself is somewhat obscure as accounts of its history varied across the sources. Lucius Cornelius Epicadus, quoted by Macrobius in the fourth century AD, describes Hercules dropping rush figures of men which represented the companions he lost on his travels into the river from the bridge (the Pons Sublicius) he built for that very purpose, so that the current

⁶³¹Livy 2.10 “*Tiberine pater,*” inquit, “*te sancte precor, haec arma et hunc militem propitio flumine accipias.*” Goldschmidt, 183-186; Ogilve, 1965; Roller, 2004. Livy places the event in a specific consular year which in his list refers to 504 BC and Dionysius of Halicarnassus puts it in the following year. On the chronology and confusion of the consular lists see Broughton, 1951, 1.6-7 and Cornell, 1995, 218-23 and 399-402 as discussed in chapter 3. On Livy and outstanding events see Feldherr, 1998. See note 56. Livy, 2.10 which is also mirrored in Virg. *Aen.* 8.72, when Aeneas calls to Father Tiber and in 10.421 in Pallas’s prayer to the god of the Tiber.

⁶³²Ovid *Fast.* 5.621-662, first century BC to early first century AD; Verg. *Aen.* 8.36-65, first century BC. Campbell, 2012 140-159; Holland, 1961; Le Gall, 1953b; Jones, 2005, 19-20.

⁶³³Dio. Hal. *Ant. Rom.* 5.22-24, and Livy above n. 572. except in the case of Polybius 6.55 where he drowns.

could take them home.⁶³⁴ Ovid recounted the story of the rush dolls as substitutes for the bodies of Hercules's homesick Argive chieftains, who stayed in Rome but wished their bodies to be returned to Greece.⁶³⁵ Varro also attributes the rite to the Argive chieftains but does not offer a reason for the figures.⁶³⁶ While Dionysius of Halicarnassus and Plutarch also connect the ritual to Hercules, but have the demi-god teaching the ancient people to throw effigies as the replacements for human sacrifices.⁶³⁷ Livy is the outlier, attributing the rites to Numa.⁶³⁸

Details of the ritual itself suggest it began on 16th or 17th March and culminated on 14th or 15th May when the *pontifices*, the Vestal Virgins, *praetors* and certain citizens processed around the 'twenty-seven shrines of the *argei*' collecting the *argei* or the straw figures.⁶³⁹ When the procession reached the Pons Sublicius the effigies were flung from the bridge into the Tiber to mark the culmination of the ritual. Once a year a procession of Rome's most important religious figures moved through the city, the priests wearing head gear which appeared conical, finishing the ritual on the Pons Sublicius.⁶⁴⁰ The rite was held in May when the Tiber was not in spate but was not yet low enough or slow enough to risk the figures floating around under the bridge rather than being swept down river. The seasonal aspect of the ritual created a sensescape which was associated with the ritual at the river; the produce on sale in the riverside markets in early May mixing with the pre-summer smells of the environment and the numbers of boats on the river.

⁶³⁴ Mac. *Sat* 1.11.47; an account by Lucius Cornelius Epicadus, freeman of Sulla in the first century BC, he states that Hercules built the Pons Sublicius. Fowler, *Fest.* pp. 54 and 111. For discussion see Palmer, 1970, 84-97; Coarelli, 1993; Carandini, 1997, 395-416.

⁶³⁵ Ov. *Fast.* 5.621.

⁶³⁶ Varro, *Ling.* 5.45; 7.44, first century BC; Enn. *Ann.* 2.2, second century BC, also attributes the rite to the people from Argos but does not offer a reason for the ritual itself.

⁶³⁷ Dion. Hal. *Ant. Rom.* 1.38, first century BC; Plut. *Quaest. Rom.* 32, late first to early second century.

⁶³⁸ Livy 1.21, first century BC. Holland, 1961, It has also been suggested as a rite to appease the god for the building of the bridge 313-31 though there is little evidence for this other than the connection with the *Pontifex Maximus*. See section 4.5 below.

⁶³⁹ Dion. Hal. *Ant. Rom.* 1.38 for the participants, though there is no indication of who the citizens were. Varro and Ennis both state twenty-seven but Dionysius of Halicarnassus lists thirty. Varro. *Ling.* 5.45 '*cum Argeorum sacraria septem et viginti in*' which were listed by Varro in his walk around the city and the *Argei* shrines Varro. *Ling.* 5.45-5.54; *Fest.* 14L; See Spencer, 2011, for Varro and movement around the city in relation to the shrines. Coarelli, *LTUR I, Argei. Sacraria*.

⁶⁴⁰ Varro, *Ling.* 7.44; Enn. *Ann.* 2.2.

The annual nature of the ritual itself reaffirmed the meshwork of connection between the shrines, the bridge and the religious figures who conducted the ritual. These flows of correspondence, at least from the first century BC, linked Hercules to the ritual and the Pons Sublicius through literary accounts and the indicators and references which were built into the urban landscape, understood and interpreted by the audience experiencing the ritual. On the east bank of the river, the Forum Boarium was adorned with reminders of Hercules; at the south end was *Ara Maxima* dating back to antiquity, the Temple of Hercules Invictus from around the second century BC, and further Temple of Hercules which was dedicated by Scipio Aemilianus around the middle of the second century BC.⁶⁴¹ The Etruscan temple from the Sant'Omobono site which dates from the sixth century BC, was decorated with images of Hercules being escorted to Olympus.⁶⁴²

The ritual of the *argei* was an experiential armature which was understood through a processional movement which culminated on the Pons Sublicius.⁶⁴³ The ritual itself could be experienced from the river, the banks and from the Pons Aemilius which offered a unique vantage point directly alongside the Pons Sublicius. The antiquity of the ritual was affirmed by the addition of Hercules and its location on the authentic and ancient wooden bridge.⁶⁴⁴ The location of the ritual also encompassed the *Cloaca Maxima*; the city's great sewer. Fritz Graf pointed out that throwing something into the Tiber was an act of purging for the Romans citing the Vestals annual disposal of their refuse into the Tiber in June, the disposal of the Campus Martius harvest into the Tiber after Tarquinius Superbus was deposed, and Elagabalus's body after his murder.⁶⁴⁵ Plutarch also cites the *argei* as 'the most important

⁶⁴¹ *Ara Maxima* Tac. Ann. 15.41; Verg. *Aen.* 8.270. Temple of Hercules Invictus as an Aemilian Temple Plin. *NH.* 35.19 Coarelli, 1988, 164-180.

⁶⁴² Cornell, 2000; Davies, 2017, 63-64.

⁶⁴³ Building on the ideas of MacDonald, 1986, 5-17, 253-254. William MacDonald's 1986 work on the architecture of the Roman Empire is still mandatory reading for any student of Roman urban space. He was the first to recognise that architecture within could be connected to provide directed movement around the city and past major buildings. His concept of 'urban armatures' identified, though not implicitly, how connective structures could create social identity and a sense of familiarity outside of their immediate surroundings, in other towns around the Empire.

⁶⁴⁴ Connerton, 1989, on processions and embodied movement, Rüpke, 2012.

⁶⁴⁵ Graf, 2000, 100-103. On the Vestals, Ov. *Fast.* 6.713; Superbus, Livy, 2.5; Dion. Hal. *Ant. Rom.* 5.13; Plut. *Publ.* 8; Hist. Aug. *Elag.* 17. Also Le Gall, 1953, 83-95.

Roman cathartic ritual' which Fritz convincingly argues, connects the ritual to a citywide purging.⁶⁴⁶

The two bridges as the place '*inter duo pontes*' were also connected to another form of purging as the place where wolf fish were caught. In satires the of Horace, Juvenal and Macrobius the fish were represented as feeding directly from the mouth of the *Cloaca* or more literally the from the waste of the city.⁶⁴⁷ Both Horace in the first century BC and Juvenal in the early second century AD depict the prized Tiber fish as feasting from the sewer. Juvenal is emphasising that the fish swam right up to the Subura to feed 'a Tiber fish [...] bloated from the gushing sewer, who knows his way right into the drain under the middle of the Suburae.'⁶⁴⁸ The wolf fish which are found '*inter duo pontes*' were literally as well as figuratively sustained by the vice and gluttony of the city; by the decay of its moral institutions.⁶⁴⁹ Macrobius also takes up the comparison in the fifth century AD, emphasising that the fish must be caught '*inter duo pontes*' in order for them to represent an authentic meal from the city. Thus assigning the space between the two bridges a role in the creation of a place which represented a genuine area of the city, where the purification of the city happens not just in ritual but through the literal excess of the city.⁶⁵⁰ The comparison of the purging of the city into the between place of the bridges creates a juxtaposition between the satirical references to the sewers and their perception as significant technical innovations and sources of pride for

⁶⁴⁶ Plut. *Quaest. Rom.* 86. 284 F. Graf, 2000 and Fowler, 2009, 84-97. Ziolkowski, 191-218; Degrassi, 1963, 458; Orlin, 2011, 58.

⁶⁴⁷ Hor. *Sat.* 2.2.29-35. Mac. *Sat.* 3.16.12-13 '*ostendit scire se hunc piscem egregii saporis qui inter duos pontes captus esset, eumque quasi ligurritorem catillonem appellat, scilicet qui proxime ripas sterco insectaretur.*' The placement of the two bridges advocated in this thesis the Cloaca Maxima is on the downstream side of the Pons Sublicius which does not put the drain between the two bridges. Discharge from the drain would fan out around the area depending on the speed of the water. In the summer, the residue from the Cloaca would be removed far slower by the movement of the river than in the winter months when the water ran faster and high. Give a rhythm to the scent and sensory nature of the river around the bridges.

⁶⁴⁸ Juv. *Sat.* 5.103-6 '*aut glaucis sparsus maculis Tiberinus et ipse vernula riparum, pinguis torrente cloacaet solitus mediae cryptam penetrare Suburae*'

⁶⁴⁹ Courtney, 2013, 209-210; Gower, 2013, 25; Wilkins, 2006, 57, 155; Duggan, 2018, 145-147, the space between the two bridges as an allegory of Rome.

⁶⁵⁰ Mac. *Sat.* 3.16 11-18 '*qui inter duos pontes captus fuit?*' Macrobius was writing in the fifth century AD but drawing on both the second century BC orator C. Titius and his satirist Lucilius. Gowers, 1992, 29-30, argues that the sewer in satire was a metaphor for the body, the sewer being the gut. Scobie, 1986, 413 estimated 100,000 lbs of waste was being drained from the forum to the Tiber every day during the Imperial period in the area around the two bridges.

the Romans.⁶⁵¹ When Agrippa sailed into the *Cloaca Maxima* in a boat, the best vantage points would have been from the two bridges where the inhabitants of Rome could watch one of their most powerful men disappearing into the city's great drain, which was both a technical marvel and a place of purging for the city.⁶⁵²

The deposition of votives from bridges into the Tiber is a problematic issue. As detailed above we know that the state deposited votives on behalf of the inhabitants, but the evidence for individual votive deposition is far more elusive. Votive offering can take the form of many different things. Healing votives (in the image of body parts) are particularly recognisable and have been found in abundance along the Tiber.⁶⁵³ The association between offerings and bridges requires a concentration of finds directly below or in the vicinity of a bridge. People threw offerings into a river in the hope they will be carried away by the river, where they inevitable mingle with items which have fallen from boats or been carried down the river during flooding or dredging.⁶⁵⁴ It is plausible that a number of anatomical votives found in the riverbank between the Pons Aemilius and the Pons Fabricius are suggestive of people buying and depositing votives near or from the bridges, but any definitive connection has yet to be established.⁶⁵⁵

⁶⁵¹ Dion. Hal. *Ant. Rom.* 3.67; Cic. *Off.* 2.60; Strabo. 5.8. Edwards, 1996, 106.

⁶⁵² Dio Cass. 49.31 Plin. *NH* 36.28 as he cleared the *Cloaca*. Plin. *NH*. 36.24-28; Dio. Cass. 59.31. See Gowers, 1995 and Scobie, 1986 on the *Cloaca*.

⁶⁵³ Pensabene, et. al., 1980. Emma-Jayne Graham, 2017, explores the relationship between infant votives and the sensorium. Focusing on the experience of handling infant votives she explored their different aspects from size to the feel of their constituent material, concluding that the sensory experience of the votives was a vital part of the ritual performance. By adding the materiality and sensory aspects of the votives to her approach, Graham was able to demonstrate how the ritual process was defined not just by how the objects were used, but by how the body's sensorium related and understood those objects. This approach offered a new insight into the role of votives in shaping religious experience. The success of these works lies in their ability to utilise sensory studies as a new way to approach objects.

⁶⁵⁴ In Arles, France archaeologists have undertaken a detailed excavation of riverbed finds around the ancient port area, in the Rhone, and along the riverbanks through the city. Finds have been located in and around sunken ships but the variety and scatter of finds along the banks, attests to the heavy use of riverbank areas and the difficulties of assigning anything to a particular pattern of offering other than typologies. The finds in Arles are documented in Picard, 2009 and in one of the best museum experiences of urban underwater archaeology in the Musée de l'Arles et de la Provence antiques.

⁶⁵⁵ Le Gall, 1953b, 66-73, identified healing votives all along the Tiber. Pensabene et. al., 1980, esp. 10; anatomical votives have been dredged out of the Tiber, but only a few have been found on the island itself. Virg. *Aen.* 8.77-78 hints in the first century BC at the continuation of ritual offerings when Aeneas promises the Tiber that honour will always be paid, and offerings made. Le Gall, 1953b, 66-73, identified healing votives all along

Altars have been found on Roman bridges across the western empire such as those to Oceanus and Neptune discovered in the River Tyne near the site of the Roman Bridge the Pons Aelius.⁶⁵⁶ Altars would also have represented stopping points along the bridge the large numbers of coins and possible votive offerings found in proximity to the Roman bridge which crossed the river Thames in London, support this possibility.⁶⁵⁷ The act of stopping to drop votives created an inclusive social and ritual space on the bridge, where travellers were experienced the liminality of the movement they were undertaking. While the bridge transported them between the banks of two different sensescapes, it also moved people across a river which was venerated by the local inhabitants and respected by travellers. Combined with the tradition of river crossing and the vast array of votive practices associated with water, the continued presence of an active ritual crossing in the late Republic and early Empire is practicable.⁶⁵⁸

The continuation of ancient rituals relied on the longevity of the bridge which created and maintained continuity between the past and the present. The sensescape of the bridges, especially the wooden and ancient Pons Sublicius, enabled an element of liminality as the body travelled between two banks above the sacred river Tiber. The embodied experience of leaning over and throwing or watching people throw votives into the Tiber created an experience which situated the bridges within both the state and individual life of the city. The bridges were somewhere people could go to communicate with the river god and this added one element of meaning to the bridges form. In the case of the Pons Sublicius, a traveller could experience not just being on a bridge but being on *the* authentic bridge.

the Tiber. Pensabene et. al., 1980, esp. 10; anatomical votives have been dredged out of the Tiber, but only a few have been found on the island itself. Virg. *Aen.* 8.77-78 hints in the first century BC at the continuation of ritual offerings when Aeneas promises the Tiber that honour will always be paid, and offerings made.

⁶⁵⁶ Galliazzo, 1995 for a list. The Newcastle bridges RIB 1320; RIB 1319. Backe-Forsberg, 2005, 155-56.

⁶⁵⁷ Watson, Brigham, Dyson, 2001.

⁶⁵⁸ Semple, 2009. On ritualised boundary crossing see Campbell, 2012, 18 on taking the *auspicia peremnia* which was required when crossing the river that may have a divine origin. Though it is uncertain how long this ritual lasted or if it applied to anyone crossing. Campbell, 2012, 130, 143, states that observance of sacred rites related to rivers was practiced more frequently by rural people than those in the city, giving them a different perception of river crossing. See Holland, 1961, on the Janus and ritual crossing though the link between Janus and the wooden bridge is tenuous.

4.5. Pontifex Maximus

A chapter on the socio-cultural meaning of bridges in Rome would not be complete without a consideration of the relationship between the bridges and the *Pontifex Maximus*.⁶⁵⁹

‘The last branch of the ordinances of Numa related to the sacred offices allotted to those who held the highest priesthood and the greatest power among the Romans. These, from one of the duties they perform, namely, the repairing of the wooden bridge, are in their own language called *pontifices*; but they have jurisdiction over the weightiest matters.’⁶⁶⁰

The most senior member of the priesthood, described by Dionysius of Halicarnassus above, was the *Pontifex Maximus*, an elected role held until the incumbent’s death. Under Augustus, the power of the *Pontifex Maximus* was transferred to the emperor and the position became more akin to that of a high priest.⁶⁶¹ The earliest surviving reference to the *pontiffs* as bridge builders comes from Varro in the first century BC:

‘The *pontifices* ‘high-priests,’ Quintus Scaevola the *Pontifex Maximus* said, were named from *posse* ‘to be able’ and *facere* ‘to do,’ as though *potentifices*. For my part I think that the name comes from pons ‘bridge’; for by them the **Bridge-on-Piles** was made in the first place, and it was likewise repeatedly repaired by them since in that connexion rites are performed on both sides of the Tiber with no small ceremony.’⁶⁶²

From Varro, we learn that the *pontifices*, who have great power in Rome, are named for their role in the creation and maintenance of the Pons Sublicius.⁶⁶³ Both Varro and Dionysius of

⁶⁵⁹ Pontifices' and the bridge: Dion. Hal. *Ant. Rom.* 1.38, 2.73, 3.45.2, 5.24.1 and Varro *Ling.* 5.83; Plut. *Num.* 9.3; Sew. 2.166. Varro *Ling.* 7.44.

⁶⁶⁰ Dio. Hal. *Ant. Rom.* 2.73. ‘Τελευταῖος δ’ ἦν τῆς Νόμα διατάξεως μερισμός ὑπὲρ τῶν ἱερῶν, ὧν ἔλαχον οἱ τὴν μεγίστην παρὰ Ῥωμαίοις ἱερατείαν καὶ ἐξουσίαν ἔχοντες. οὗτοι κατὰ μὲν τὴν ἑαυτῶν διάλεκτον ἔφ’ ἐνός τῶν ἔργων ὁ πράττουσιν ἐπισκευάζοντες τὴν ξυλίνην γέφυραν ποντίφικες προσαγορεύονται, εἰσὶ δὲ τῶν’. See also Plut. *Num.* 9 on the role of the *Pontifex Maximus*.

⁶⁶¹ Beard, North, Price, 1998, 55, 188-192; Watson, 1992.

⁶⁶² Varro. *Ling.* 5.83. ‘*Pontifices, ut–Scaevola Quintus pontufex maximus dicebat, a posse et facere, ut po<te>ntifices. Ego a ponte arbitrator: nam ab his Sublicius est factus primum ut restitutus saepe, cum ideo sacra et ule et cis Tiberim non mediocri ritu fiant. Curiones dicti a curiis, qui fiunt ut in his sacra faciant.*’ It was Varro reconstructing what was known about the ancient cults of Rome and disseminating them in 16 volume work *Antiquitates rerum divinarum*; Zanker, 1988, 103.

⁶⁶³ Despite the opinion of the *Pontifex Maximus* Quintus Mucius Scaevola, who had the misfortune to be the first *Pontifex Maximus* to be publicly murdered therefore making it easier for Varro to disagree with his argument,

Halicarnassus refer to the role of the *pontifices* in relation to the maintenance and repair of the bridge; Varro and Plutarch reference the rites which were also required to be performed on both sides of the banks, though details on the nature of the rites are omitted. Plutarch writing in late first and early second centuries AD is more sceptical of the connection though he confirms that ‘most writers’ accepted that the title reflected the role of the *pontifices* in the rites performed at the Pons Sublicius.⁶⁶⁴

‘But most writers give an absurd explanation of the name; Pontifices means, they say, nothing more nor less than bridge-builders, from the sacrifices which they performed at the bridge over the Tiber, sacrifices of the greatest antiquity and the most sacred character; for “pons” is the Latin word for bridge. They say, moreover, that the custody and maintenance of the bridge, like all the other inviolable and ancestral rites, attached to the priesthood, for the Romans held the demolition of the wooden bridge to be not only unlawful but sacrilegious. It is also said that it was built entirely without iron and fastened together with wooden pins in obedience to an oracle.’⁶⁶⁵

The evidence provided by Plutarch also verifies that even in the late first and early second centuries AD the rites attached to the bridge were considered ancient and sacred and furthermore that the removal of the Pons Sublicius was considered sacrilegious.⁶⁶⁶ In the perception of the Romans from the first century BC to at least the second century AD, the Pons Sublicius was an ancient structure which when damaged or repaired required the

Spencer, 2019. Also reiterated by Servius in his commentary on *Aeneid* 2.166 where the songs of the *Salii* connect the title of pontifex with the Pons Sublicius. Hallett, 1970, 219-220. Epigraphically it is difficult to connect the *Pontifex Maximus* directly to bridges as the title was used widely, especially by the emperors, as a dedication for inscriptions which adorn a multitude of structures, see Lott, 2013, 187 for an example and Keppie, 1991,44-47.

⁶⁶⁴ For the influence of Varro on Plutarch see Stadter, 2014, 16.

⁶⁶⁵ Plut. *Num.* 9, ‘ἀν δὲ ἧ τι κώλυμα μεῖζον, οὐ συκοφαντοῦντος. οἱ δὲ πλεῖστοι μάλιστα καὶ τὸ γελώμενον τῶν ὀνομάτων δοκιμάζουσιν, ὡς οὐδὲν ἄλλ’ ἢ γεφυροποιούς τοὺς ἄνδρας ἐπικληθέντας ἀπὸ τῶν ποιουμένων περὶ τὴν γέφυραν ἱερῶν, ἀγιωτάτων καὶ παλαιοτάτων ὄντων· πόντεμ γὰρ οἱ Λατῖνοι τὴν γέφυραν ὀνομάζουσιν. εἶναι μέντοι καὶ τὴν τήρησιν αὐτῆς καὶ τὴν ἐπισκευήν, ὡς περ ἄλλο τι τῶν ἀκινήτων καὶ πατρίων ἱερῶν, προσήκουσαν τοῖς ἱερεῦσιν. οὐ γὰρ θεμιτόν, ἀλλ’ ἐπάρατον ἠγεῖσθαι Ῥωμαίους τὴν κατάλυσιν τῆς ξυλίνης γεφύρας. λέγεται δὲ καὶ τὸ πάμπαν ἄνευ σιδήρου κατὰ δὴ τι λόγιον συγγεγομφῶσθαι διὰ τῶν ξύλων. ἢ δὲ λιθίνη πολλοῖς ὕστερον ἐξειργάσθη χρόνοις ὑπ’ Αἰμίλιου ταμιεύοντος.’

⁶⁶⁶ Wisemen, 2008, 262-270; Hallett, 1970, 219-227 argues that the derivation of the word *pons* hints that the early bridge builders were celebrated for creating a path over a dangerous and sacred divide though. See also Galliazzo, 1994, 2.26.

performance of ancestral rites by the most powerful religious figures in Rome.⁶⁶⁷ As far as the evidence attests these rituals were not associated with any other bridges in Rome, they were unique to the Pons Sublicius. For the *Pontifex Maximus* and the college of *pontifices* this meant that every time the bridge was damaged they had the opportunity to perform a series of public rites in one of the most open and busy places in the city and renew and reaffirm their connection with the spaces of one of Rome's most ancient ancestral customs. Varro experienced several different holders of the title of *Pontifex Maximus* including Julius Caesar, and lived during a period of turmoil when there was also a concern for the neglect of religious rites within the city; despite these issues both Varro and Dionysius of Halicarnassus attest to the continuation of the rituals at the bridge.⁶⁶⁸

At this juncture, it is worth again emphasising the sensory nature of the bridge spaces. Seneca provided a sensory description of the fall of the Pons Sublicius as Cocles held the bridge 'the crash of the beams, as they collapsed with a huge fall, rang in his ears.'⁶⁶⁹ On each occasion when the *Pontifex Maximus* renewed the rites of the bridge, the structure had been damaged or had fallen. The inhabitants of Rome would have been familiar with the sound of the wooden bridge in relation to the stone when the Tiber was in spate. The noise of the river would have increased exponentially, and the colour of the river was turned yellow from the multitude of swirling silt brought down the river in ever increasing yellow waves.⁶⁷⁰ The wood from which the bridge stimulated a panoply of experiences; the haptic, kinaesthetic, auditory and visual

⁶⁶⁷ Dion. Hal. *Ant. Rom.* 3.45.2; Varro. *Ling.* 5.83 (on both sides of the bridge); Plut. *Num.* 9.2; Plin. *NH.* 36.23.100; Griffiths, 2009, 313; Orlin, 2011, 58.

⁶⁶⁸ For the neglect of religion in the first century see section two and four. It is likely the bridge needed frequent repairs but the only testimony available is linked to flooding. Livy, 35.21 for 192 BC; (I do not include Julius Obsequens testimony for 156 BC as it does not refer to a bridge, see chapter 3, section 2); Dio Cass. 37.58 for 60 BC; 50.8 – 32 BC; 53.33 – 23 BC; 55.22.3 – AD5; Tac. *Ann.* 1.86 for 69 AD. Thirty-nine major floods documented in Rome between 414 BC and AD 398, of these only seven accounts mentioned the destruction of bridges and all but one the Pons Sublicius.⁶⁶⁸ Four out of the seven references to the destruction of the Pons Sublicius come from one author, Cassius Dio which makes the range of evidence limited see Millar for the most comprehensive discussion of Cassius Dio's work. See also Gowing, 1992, 28-31, for Dio's use of portents. Cassius Dio's career spanned from Commodus to Severus Alexander, he experienced nine emperors. He was from an elite background and had a good career; awareness Rome was on the edge of decline, see Millar, 1964.

⁶⁶⁹ Sen, *Ep.* 120.7-8 '*dummodo iter hosti auferretur, iussit et tam diu prementibus restitit, donec revulsa ingenti ruina tigna sonuerunt*'

⁶⁷⁰ Experience includes the yellow waves '*vidimus flavum Tiberim*' we saw the yellow Tiber Hor. *Carm.* 1.2.1-20. During the food of 44 BC though date of the flood is contentious see Aldrete 22. Virgil *Catalepton* 13. 21-26.

were aware of the wooden bridge's susceptibility and vulnerability to the Tiber's natural rhythms. Stepping out onto the wood during these periods would be an act of bravery; debris hitting the bridge and the stresses of the water on the bridge piles would reverberate through the structure.⁶⁷¹ These experiences would have been at the forefront of the mind of those watching the rites and placing the bridge within the correspondence of a city in flood.

The earliest reference to the destruction of the bridges comes from Livy who states that in 192 BC two bridges were destroyed flooding during the time Publius Licinius Crassus Dives was *Pontifex Maximus*. This is likely to have been one of the last times the rites were observed before the introduction of the Pons Aemilius and when the destruction of the bridge interrupted easy access to the western bank until it was reinstated.⁶⁷² The destruction of the wooden bridge in 60 BC fell within the period that Julius Caesar was *Pontifex Maximus*, and he was in Rome during that same year to run for consul.⁶⁷³ It is plausible, and indeed likely, that while campaigning for consul, he performed the sacred rites which accompanied the rebuilding of the Pons Sublicius. The rebuilding of the bridge enabled Julius Caesar to connect himself to the original bridge builder tradition which was understood and interpreted within the lived spaces of the bridge. However, he was also able to exploit the connection and create a newly conceived bridge space which corresponded with the urban space of the Pons Sublicius.

During his Gallic campaign Julius Caesar decided to cross the Rhine:

'Caesar had decided to cross the Rhine; but he deemed it scarcely safe and ruled it unworthy of his own and the Romans' dignity, to cross in boats. And so, although he was confronted with the greatest difficulty in making a bridge, by reason of the breadth, the rapidity, and the depth

⁶⁷¹ Griffiths, 2009, 315-319 for a detailed discussion of the possible portentous connotations of the destruction of the Pons Sublicius by the Tiber. Verg. *Geor.* 3.77-79; Sen. 95, Col. Agr. 6.29. Virgil, Columella and Seneca all extol the virtue of horses which will cross an unknown bridge without hesitation.⁶⁷¹ Horses are particularly sensitive animals and their instincts tell them at walking from solid ground onto a hollow, creaking structure is fraught with danger. Sensory cues are the same for people, unreflectively warn us if a familiar wooden bridge is safe to cross but highlights the different sensory nature of the bridges.

⁶⁷² Livy, 35.21 '*Tiberis infestiore quam priore anno impetu illatus urbi duos pontes*', the Pons Sublicius is not specifically referenced but it is likely to have been one of the two bridges damaged. For the *Pontifex Maximus* Livy, 25.5 and 39.46; Broughton, MRR1, 271, 381.

⁶⁷³ Broughton, MRR2, 171, 172 (n. 3), 333. Vell. Pat. 2.43; Plut. Vit. *Caes.*7; Suet. Iul. 13. For the flood Dio Cass. 37.58.

of the river, he still thought that he must make that effort, or else not take his army across. He proceeded to construct a bridge on the following plan.⁶⁷⁴

He then goes on to describe, in considerable detail, his construction of the wooden bridge which he used to cross the river and its subsequent removal. Placed within the context of the rites he had performed at the Pons Sublicius five years earlier, his description of constructing a wooden bridge to maintain the dignity and power of the Romans can be connected back to the lived spaces of Rome's most sacred bridge and the role of *Pontifex Maximus* as 'bridge-builder'. Caesar created a conceived space of Roman power and identity, which was both physical and embodied within the sacred space of Rome's ancient bridge. The inhabitants of the city hearing or reading about Caesar's exploits would have connected their experience of him fulfilling his duties as *Pontifex Maximus* at the Pons Sublicius, and his creation of a bridge in a distant province.⁶⁷⁵

Breaking down a bridge was a recognised tactic in the Roman military sphere, but it had symbolic ramifications. In the case of Horatius Cocles, the removal of the bridge had been redeemed by his willingness to sacrifice himself for the safety of the city. Livy recounted that in the fourth century BC when the Gaul's encamped on the far side of the Anio river and the Roman army encamped on the opposite side 'neither side would break it down, lest it be regarded as a sign of fear'.⁶⁷⁶ In the first century AD, Tacitus narrated the story of Agrippina the wife of Germanicus who stopped the panicked Roman forces from breaking down the Rhine bridge and isolating Germanicus in Germany. The removal of the bridge would have represented a disgraceful and shameful incident for the Roman legions had she not protected the bridge by standing at its head praising the legions as they returned.⁶⁷⁷ In the case of Caesar,

⁶⁷⁴Caes. *B. Gal.* 4.14-19 The contents of which were read out to the inhabitants of Rome. Caes. *B. Gal.* 4.14, 'Caesar his de causis quas commemoravi Rhenum transire decreverat; sed navibus transire neque satis tutum esse arbitrabatur, neque suae neque populi Romani dignitatis esse statuebat. Itaque, etsi summa difficultas faciendi pontis proponeretur propter latitudinem, rapiditatem altitudinemque fluminis, tamen id sibi contendendum aut aliter non traducendum exercitum existimabat. Rationem pontis hanc instituit.'

⁶⁷⁵ See section 3 of this chapter on the Julius Caesar and the bridge.

⁶⁷⁶ Livy, 7.9 'Pons in medio erat, neutris eum rumpentibus, ne timoris indicium esset.'

⁶⁷⁷ Lacey, 2012, 39. Tac. *Ann.* 1.69; Tac. *Hist.* 4.26; On rivers as barriers to military crossing (the stories of which are where bridges are mentioned most frequently) Diod. 20.38 early 308 BC; Dio Cass. (Zon) 8.23; Stat. *The.* 7.426; App. *Hist.* 6.88

as the chief priest of Rome, he builds a bridge and then removes it to display the power and character of the Roman state.

After the death of Julius Caesar, Lepidus became the *Pontifex Maximus* and may have presided over the rituals in both 32 BC and 23 BC when the bridge was destroyed.⁶⁷⁸ Augustus's opportunity came in AD 5 after he had been *Pontifex Maximus* for seventeen years.⁶⁷⁹ As discussed above Augustus was already associated with the Pons Sublicius through his appropriation of the *exempla* of Horatius at the bridge, but he also associated himself with bridge building both along the Via Flaminia and in the Provinces.⁶⁸⁰ Undertaking the rites would also have connected him experientially through the inhabited place of the bridge to Julius Caesar, who was a holder of the sacred office and a deity.

The meshwork of the Pons Sublicius encompassed the ancient and Republican traditions, but it was also continued into the empire. Vespasian was the *Pontifex Maximus* who presided over the reconstruction of the Pons Sublicius after the instability and destruction of the civil war after the death of Nero. It may well have been one of the new emperor's first opportunities to demonstrate to the people of Rome that the city would be renewed, and traditions honoured.⁶⁸¹ The Pons Sublicius was recognised for its antiquity and place in the ritual of the *argei* and its unique and sacred nature in the rituals of the Pontifices and the Horatius legend.⁶⁸² Antoninus Pius brought the physical representation of the Pons Sublicius and Horatius back to the forefront of social awareness, with a medallion which featured the bridge, instituting a renewal of traditional values.⁶⁸³ The bridge also required restoration during the reign of Antoninus Pius, connecting the second century AD emperor with a succession of powerful bridge builders, and the values of the past. The bridge became a

⁶⁷⁸ Broughton, MRR2, 333. For the flood of 32 BC Dio Cass. 50.8 and 23 BC Dio Cass. 53.33; Galinsky, 2005, 14-15.

⁶⁷⁹ From 12 BC Augustus held the title of *Pontifex Maximus* which was then held by every Emperor down to Gratian, who refused the title in the fourth century AD. For the flood see Dio Cass. 55.22.

⁶⁸⁰ Cooley, 2009, 196-197. *Res. Gest.* 20.5.

⁶⁸¹ On the flood Tac. *Hist.* 1.86. Tac. *Hist.* 1.86. Gowing, 1992 19-25.

⁶⁸² Spencer, 2019, 141-142.

⁶⁸³ Rowan, 2012; Gneccchi, 1935, II p. 9 no. 1-3. A medallion struck in 140 and 144 AD depicts the story of Horatius and is the only image which can be securely linked to the wooden bridge. The Medallion was part of a series celebrating ancient Roman traditions. The restoration is also mentioned in the *Hist. Aug. Anton. Pius.* 8.2. A Medallion of Marcus Aurelius from 180 AD which is a possible with the river god *Tiberianus*.

physical connection with the past, it enshrined the layers of history through its meshwork of correspondence, each story when adapted and retold further strengthened the perception of the bridge as an ancient and meaningful thing within the city.⁶⁸⁴

Despite the emperors holding the title of *Pontifex Maximus* it was not until Hadrian that an emperor built a bridge across the Tiber in Rome. If the bridges could be such powerful tools of propaganda and change, why were no more Tiber bridges built by the Emperors in Rome?⁶⁸⁵ The answer lies partially in the effect of bridge building on the river, as discussed in chapter 1, section 4,6, more bridges meant added pressure to the river and an increased risk of flooding within the city; to be effective and popular, a bridge needed to fulfil a citywide need for increased movement between the banks of the river (Pons Sublicius, Pons Mulvius), or provide a technical innovation (Pons Aemilius). Hadrian's bridge (the Pons Aelius) was something of an outlier as it was designed to provide a direct line of movement between his mausoleum and the Campus Martius, rather than to aid movement flow within the city, but ultimately it became a major route.

The other factor lay in the control of the provinces and the spread of the imperial cult; The emperors began to add bridges across the provinces in a show of power and munificence; bridges provided towns with a reliable and efficient way to cross a river, but also reminded local inhabitants of the power and presence of Rome. Julius Caesar famously, built a bridge across the Rhine to intimidate the local Germanic population, Augustus repaired and rebuilt the bridges along the Via Flaminia and Tiberius built a bridge in Rimini. Trajan outshone all the past emperor, turned his foray into bridge building into a triumph of Roman engineering over nature, spanning the Danube and covering a huge 1135 metres and requiring twenty piers; a feat which he celebrated on his Column in his Forum in Rome.⁶⁸⁶ The Emperors of Rome did not need to build bridges in the city when they had an empire which needed prominent symbolic structures to demonstrated their power, strength and superiority.

⁶⁸⁴ Miles, 1995, 117-118. Reminds us that many of the appeals to *maiores* are partisan in nature. It is still an appeal to the social memory of the city and be part of the experience of the bridge.

⁶⁸⁵ O'Connor, 1993, 138-139; Hölscher, 2008. *Caes. B. Gal.*

⁶⁸⁶ Dio Cass. 68. 13; Galliazzo, 1994,319. Two of the piers can still be seen at low water today, and a number are still in situ on the river bed.



Figure 37: An image of the Danube bridge on Trajan's Column. Image: Conrad Cichorius, Public Domain.

The continuation of ancient rituals represented an invention of tradition which focused on the material and longevity of the bridge to re-create and retain a continuity of practice which linked the community to its past.⁶⁸⁷ The meshwork of the bridge gathered the ritual, and the citizenship to create a collective and recognisable tradition embodied within a set of cyclical rituals.⁶⁸⁸ The Pons Sublicius represented a place which retained elements of the past while repeatedly renegotiating its role to suit the current needs of Roman society.⁶⁸⁹ The presence of the Pons Aemilius enhanced the rituals performed at the bridge; against the stone structure, the Pons Sublicius continued to embody the ancient and rustic past. It was the bridge which belonged to the city, it was never attributed to anyone but continued to be known by its original descriptive name. The wooden bridge was a part of the city's history and

⁶⁸⁷ Hobsbawm and Ranger, 1983, 1-14

⁶⁸⁸ Heidegger, 1971, 150-151.

⁶⁸⁹ Semple, 2011, 757.

retained a name which reflected that status both the myth and symbol were associated together in the spaces of the bridge.⁶⁹⁰

4.6. Conclusions

The early city of Rome had a single wooden Tiber bridge; the materiality of the Pons Sublicius was familiar and represented the habitual for the citizens of Rome. In the second century BC things changed, expeditions to the east and west created a new perception of what a city and a bridge could be; spatial alterations of the Forum Boarium commenced, and a new stone bridge was added alongside the wooden one.⁶⁹¹ The Pons Sublicius was a bridge with a past in which heroic deeds and rites were performed on its decks, but the addition of the Pons Aemilius changed the perception of the old bridge; it became ancient. As an ancient and authentic representation of the Roman past located within the spaces of the present city, the juxtaposition of the bridges had power through the possibilities of appropriation. The bridge's materiality created a correspondence for every person who experienced them, the rustic wood of the past, the place where Horatius stood between the city and the other; against the solid stone of progress and elite power.

The wood from which the bridge was constructed reinforced traditions by stimulating a panoply of sensory experiences; the sound of the water beneath, the change of tone between the road and bridge surface, the feel of the wood, all intertwined to frame the travellers experience of being, not just on the bridge but on *the* (authentic) bridge. The experience of the body on a bridge and in the space beyond held a multiplicity of socially constructed meanings. The very act of crossing a bridge and experiencing the transition from one sensescape to another created a sense of liminality, a between space which could represent the difference between the sensescapes of the east and west banks, of the 'between' the Romans and other cultures and even the industry of each bank.⁶⁹²

In the socio-cultural life of Rome, the Pons Sublicius and the Pons Aemilius created a betweenness of place which enabled the Pons Sublicius to become ancient. While the focus of

⁶⁹⁰ Lefebvre, 1991, 118.

⁶⁹¹ See chapter 3 for a detailed assessment of the different spatial processes for each bridge.

⁶⁹² Merleau-Ponty, 2012. Lefebvre, 1991, 220-223.

meaning was centred on the Pons Sublicius as the ancient and sacred bridge it only ‘became’ the Roman bridge when the Pons Aemilius was introduced, before that it was still an ancient bridge, but it was not the embodied space of between recounted by the sources from the first century BC. Embodied perception has a sphere of knowledge which is consciously or unconsciously available, enabling the temporal aspect of the meshwork to include things and literature.⁶⁹³ Studying the sensory and spatial elements of the bridges uncovers the material and temporal elements which enabled Julius Caesar, Augustus and Antoninus Pius to appropriate the bridges for their own political agendas.

Moving through the city, perception is evoked by cues such as the bridge and the statue of Cocles or by a recent literary recounting of the deed enabling the past to unfurl and renew as the city is experienced anew.⁶⁹⁴ Every year the bridges with their associated meanings became the focus of collective action during the ritual of the *argei*, altering the daily rhythms of the space to accommodate ritual movement, enabling the correspondence between the temporal flows of the meshwork. People watching from the Pons Aemilius would have experienced an ancient ritual being undertaken on the authentic bridge in the same place as it had been conducted since the beginnings of the city. Literary sources do not preserve a quantifiable truth, what they do is to preserve the perception of the events and stories as they were understood through their present; the bridge was the physical connection to the past, a past which shaped the identity of the present.⁶⁹⁵ Multiple overlapping rhythms of movement, both around the bridge and across the city were in constant correspondence, shaping and connecting perception whether it was moving between the statue of Cocles in the Forum or

⁶⁹³ On habit see Connerton, 1989, 95.

⁶⁹⁴ Merleau-Ponty, 2012, 23. The temptation was to use the term embodied memory but that has already been used for example Connerton, 1989, who focused more on ritual performance rather than the more adaptable form of experiential memory as advocated by Merleau-Ponty. The problem is that if we separate out memory from the embodied experience, we are splitting out an element of the whole which rather undermines the argument for a unity of perception. Memory is as ubiquitous a term as sight in the western world so attempting to discuss *memoria* or the past without reference to memory can become confusing for the reader. Therefore, experiential memory will be used occasionally and only for clarity and emphasis; this thesis maintains that experience including the senses and memory is a unified thing and should be treated as such.

⁶⁹⁵ Holliday, 203-204; Wiseman, 1986 on not assuming the statue existed until the beginning of the literary tradition. Merleau-Ponty, 2012, 159 and 248 on the momentum of existence and the focus on tasks.

the *arcei* around the city. All the cues within the city were gathered within the hub of the Pons Sublicius but experienced and interpreted through the spaces of the Pons Aemilius.⁶⁹⁶

⁶⁹⁶ Lyon, 2017, 39.

5. Perceiving a Change: The Monumental Bridges of Rome

The final research question posed by this thesis focuses on how the monumentalisation of Rome's bridges helped to frame and alter the perception of the city. This chapter focuses on how bridges were appropriated to reconceive existing space; it will demonstrate how the addition of writing or statuary to a bridge changed it from a functional structure to a complex conceived space, which was able to retain and reflect a multiplicity of meanings within the spaces of the city. Monumental 'things' are permanent in their physical form but mutable in their meaning, they connect multiple temporal (historic) layers of the city to its present socio-cultural life. When Augustus added his image to the Pons Mulvius he appropriated and preserved its Republican foundations to create a new experiential place which would set the tone for all travellers into and out of Rome's northern gateway.

This chapter brings together all the elements of the methodology discussed in the previous two chapters. The spatial triad (perceived, conceived and lived), embodied perception and the temporal meshwork. In this chapter, we move forward to analyse how the bridges were used as a tool in the transformation of the experience of the city. The monumentalisation of the bridges was not about looking to the past to find meaning in the present, but about creating new meaning for the present. The concept of the unity of perception or the background of the embodied experience, is a crucial component in this discussion, it demonstrates how the addition of inscriptions and statues can change the meaning of the bridges within the urban spaces of the city. Throughout this chapter, monumentality is defined by its conceived and lived spaces, and as the creation of something which goes beyond the requirements of its functionality. The monumentalisation of the bridges recreated their functional form to engender meaning within the socio-cultural life of the city and rebecoming through the addition of writing or statuary.

5.1. Moving Beyond Functionality

Today the term monumentality is associated with architectural form, especially regarding size, and is seen as one of the defining characteristics of urban development.⁶⁹⁷ The Romans,

⁶⁹⁷The Oxford English Dictionary lists the adjective monumental as something of 'great importance, extent or size and of or serving as a monument' and the noun monument as 'a statue, building, or other structure erected

Meyers stated, understood monumentality in terms of ‘durability, visibility, and commemoration,’⁶⁹⁸ all of which were elements of conceived space, specifically designed to be experienced through size, inscription and adornment, all constituents found in the city’s monumental bridges.⁶⁹⁹ The description is also a reflection of the predominance of visual language within the discussion and appreciation of architectural and monumental form in the west, both in the past and in the present. However, monumentality is, like life, not simply a visual experience; it represents some of the most influential and meaningful aspects of the urban environment. Monumental structures became a way point in the perception and physical understanding of a city, their commanding presence and durability made them familiar and influential places.⁷⁰⁰

Monumental bridges were about retaining relevance within the present iteration of the city.⁷⁰¹ They were conceived to memorialise but played a role in the production and reproduction of identity and ideology within its inhabited spaces, by evoking elements of the past within a familiar place they repeatedly reaffirmed communal identity and knowledge within the present. The monumental bridges of Rome were built to frame and interact with their present city, but they were also built to last which, in modern thinking, often situated them as structures which were designed to be in correspondence with the future. However,

to commemorate a notable person or event’. Both terms are derived from the Latin word *monumentum* which itself derives from the verb *monere* to remind, though there was no exact match for the word monumental in Latin. For an in-depth discussion of the changing meaning of the term monumental from the ancient to the modern world see Thomas, 2007, 1-14. In the modern world the concept of monumental covers a diverse set of things from statues and temples, tombs, and fountains to recordings. Monumental and monument are often seen as interchangeable and convey commemoration, size, and significance but Osborne, 2014, 4 argued that the term monument and monumentality should be treated separately. His definition can be stated in terms of the Lefebvre framework as he states monument is associated with ‘an object, or suite of objects that possess an agreed upon meaning to a community of people’ conceived space, while monumentality is situated within a things ‘becoming’ it gains meaning from its active use and discourse within a community of people making it a lived space.

⁶⁹⁸ Meyers, 2012, 2.

⁶⁹⁹ The Pons Sublicius is not considered, in this thesis, to be monumental; it was not built to be visual, commemorative or durable, as the stone bridges were, it was built to fulfil a task and became historically important. The Pons Sublicius was meaningful rather than monumental.

⁷⁰⁰ Monumentality has an equally important role within the rural landscape but one that is significantly different to that of urban space and is not the focus of this thesis.

⁷⁰¹ Trigger, 1990, 119-129. On the modern use of monuments as power symbols, cultural taste objects ‘symbolic capital’ Bourdieu, 1977, 1984, 71-77. See chapter 4 for a discussion of the socio-cultural memory.

it was not the future for which these planned spaces were constructed but for the continuation of the present; conceived spaces are created for a specific purpose but the minute they are inserted into the landscape they become fluid, continually adapting to the city's political and social needs. The builder or patron of a monumental construction needed to make sure his memorial retained a relevance within each present iteration of the city; once a pattern of movement is created by a bridge it is likely it will be maintained for a considerable period of time, which means that the monumental bridges offer a multitude of possibilities for appropriation.

Permanence or perceived permanence was one of the defining elements of the monumental within the urban environment.⁷⁰² Solid materials such as stone or marble were associated with stability and endurance from the point of construction. They provided a lasting repository and a framework for Rome's socio-cultural history which was experienced and became familiar as the inhabitants move through the city.⁷⁰³ To be effective, monumental things needed to be in busy and well-connected space (e.g. *fora*) which had the ability to gather and sustain a regular rhythm of movement of both *through* and *to* movement.⁷⁰⁴ Rome was made up of multiple celebrated and busy spaces and while there is no reference in the literary sources to bridges as *locus celeberrimus* (highly integrated spaces of movement and renown) but the Pons Sublicius, Pons Aemilius and the Pons Agrippae all adjoined onto these busy spaces.⁷⁰⁵ The Tiber was also one of the city's busiest and most meaningful spaces and one of its many advantages was its open sensescape.⁷⁰⁶ The Tiber's spaces offered possibilities for monumental bridges to connect physically and experientially with people on

⁷⁰² Harvey, 1996.

⁷⁰³ See chapter 4 on the ability of the bridges to retain meaning and bridge the past into the present.

⁷⁰⁴ Newsome, 2010, 3, 35, 47-81; 2008, 25-39; Gros, 1976; Trifolo, 2011; Laurence, 2013, on roads as busy spaces. For the Forum Boarium Hor. *Sat.* 2.3.228; Livy, 27.37 Ov. *Fast.* 6.477. For the areas on the east of the Pons Agrippae see 5.4 below. Newsome, 2010, 2009, 32-34, 49 based on Varro's statement, Varro *Ling.* 5.11, 12,15; that a place is where movement takes a person, it is where things standstill. Varro then contradicts this by stating that motion is also an intrinsic part of place.

⁷⁰⁵ For an insightful and detailed discussion on the use of the term *locus celeberrimus* and its meaning in Roman cities see Newsome, 2010, 36-83.

⁷⁰⁶ Hamalakis, 2013, 168.

both banks of the river, from the other bridges and the surrounding hills.⁷⁰⁷ The triumphant return of Aemilius Paullus in 168 BC took full advantages of the experiential qualities of the river, sailing a Macedonian Royal Galley slowing up the Tiber enabling huge crowds to witness and participate in the spectacle by following along the riverfront.⁷⁰⁸ The experiential benefits, mutability and permanence of the monumental bridges enabled them to be appropriated and adapted to fit new political and social needs, while retaining their connection to the past making them influential structures within the spaces of Rome.⁷⁰⁹

5.2. Written Spaces: The Inscriptions on the Bridge

The primary aim of monumentalising a bridge was to create something durable which would immortalise the originator of its conceived space. However, over time that space was open to appropriation and alteration, so how did the creator of a bridge in the busy urban spaces of first century BC Rome, ensure that the connection between their name and the bridge was retained? The answer lies in the addition of inscriptions which added to the complexity of the conceived space and altered the possibilities of the bridge itself, transforming it from a functional 'thing' to a monumental structure associated with a specific person throughout its history. In this respect the bridges of Rome were successful with all but one (the Pons Agrippae) retaining their original conceived identity until the end of the fourth century AD.⁷¹⁰ Bridges have been neglected in the study of the written spaces of Rome; adding an inscription to a bridge altered its meaning for every person who experienced it, enabling the bridges to move into correspondence with other monumental structures across the city.⁷¹¹

In Rome there were two main conditions for the successful display of inscriptions, legibility (of the text) and their display in the places with *celebritas*; to be effective the writing needed

⁷⁰⁷ Cic. *Pro. Cae.* 36, the advantages of the river as given by Cicero in relation to Villa (Clodia's) views. Plin. *NH.* 3.54-55 talking about the Tiber being the focus of panoramas of country estates and the object of their cultivated attention.

⁷⁰⁸ Plut. *Aem.* 30.

⁷⁰⁹ Meyers, 2012, 14. The Latin term, recorded in the OED, means tombs and monuments, in the Lewis and Short they define *monumentum* as 'that which brings to mind, a rememberancer, memorial or monument.' Modern usage which lists 'great in importance or interest, extent, or size' or 'serving as a monument'.

⁷¹⁰ See chapter 1 the Pons Agrippae for details of the name change.

⁷¹¹ The inscription of the Pons Fabricius appears briefly in Keppie, 1991.

to be experienced and recognised by as many people as possible.⁷¹² In the first century BC the Pons Fabricius connected the busy east bank of the city to the Tiber Island. Today the bridge is the only one of Rome's ancient bridges to still retain, in situ, its original and complete monumental inscriptions.⁷¹³ Built in 62 BC the bridge had two large river arches and a central flood way arch, above each of the three arches, was added the following dedication:

L(UCIUS) FABRICIUS C(AI) F(ILIIUS) CUR(ATOR) VIAR(UM) / FACIUNDUM COERAVIT⁷¹⁴

EIDEMQVE / PROBAVEIT⁷¹⁵

Lucius Fabricius, son of Gaius, superintendent of streets, undertook to have this built and himself approved it.⁷¹⁶

⁷¹² Corbier, 2006, 2013, 25. In Latin West; Keppie, 1991; Woolf, 2009; Oliver, 2000; Sears, Keegan, Laurence, 2013; Crawford, 2011; on written space Edwards, 1996; Rea, 2007; Kerr, 2010.

⁷¹³ Survival of inscription on bridges made more challenging by the elements and the river itself. Balustrades have collapsed into the river (Pons Aelius) *LTUR IV Pons Aelius*, the Pons Valentinian collapsed into the river, Lanciani, 1987. see Aldrete, 2007, for frequency of flooding. Rimini the inscription has been restored facing the road instead of the river. The Pons Fabricius itself has a dedicatory inscription from a repair.

⁷¹⁴ Over the main arches. *CIL* VI, 01305 p. 3134, 3799, 4676, 4771 = *CIL* VI, 31594 = *CIL* I, 00751 P. 945 = *CIL* I, *00641,5 = ILLRP 00379 p. 328 = D 05892 = AE 2008, +00169.

⁷¹⁵ Over the floodway arch.

⁷¹⁶ Portions of this inscription were re-cut during the restoration by Marcus Lollius and Quintus Aemilius Lepidus see Landsford, 2009, 456-457. Keppie, 1991, 63.





Figure 38, 39 & 40: The Pons Fabricius in Rome with the location of the main inscriptions highlighted by red arrows on 41.

The most striking aspect of the inscription of 62 BC is its appearance on the bridge six times! The period in which the bridge was built marked an epoch in the competitive behaviour of the elite, with the Catalinian conspiracy the previous year and the first triumvirate on the horizon. Powerful men vied for the popular vote, lavishing the city with games and building initiatives; standing out within this landscape was a challenging proposition but one which Lucius Fabricius managed to accomplish.⁷¹⁷ The Tiber of the first century BC was an open vista which meant that the Pons Fabricius could be experienced from the Pons Aemilius and the Pons Sublicius, underneath the bridges arches, along the banks and even from the elevated position of the east bank; the bridge and its inscription captured multiple flows of movement

⁷¹⁷ Davies, 2017, 237-238. Zanker, 1988, 20, the elite were still restricted in what they could building during this period; theatres and baths were not considered acceptable as they encouraged uncontrolled public gatherings, instead the focus was largely on victory monuments in the private sphere.

from both the land and the river.⁷¹⁸ The Tiber Island (the home of the healing cult of Aesculapius), was not connected to either of the Tiber banks by a bridge until the introduction of the Pons Fabricius, and as the Island was used by the plebs it was a likely to have been a popular addition.⁷¹⁹

The monumental bridges were a statement of power and intent; the ability to monumentalise was a declaration of a person's social rank, ability to mobilise time, wealth, and skill to create a thing that went beyond the functional and became, essentially a tool of propaganda.⁷²⁰ The mutability and temporality of the monumental also led to tension; competition for space and prestige within the crowded and changing political spaces of the city led to the appropriation, removal or subversion of monumental structures, elements of their inscriptions or decoration, leading to the alteration of collective social perception. *Damnatio memoriae* was a feature of both the Republic and Empire; in 57 BC Cicero, who had just returned from exile, argued forcefully for the removal of the monument (shrine *libertas*) which Clodius had erected on the site of his former home.⁷²¹ Cicero equated the destruction of his home to the ruin of the Republic, and was appalled that senators would assist in the removal of his monument '*mommentum*'. Cicero's argument met with success, the temple was declared illegal, and since he had returned it was no longer relevant and was removed.⁷²² For Cicero,

⁷¹⁸ On the views of the river see Mart. *Ep.* 4.64 from the Janiculum and Cic. *Pro. Cae.* 15.36; Cic. *Ad. Att.* 12.38 on the river side villas Plin. *NH.* 3.54-55 talking about the Tiber being the focus of panoramas of country estates and the object of their cultivated attention.

⁷¹⁹ Holland, 1961; Richardson, 1992; *LTUR IV, Pons Fabricius* all argue for a wooden bridge but there is no evidence to support the claim. The Island was a place where the sick went to heal, it may have suited the cult to have controlled access to and from the Island. Ferries can only move a certain number of people at any one time whereas a bridge facilitates a greater scale of access.

⁷²⁰ Harris, 1989, 221; Delaine, 1997; Favro, 2011.

⁷²¹ For an in-depth assessment of *damnatio memoriae* see Flower, 1996, examples can still be seen on the arch of Septimus Severus in the Roman forum and on the *arcus argentariorum* in the Forum Boarium, both show the removal of Getta. Sulla famously removed all the statues of Marius which Julius Caesar restored Suet. *Iul.* 11; Plut. *Caes.* 5. For Cicero's house see *De Domo Sua* and Hales, 2000, esp. 45-47; Flower, 1996, 102-103. The razing of a disgraced senator's house, leaving a burned and ruined site changed them from a memorial to achievement to one of a warning of punishment.

⁷²² Cic. *Dom.* 34.115 'Had anyone told you, as you were building that portico, that a time would come when your monument would be demolished and overthrown by a tribune of the plebs who had ignored the majesty of the senate and the opinions of all good citizens, and that the consuls would not merely look on at, but even assist in, the work, and that the house of a citizen who, as consul, had defended the republic with the senate's support would be associated with yours in this fate' 34.115 '*Hoc si quis tibi aedificanti illam porticum diceret, fore tempus, cum is tribunus plebis, qui auctoritatem senatus, iudicium bonorum omnium neglexisset, tuum monumentum*

his home was his memorial in Rome, it signified his achievements and represented his rise to the highest level of political office, his determination to reinstate it demonstrates the importance, for the elite, of leaving architectural *memoria* within the spaces of the city.

We know that monumental buildings and their associated text were meaningful for the elite, but we also need to consider if other members of the Roman populace could also understand the inscriptions and what effect it may have had on its meaning?⁷²³ To answer this question, we need to consider what sort of writing we are discussing. The inscription was not a law or poetry or prose (see the discussion in chapter 4, it was a formulaic text designed to be seen and recognised by people moving within a busy urban area, therefore it could not be too complex.⁷²⁴ Monumental inscriptions relied on recognition to be successful, situated within the wider meshwork of written spaces of Rome, the Pons Fabricius text was one of a multitude of inscriptions which adorned buildings, shops, temples and statues across the city.⁷²⁵ In a time where many people were not literate, the meaning of the inscription could be understood through its correspondence within the meshwork of the other written spaces of the city.⁷²⁶

The most direct way for things to communicate with those experiencing them is with symbols, writing or decoration.⁷²⁷ In the modern world motorway bridges are constructed as purely functional objects, with little focus on the aesthetic, consequently, they are often plain and forgettable concrete structures; their location in busy places, coupled with their bare concrete form, lends itself to the lived spaces of re-appropriation. Often under the cover of darkness graffiti, banners or painting will be added to bridges; in the late 1990s the Chalfont viaduct crossing the M25 at Gerrards Cross in England was adorned with the slogan 'GIVE

consulibus non modo inspectantibus, verum adiuvantibus disturbarer, everteret, idque cum eius civis, qui rem publicam ex senatus auctoritate consul defendisset, domo coniungeret,'Cic. De Dom. 37. 112 and 137 and on the attempts by Clodius to overturn the reinstatement of the house see Cic, De Harus. Resp. 8.15 and Ad. Att. 4.3.

⁷²³ Eclardt, 2018 222-225 who reminds us that it is important to make the distinction between elite and functional literacy. For detailed examination of literacy in the Roman world see Harris, 1991 and 2017.

⁷²⁴ Corbier, 2013, 38-39.

⁷²⁵ Esmond Cleary, 2013, 217-218.

⁷²⁶ Keppie, 1991, 18-24 on abbreviations. He gives examples of the abbreviations of regularly used names for example *praenomina* M(arcus), L(ucius), Sex(tus) and the use of 'son of' as we see in the Pons Fabricius inscription M(arcus) f(ilius) 'son of Marcus' which was a familiar combination.

⁷²⁷ Woolf, 1998, 27.

PEAS A CHANCE' which subsequently became a local landmark.⁷²⁸ In 2018 when the slogan was overwritten, a petition was raised to have the slogan reinstated and a protection order added to the structure. The bridge and its familiar slogan had become an integral and familiar part of the local experience for the community.⁷²⁹ These adornments, whether created in the conceived or lived spaces, reflect and modify society with dialogue. Inscriptions on the arches of a bridge, statues added to parapets and niches, arches adorned with inscriptions all have meaning and ask questions of our perception of the world.



Figure 41: The Chalfort viaduct at Gerrards Cross, known as the 'give peas a chance bridge' crossing the M25 in England with its famous graffiti 'GIVE PEAS A CHANCE'. Sebastian Ballard under the Creative Commons Attribution-Share Alike 2.0 Generic.

⁷²⁸ The reference is ambiguous and it though to refer to either the John Lennon song 'give peace a chance' or a graffiti artist known as peas who operated in the London area at the time.

⁷²⁹ Pensacola Graffiti Bridge is regularly re-branded and has become a local landmark. Exeter bridge was adorned with an image of Tommy Cooper, a bridge in Wuppertal, Germany was recently painted to look like it was made from Lego blocks to name a few. Decorating bridges due to their place in the movement economy extends to historic bridges such as London's Tower bridge and Australia's Sydney Harbour bridge which are often adorned with flags or lit to commemorate specific events.

Prominent monumental fonts acted in much the same way as patterns; when the London underground was built at the turn of the nineteenth century, not all of the city's inhabitants were literate. To aid passengers in the identification of their station stop each of the platforms were decorated with a unique pattern of coloured tiles, giving them an instantly recognisable identity for the frequent traveller. Station names were often complicated and written on small signs which flashed past the moving train as it pulled into the station making them challenging to read, the large geometric patterns were far easier to distinguish.⁷³⁰ The patterns of the station can be related to the conventions of inscriptions which were used across Rome to signify titles and builders.⁷³¹ In its current condition, the inscription on the Pons Fabricius is legible but difficult to see (see fig. 38-40) but when it was added the letters may have been accentuated in a colour; red imparted wealth and would have made the inscriptions stand out against the background of the bridge.⁷³²

The dialogue between the bridges and the inhabitants of Rome was created by habit and social understanding. The formulaic patterns of the inscriptions enabled recognition within the temporal meshwork of correspondence across the wider city. Just as today, these patterns were dependent on cultural understanding and did not necessarily exclude people who could not read. Today, people who do not read Latin can still interact and understand Latin inscriptions at a basic level (such as those found on buildings and ancient gravestones), by unconsciously seeking out the symbols and collections of letters which are familiar and hold meaning. For example, people will often seek to pick out the derivation of familiar words such as *Caesar* or *Imperator* or recognise that Roman numerals are expressing a time period, even if they are not sure which one. This may seem like an obvious point, but the way people understand and connect space, especially the complex conceived space of the written *Urbis*,

⁷³⁰ For anyone who has experienced a busy underground journey in London reading the station signs from a moving train is still a challenge today.

⁷³¹ For detailed discussions of inscriptions across Rome see Keppie, 1991. On the power of Fonts see Hyndman, 2016.

⁷³² Keppie, 1991, 15 the possibility of colour and bronze lettering for the inscriptions; Day, 2017, 192; Jo Day redefined the significance of *sparsiones* (sprinklers) at amphitheatres and games by considering the multisensory experience invoking sight, smell, touch and memory to challenge the perception that sprinklers were tools to cool a crowd and mask smells. Instead drawing attention their role as complex gifts to the crowd, which incorporated the colour red and the olfactory to create a sense of place associated with wealth and the munificence of the game's patrons.

is based on cultural familiarity and habit, the correspondence between images and symbols across a city connects it within a meshwork of shared meaning, even if that meaning takes place at different levels; it is the difference between knowing XXIV represents a number and understanding that it specifically refs to twenty four.

Correspondence between people and the form and meaning of monumental writing created a meshwork of recognition which did not rely on the action of 'reading' text; Ingold relayed a story from Lévi-Strauss about a tribal chief who, after watching and assimilating the new experience of writing, would draw lines on a piece of paper before making a speech or responding to questions from his western visitors. The chief did not understand the words, but he understood power, and equated act of writing on paper with authority.⁷³³ In a similar way the addition of writing to the bridge conferred multiple meanings depending on who was experiencing it; for the elite it represented competition and the pursuit of the popular vote, for the inhabitants of Rome they may also have connected it to elite competition but as a familiar trope within the chaotic array of display within city. It is certain that they would have pre-reflectively connected the inscriptions to the meshwork of the city's written spaces, even if they were not actively reading the text; in the case of Pons Fabricius, the inscription referenced the *curator viarum* connecting the bridge to *cippi* of the river and road networks.⁷³⁴

'most written propaganda was pitched at a simpler level, and much of the best propaganda was not written at all' Monumental inscriptions, aimed at other elite, proliferated identified the subject of the statue or who built or repaired a structure - should beware of assuming they were indifferent, to what extent they were understood is unclear.⁷³⁵

⁷³³ Ingold, 2013, 138 from Lévi-Strauss, 1955, 294-300. Though will from semiotics as too reductive focusing on the visual sense and the conveyance of specific ideologies.

⁷³⁴ Corbier, 2015, 38. For example two inscriptions from Rome around the same period include the title *curator viarum*: A stone tablet 100 to 51 BC AE 1996, 00255 = AE 2006, 00185 = AE 2014, +00115a; A *cippus* found in Rome CIL 06, 01299 (p 3134, 3799, 4674, 4771) = CIL 06, 31590 = CIL 01, 00744 (p 944) = CIL 12, *00308 = D 05800 = ILLRP 00465a (p 332) from Rome dated to 68 BC. Laurence, 1999, 41 Lucius Fabricius was involved in the renewal of the road system Dio Cass. 37.45; Galliazzo, 1995; O'Connor, 1993; 66.

⁷³⁵ Harris, 1989, 212.

In 21 BC, forty years after the first inscription was added to the Pons Fabricius, a new dedication was added to the eastern arch, nearest the Circus Flaminius, again on both the up and down river sides of the bridge:

Q(UINTUS) LEPIDUS M(ANI) F(ILIIUS) M(ARCUS) LOLLIUS M(ARCI) F(ILIIUS) CO(N)S(ULES) EX
S(ENATUS) C(ONSULTO) PROBAVERUN[T]

Marcus Lollius, son of Marcus, and Quintus Lepidus, son of Marcus, Consuls, approved this
in accordance with a decree of the Senate.⁷³⁶



⁷³⁶ CIL I² 751 a,c, e, h = VI 1305, e.g. 751c, 751a; CIL I²751 d,f = VI 1305 h,d = 31594 = I ILS 5892 on the south face the names of the consuls are reversed, and the *t* is missing from *probauerunt*. Dio. Cass 37.45.3; Hor. *Sat.* 2.3.35. Bridges as spaces of text have been neglected. Urban space text can be understood in a formulaic way – out in the rural areas rarer but in the city assailed so become familiar – do not need to know how to read to recognise the formula. Platner & Ashby, 1929; Richardson, 1991, *LTUR IV*, Pons Fabricius, 104-108; Galliazzo, 1994.



Figure 42 and 43: The Pons Fabricius in Rome with the location of the second dedication of 21 BC, highlighted by red arrows. Author image.

The new dedication was only added to the eastern arch of the bridge, perhaps reflecting the restoration of just that arch, but the restorers were still careful to duplicate the inscription on both the up and down river sides of the arch, capturing traffic moving both ways on the river and along the roadway of the eastern bank.⁷³⁷ When the new inscription was added to the bridge its background to the east had changed significantly. The archaeology for the Republican landing stage of the bridge is unclear but according to Livy, in 179 BC M. Aemilius Lepidus financed the building of a theatre and stage at Apollo's temple, the site of which has been linked to that of the Theatre of Marcellus.⁷³⁸ By 21 BC the site had been cleared of its existing houses and temples, and was a construction site for the theatre, dedicated in 13 BC

⁷³⁷ Lansford, 2009, 457 points out that analysis of the stone shows that the arch was broken and repaired, and new sections of the original 62 BC inscription were recut.

⁷³⁸ Livy, 40.51 '*a theatrum et proscaenium ad Apollinis*'.

or 11 BC but significantly advanced in 17 BC to play a part in the Augustan *ludi seculares*.⁷³⁹ When completed the Theatre of Marcellus (which could seat approximately 13,000 spectators) dominated the experience of the bridge, filling the experience of crossing from the Island to the eastern bank.⁷⁴⁰

[REDACTED]

Figure 44: Lanciani's *FUR* Plate 28 showing the landing site of the Pons Fabricius and its proximity to the theatre of Marcellus.

⁷³⁹ Dio Cass. 43.49; 53.30; Plin. *NH* 7.121 for Julius Caesar's clearing of the site; Suet. *Caes.* 44; *Res. Gest.* 21 for the Augustus's construction of the theatre and dedication to his nephew Marcellus; *LTUR*, V, *theatrum Marcellus*.

⁷⁴⁰ Richardson, 1992, *Theatrum Marcelli*.



Figure 45: Birds eye view of the Pons Fabricius in relation to the Theatre of Marcellus remains. Google Map Data 2019.

The addition of the inscription becomes important to the maintenance of the Pons Fabricius's conceived identity, as the city transformed from the diverse structures of the Republic into the unified Augustan city, the little bridge remained a symbol of the Republican era, without it the bridge would have been subsumed into the transforming city and its origins lost. The Pons Fabricius, the Pons Aemilius and the Pons Mulvius all retained their Republican roots throughout the Empire; only the Pons Cestius and the Pons Agrippae were rededicated or lost (see chapter 1, sections on the Pons Cestius and the Pons Agrippae).⁷⁴¹ In order for the names to continue their association with the bridges for so long, inscriptions were likely to have prominent, perhaps placed on the bridges' parapets and above the main river arches.⁷⁴² The fourth century AD rededication of the Pons Gratiani (the later iteration of the Pons Cestius) is still partially in place on the bridge (see chapter 1, section on the Pons Cestius), the bridge had identical inscriptions, just below the parapets both on the up and down river sides of the

⁷⁴¹ Taylor, 2002. As with Agrippa's Campus Agrippae, the Aqua Virgo Dio Cass. 54.11.7, and Agrippa's Pantheon Dio Cass. 53.27. Agrippa's works were not named for Augustus. The Pons Fabricius also bears a dedication to the consuls of 23 BC *CIL* VI.1305. See chapter 1 on the Pons Agrippae for a detailed discussion.

⁷⁴² This may explain why the Pons Agrippae did not retain its name; if the bridge was rededicated to Agrippa and his name added to bridgehead arches rather than to the river arches, they would be easier to replace. See chapter 1 the Pons Agrippae.

bridge. The down-river inscription was reattached to the bridge after it was rebuilt, and can still be seen, if studied carefully, from the lower level of the Island.⁷⁴³ The Pons Aelius had a dedication to Hadrian located on the parapet of the bridge but it no longer survives.⁷⁴⁴ Finally, the Pons Valentinian had dedications along its parapet and over its arches, elements of which can still be seen in the courtyard of the *Therma di Diocleziano* in Rome.⁷⁴⁵

The retention of the four Republican era bridges around the Forum Boarium, all with their original toponyms, gave the Tiber in that area, a uniquely Republican identity; in contrast to the increasingly Augustan Campus Martius.⁷⁴⁶ The in elite society the importance of leaving a dedication on monument is illustrated by Frontinus who tells how the censor Appius Claudius tricked his colleague Gaius Plautius out of the honour of giving his name to the Aqua Appia.⁷⁴⁷ Suetonius also recounted, with disapproval, how Domitian restored buildings damaged by fire but added inscriptions in his name only.⁷⁴⁸ The longevity of the bridge's identity may, therefore, have been down to their critical functional role in keeping the city moving, and as the conduit for aqueducts.⁷⁴⁹ Bridges are not structures which can be left to their own devices, therefore regular maintenance ensured they were less likely to suffer a complete failure, leading to a total rebuild and rededication. We can infer from Suetonius's comment on Domitian, and a remark by Tacitus, who when recounting the damage to the Capitoline temple after the civil war of AD 68, stated that of all the works added by the previous Caesars, only the name of Lutatius Catulus who dedicated the temple had survived, structures within the city were far more susceptible to destruction by fire, flooding and war, from which the bridges seemed to have fared relatively well.⁷⁵⁰

⁷⁴³ *CIL VI 1175 = ILS 771; CIL VI 1176 = ILS 772.* The inscription text is included in chapter 1, Pons Cestius.

⁷⁴⁴ *CIL VI 973 'Imp. Caesar divides Traiani Parthici filius / divi Nervae nepos, Traianus Hadrianus / Augustus, pontif (ex) maxim (us), tribunic (ia) potest (ate) / XVIII, cos. III, p (ater) p (atriae) fecit.'*

⁷⁴⁵ *CIL VI 31402 = ILS 769, CIL VI 31403-31412* for pieces of the duplicate inscription. See chapter 1 Pons Agrippae for the inscription text.

⁷⁴⁶ Until the Pons Cestius was replaced with the Pons Gratiani and the Pons Valentinian was built. See note below.

⁷⁴⁷ *Front. Aq. 5.3; Corbier, 2013, 26-27. Dio Chrys. Or. 31.20. Gros, 1976, 53; Eck, 1984.* On naming of the bridge, leaving a legacy in a name. For descendants still looking after the projects of their families *Dio. Cass. 53.2. Tac. Ann. 3.72* on the Basilica of Paulus Aemilius *Eck, 1984.*

⁷⁴⁸ *Suet. Dom. 5.*

⁷⁴⁹ *Taylor, 2002.*

⁷⁵⁰ *Tac. Hist. 3.72.*

The addition of inscriptions added a new sensory element to the perception of the bridges. It altered the way the body experienced not just the bridges but the spaces of the Tiber. Inscriptions connect things and language, influencing how people understand places, in the case of the Pons Fabricius, not only did the bridge retain its Republican identity but it retained its character within the spaces of the monumental Island.⁷⁵¹ The addition of inscriptions into the space of the bridges also added a human element; it reinforced the notion that the bridge was both a memorial to its patron and a functional public gift.⁷⁵² As such, these inscriptions were designed for an audience but one that experienced the text from the banks, the river, the Island and the Pons Aemilius all at the same time. Bridge inscriptions create a unity of perception which encompassed multiple viewings from multiple places in the city at the same time, as such it created a unity of perception for all those who were experiencing the bridge at a particular moment but from multiple vantage points.

The inclusion of inscriptions on the Pons Fabricius was part of an embodied project which recognised the mutability of the space and sought to include the element of 'text' which was not easily appropriated or overlooked. As Greg Woolf asserted, inscriptions on monuments were vital as they were specific and complex enough to define identities within society and history.⁷⁵³ They were important reminders of acts of generosity toward the public and a way to ensure continued commemoration in a competitive society. The bridge's space was explicitly intended to retain the *memoria* of its patron through the addition of its inscriptions. Lucius Fabricius was not taking any chances with his memorial, the Pons Fabricius with its six dedications ensured that even if one of its arches were damaged the others would retain their dedication; only the complete loss of the bridge would erase the identity and legacy of its patron.

The busy spaces of the Tiber and the river front attracted a regular flow of people which offered the chance to create a prominent flow of correspondence, which in turn encouraged further monumentalisation (the Island and the second bridge).⁷⁵⁴ The addition of

⁷⁵¹ Trifilò 2013, 169.

⁷⁵² Thomas, 2014, 77-78. For an in-depth discussion of monumental text see Thomas (2007 and 2014 57-79) Woolf. Corbier, 2015, 27. Also see Dio Chrys. 31.20; Ballard, 1984, 63; Babic, 2014, 263-264.

⁷⁵³ Woolf, 1996, 29.

⁷⁵⁴ Newsome, 2010, 47.

monumental structures to places of significance created a multi-layered temporal dialogue. The Pons Fabricius is often approached as part of a unified plan which monumentalised the Island and connected it to both the east and the west banks of the city, but there is no conclusive proof that the developments happened at the same time, only that they are likely to have been undertaken in the first century BC.⁷⁵⁵ It is sometimes overlooked that a twenty-to thirty-year gap between alterations is significant within the span of a person's lifetime. When the Island was monumentalised or the bridge added, the emphasis of both structures was altered. The Inscription on the bridge helped to mark it as a distinct and separate entity to the Island, while the bridge retained its place within the Island meshwork.

The prominence of the Tiber Island increased with its adornment; from the Pons Aemilius, the new marble on the 'bow' of the Island created a contrast with the textures of the Tiber and with the Pons Fabricius (see fig. 33 & 34).⁷⁵⁶ The Pons Fabricius was referred to by Cassius Dio as 'the stone bridge, called the Fabrician, leading to the little island in the Tiber', the bridge and its multiple inscriptions reminded people that they were not just experiencing the Tiber Island bridge, they were crossing Fabricius's bridge, linking the patron to the public largess and the sacred and monumental.⁷⁵⁷ The inscription was more than just text, it altered and informed the structure it adorned, it gave the bridge an enduring identity and situated it within the experience and meshwork of Rome's other monumental inscriptions.⁷⁵⁸ The bridge altered the flow onto Tiber Island and increased the volume of people and ease with which the sanctuary could be accessed. Movement across the Pons Fabricius was lighter and slower than the Pons Aemilius or the Pons Sublicius, the bridge was not a through way to the eastern bank, access was from the east to the Island and back. It is plausible to suggest that the bridge, as it is today, was a place where vendors gathered to sell wares to those accessing the Island (see chapter 4, section 6 for the presence of votives near the bridge).

⁷⁵⁵ See chapter 1, Pons Fabricius and Pons Cestius.

⁷⁵⁶ For the Tiber Island bibliographies see Richardson, 1991, 209; *LTUR II, Insula Tiberina*.

⁷⁵⁷ Dio Cass. 37.46 'Τότε μὲν ταῦτά τε ἐγένετο, καὶ ἡ γέφυρα ἡ λιθίνη ἢ ἐς τὸ νησίδιον τὸ ἐν τῷ Τιβέριδι ὄν φέρουσα κατεσκευάσθη'. See fig. 31 & 32, the medallion issued by Antoninus Pius shows the Island and the bridge as distinct structures.

⁷⁵⁸ Corbier, 2013 13-47 for an overview of writing in Roman Public space and esp.27-33.

The addition of inscriptions to the spaces of the Roman stone bridges raised them above their basic functional forms to become monumental structures; not just large or spectacular but a *memoria* to a family or a person, connecting the bridge to new a meshwork across the city. It expands the complexity and reach of the bridge's meshwork. The text and the bridge together are experienced as one thing, a unity of perception; they are not just read or observed but create a new dialogue within the overlapping meshwork of the city, becoming an integral element within the city's understanding of its own ideology.⁷⁵⁹ The multiple inscriptions on the bridge indicated the importance of river traffic during that period both to the city and to the bridge's patron. The inscriptions on the bridge would have become a familiar part of the daily rhythm of the Tiber; part of the normal pre-reflective rhythm of life on and alongside the river.⁷⁶⁰

5.3. Becoming an Empire

The Pons Aemilius changed the materiality of the Rome's bridges; the Pons Fabricius demonstrated how the addition of inscriptions enhanced their meaning through written space, giving them an identity and a focus for commemoration. The Pons Mulvius represents a 're-becoming' for the bridges of Rome and their role in its the seismic political and urban transformation from a Republic to an Empire. Every monumental addition or alteration to the city changed the balance of the perception of all the others, connecting them temporally across their individual and collective histories. If we consider the monuments as connected things which are in dialogue, it enables us to ask questions about how the introduction of new, and changes to existing, structures may have been perceived. The appropriation of the bridge by Augustus, through the introduction of statuary, represents every element of the spatial and sensory methodology used within this thesis; it altered the bridge's conceived spaces and changed the perception and experience of the bridge for every person who moved along the northern roadway into or out of Rome, in doing so it helped to promote a new unified identity for the Augustan city.⁷⁶¹

⁷⁵⁹ Lefebvre, 1991, 222.

⁷⁶⁰ Trifiló, 2008, 116; Newsome, 2013, 75. Based on the use of the term *locus* by Varro 2.11-12. Newsome also takes Lefebvre to task for his description of the Roman forum as static. Lefebvre, 1960, 94. Introduction à *la psycho-sociologie de la vie quotidienne*, in *Du rural à l'urbain, op. cit.*

⁷⁶¹ Miles, 1995, 168.

The first area which must be addressed is how the Pons Mulvius became to be associated with Augustus; to do this effectively we need to return briefly to the bridge's history. The exact construction date of the Pons Mulvius is unknown, but as the bridge crossed the Tiber via the Via Flaminia we can assign a *terminus ante quem* of 220 BC, the construction date of the road, for the erection of a wooden bridge.⁷⁶² In the first century BC, Livy referred to the existence of the bridge in 207 BC, when he stated that a column of people who when to receive news of the Roman victory over Hasdrubal 'reached all the way to the Mulvian Bridge.'⁷⁶³ Ammianus Marcellinus recorded a reconstruction of the bridge by Marcus Aemilius Scaurus in 109 BC; it is at this point that the bridge was most likely to have been rebuilt in stone.⁷⁶⁴ The name of the bridge should have reflected the magistrate who built the structure, but its origins are unknown. Once constructed the monumental structures of the Republic became the responsibility of the associated family (*gens*), if there survived, as they represented a way to maintain the social ranking of the family; there was reflected power and dignity (for the elite) in the act of preservation; the Republican Pons Mulvius reflected a particular image of the socio-cultural world that was Rome in the second century BC.⁷⁶⁵

⁷⁶² It is unlikely that a road would be constructed without a bridge. On the Via Flaminia see Ashby and Fell, 192; Radke, 1981, 188-239; Laurence, 1999, 21-23. Livy. 32.29; 22.11; Stra. 5.2.10; *LTUR Suburbium II*, 50-54. As Rimini was established as colony by 268 BC it is likely a bridge crossed that part of the river much earlier; D'Onofrio, 1980, 166-174, suggests the fourth century BC. Rome already had at least one other bridge in the Pons Sublicius which suggests attempting to continue a crossing via a ford would not have been viable.

⁷⁶³ Livy, 27.51. 'Ad Mulvium usque pontem continens agmen pervenit.'

⁷⁶⁴ Livy, 27.51; Dio Cass. 53.22; O'Connor, 1993, 65-65; Galliazzo, 1995, 32-36. Livy 27.51.2 is the first to mention the bridge with a date of 220 BC. *Vir.ill.* 72.8; Amm. Marc. 27.3 attribute the rebuilding of the bridge to Marcus Aemilius Scaurus in 109 BC. We can give the bridge a *terminus post quem* of 142 BC as the Pons Aemilius was the first stone bridge, see chapter 1 the Pons Aemilius and the Pons Mulvius.

⁷⁶⁵ Thomas, 2007, 151; Kostof, 1999, 40; Karmon, 2011, 16-17; Lefebvre, 1991, 220.



Figure 46: Map of Rome with the Pons Mulvius. Open Street Map 2019.

The Pons Mulvius connected Rome to the coastal town of Ariminum (Rimini), crossing the Tiber three miles north of the city's ancient Servian walls (see fig. 46). This was a very different bridge to the Pons Sublicius, Aemilius and Fabricius all three of which occupied space within sight of the main city; the Pons Mulvius was a marker point between peri-urban Rome and the hinterland.⁷⁶⁶ When Augustus began a programme of road building in 27 BC, he had just 'restored the *res publica*' back to the Senate and the People of Rome and been awarded the title of Augustus and *princeps*.⁷⁶⁷ In 27 BC to coincide with his restoration of the Republic, Augustus began the refurbishment of the Via Flaminia which included all but two of the road's bridges:⁷⁶⁸

Augustus includes the restoration of the Via Flaminia in the *Res Gestae Divi Augusti* 'In my seventh consulship [27 BC] I paved the Flaminian Way from the city to Ariminum and all the bridges except the *Mulvian* and the *Minucian*.'⁷⁶⁹ He explicitly references both the *Mulvian* and the *Minucian* drawing attention to them and connecting him directly to his legacy, despite the fact he had not restored them.⁷⁷⁰ Unfortunately, we do not know the identity of the *Minucian* bridge, but we do know that the Pons Mulvius was adorned with his image as a passage from Cassius Dio states;

'perceiving that the roads outside the walls had become difficult to travel as the result of neglect, he ordered various senators to repair the others at their own expense, and he himself looked after the Flaminian Way, since he was going to lead an army out by that route. This road

⁷⁶⁶ Livy 27.51.2; Amm. *Vir. ill.* 72.8; Le Gall, 1953, 87-89; Galliazzo, 1995, 32-36; Goodman, 2007, The Pons Mulvius has been largely ignored by ancient historians and does not appear in the major topographical dictionaries of Rome Platner & Ashby, 1929, Richardson, 1992, *LTUR* IV.

⁷⁶⁷ *Res. Gest.* 34; Cooley, 2009, 80.

⁷⁶⁸ Dio Cass.53.22; *Res Gest.* 20.5, Cooley, 2009, 80-81, 194-196; Suet. *Aug.* 30. Aylward, 2012, 469-7, argues that this restoration was for purely practical reasons but as my discussion of the bridge will show, Augustus was changing the meaning of the route itself, not just mending a road.

⁷⁶⁹ *Res Gest.* 20.5 '*consul septimum viam Flaminiam a[b urbe] Ari[minimum munivi pontes]que omnes praeter Mulvium et Minucium.*' *Res Gest.* 20.5, Cooley, 2009, 80-81, 194-196.

⁷⁷⁰ The specific bridge names were not included in the Greek version, *Res Gest.* 20.4-5, Cooley, 2009, 80-81, 194-196; Flower, 2011, 3 – 5, on the importance of commemoration to avoid being forgotten.

was finished promptly at that time, and statues of Augustus were accordingly erected on arches on the bridge over the Tiber and at Ariminum'.⁷⁷¹

Augustus choice to set an example and instigated a series of road repairs was rewarded by the *Senatus Populusque* with statues which were erected on arches on the Pons Mulvius and on an arch at Ariminum; unfortunately we are not informed of the form the statues took, an issue to which we will return.⁷⁷² Cassius Dio and Suetonius both indicate that the Via Flaminia had been neglected making the journey to Rome difficult and slow.⁷⁷³ The repair of roads would have been popular with all the inhabitants and travellers in Rome; bad roads were indiscriminately hard on people, pack animals, carts and chariots, improvements to the main routes into Rome benefitted all, saving them money and changing the experience of movement into Rome from slow and damaging to swift and agreeable. Placing road building at the forefront created the perception that the needs of the city and all its inhabitants were a top priority for the new emperor.⁷⁷⁴

The first construction of a permanent and monumental bridge in Rome came after a period of significant turmoil, natural disasters and neglect for the city.⁷⁷⁵ Greg Woolf asserts that the creation of monumental things can be seen as a response to periods of instability or change, political and social upheaval, reflecting a need for stability and reassurance.⁷⁷⁶ During the protracted upheaval caused by the civil wars, the infrastructure of the city had been ignored

⁷⁷¹ Dio Cass. 53.22.1. *ἔν μὲν γὰρ τῷ προειρημένῳ ἔτει τὰς ὁδοὺς τὰς ἔξω τοῦ τείχους δυσπορεύτους ὑπ' ἀμελείας ὁρῶν οὕσας τὰς μὲν ἄλλας ἄλλοις τισὶ τῶν βουλευτῶν ἐπισκευάσαι τοῖς οἰκείοις τέλεσι προσέταξε, τῆς δὲ δὴ Φλαμινίας αὐτός, ἐπειδὴ περ ἐκστρατεύσειν δι' αὐτῆς ἤμελλεν, ἐπεμελήθη. 2καὶ ἡ μὲν εὐθύς τότε ἐγένετο, καὶ διὰ τοῦτο καὶ εἰκόνες αὐτῷ ἐφ' ἀψίδων ἔν τε τῇ τοῦ Τιβέριδος γεφύρα καὶ ἐν Ἀριμίνῳ ἐποιήθησαν· αἱ δ' ἄλλαι ὕστερον.* Cassius Dio was writing approximately 200 years after the events he documented. For a discussion of the issues surrounding his testimony, Wallace-Hadrill, 1990, 146-147; Kleiner, 1991, 188; *Res Gest.* 20.5, Cooley, 2009, 80-81, 194-196.

⁷⁷² Dio Cass. 53.22.

⁷⁷³ Dio Cass. 53.22.1 and Suet. *Aug.* 30. For a wider discussion on effect of the Principate on the elite see Zanker, 1998; Syme, 1939; Brunt, 1990; Scullard, 1982; Wallace-Hadrill, 1989; Hopkins & Burton, 1983. On the Via Flaminia see Laurence, 1999, 183.

⁷⁷⁴ Cicero on the tradition of putting the city before all else, see chapter 4, section 2.

⁷⁷⁵ Livy, 40.5; Hor. *Sat.* 1.6.34-7. we should remember that to a city's inhabitants its streets and building are the familiar and normal until they have the opportunity to experience another city. Canadine, 1983, 127. Londoners were proud of their city until the media of the time began comparing it to other cities such as Paris and Rome which were undergoing monumental transformation, and found it wanting. We must always ask for whom we suggest a place is unpleasant as it is always a matter of perspective. See chapter 3.

⁷⁷⁶ Woolf, 1996, 31.

possible since the Gracchan crisis (132-121 BC). Julius Caesar had taken a radical approach to the problem, which involved drastically remodelling the city and diverting the Tiber, Augustus, realising that more tact was required to win over the exhausted and suspicious city, took a more pragmatic line which involved maintaining the Republican landscape but enhancing it with acts of public munificence and slowly transforming the city from the rough local limestones and tuffs to place of sparkling white marble and vibrant exotic stone.⁷⁷⁷ Augustus provided a new version of a Rome which was familiar and which respected and celebrated its past. Turning the city into the showpiece of imperial power, reflecting continuity and stability as opposed to the chaotic and volatile city of the Republic.⁷⁷⁸

The repair of the roads and the adornment of the bridge were some of the earliest works that Augustus employed in his transformation of Rome's urban spaces. Power derives authority in part from the ability to regulate sensorial indicators in the urban environment, the addition of numerous Augustan buildings and structures, all adorned with images and text related to the Emperor was an essential and complex element of the success of that process, but it may have all been in vain if the journey to and from Rome was miserable for every traveller. It is difficult to appreciate the grandeur of monuments when the wheel of your cart has buckled from hitting a hole in the road, just after you wrenched an ankle falling down a yet another whole hole you missed because the road was flooded.⁷⁷⁹

The world is not understood on a micro level but a macro level; we do not perceive each part of a thing and its surroundings; we unconsciously intuit the whole. In the case of the Pons Mulvius, a traveller would not see a bridge, arches, an inscription, the river and statuary they would perceive the whole; when the statues were added they became a part of the background of the bridge 'polarising' its form, function and social meaning within perception, altering the meaning of the bridge and its role in the meshwork of the city.⁷⁸⁰ Augustus

⁷⁷⁷ The Romans had a deep-seated suspicion of Kings or anyone attempting to masquerade as a regent. Zanker, 1988, 19-20.

⁷⁷⁸ Wallace-Hadrill, 2018, 66.

⁷⁷⁹ Hamilakis, 2013, 126.

⁷⁸⁰ Merleau-Ponty, 2012, 111. There is no evidence to conclusively indicate if the arches were added to the bridge before the addition of the statuary or at the same time, but for the purposes of this discussion it is the statuary and the arches in combination which alter the perception of the bridge.

created the experiential armatures which so effectively transform Rome.⁷⁸¹ As the inhabitants moved through the city they were guided by new conceived spaces of movement and assailed by Augustan ideology.⁷⁸² People function on a day to day basis in a pre-reflective mode of being, fully absorbed in the world while remaining open to other tasks. The inhabitants and travellers in Rome, when experiencing the new bridge, shifted out of the pre-reflective to consider how best to correspond with the newly adorned bridge and to consider how it now fitted into their experience of the wider city.⁷⁸³

During the civil war with Antony, Augustus had capitalised on the fear of the Roman populace that Antony would move Rome's power to Alexandria (see above chapter 4, section 4), he therefore needed to bring stability and demonstrate his commitment to a city worn down by civil war and neglect.⁷⁸⁴ Facilitating more efficient journeys into Rome was an early part of that (see above), as was the construction of his monumental Mausoleum (approximately 40 metres high and would have been prominent within the flat spaces of the Campus Martius), which was situated between the Tiber and the Via Flaminia at the northern end of the Campus Martius, and under construction by the time the Pons Mulvius received its statues.⁷⁸⁵ On the same road (the Via Lata/Via Flaminia) connecting the Pons Mulvius to the ancient Servian walls

⁷⁸¹ Nicolet, 1980, 383- 192.

⁷⁸² Building on the ideas of MacDonald, 1986, 5-17, 253-254. William MacDonald's 1986 work on the architecture of the Roman Empire is still mandatory reading for any student of Roman urban space. He was the first to recognise that architecture within could be connected to provide directed movement around the city and past major buildings. His concept of 'urban armatures' identified, though not implicitly, how connective structures could create social identity and a sense of familiarity outside of their immediate surroundings, in other towns around the Empire. See chapter 4, section 3.

⁷⁸³ Dreyfus, 2007, 64

⁷⁸⁴ Suet. *Aug.* 17, Augustus on opening Antony's will and publishing it in which he outlined his wish to be buried in Alexandria rather than Rome— see chapter 4, section 4 on fear of the other. See chapter 4 for a discussion about the concern for the erosion of traditional rites and values, and the threat from Cleopatra and Anthony. See Livy 5.49-52 on the speech by Camillius and the importance of Rome as the place of traditional rites and keeper of the character of Roman values. Re-founding of Rome Livy, 5.45-54; *Res Gest.* 34.1; *Ov. Fast.* 1.589; *Vell. Pat.* 2.89; *Dio. Cass.* 53.4. The creation of the notion of the 'other' in relation to Anthony and Cleopatra, also demonstrated commitment to Rome.

⁷⁸⁵ Mausoleum of Augustus *LTUR III mausoleum Augusti*, completed sometime between 31 and 23 BC; Suet. *Aug.* 100.4; *Dio Cass.* 53.30; Wallace-Hadrill, 1990, 167; Zanker, 1988, 72-75.

of Rome the *Horologium Augusti* (10 BC) and the *Ara Pacis Augustae* (9 BC) were also added.⁷⁸⁶

To demonstrate his piety and dedication to traditional Roman values, Augustus's first task was the restoration of eighty-two temples across the city and in the organic spaces of the Forum Romanum he preserved ancient sites such as the Volcanal and the Lapis Niger to preserve ancient sites within the transformed landscape.⁷⁸⁷ In the Forum Romanum Augustan buildings eventually flanked the space, with the Temple of *Divus Julius* (29 BC) along with one or two triumphal arches at the eastern end of the forum.⁷⁸⁸ A speakers' platform adorned with the bronze beaks of Anthony's ships from Actium at the western end.⁷⁸⁹ To the south the *Basilica Gaius and Lucius* (12 BC) was erected on the site of the *Basilica Iulia* and a portico, also named for Augustus's grandsons, masked the *Basilica Aemilia* to the north.⁷⁹⁰ In addition, his name was prominently displayed on the facade of the *Curia Julia*.⁷⁹¹ Outside the cramped centre of the Forum Romanum Augustus created the *Forum Augusti* (dedicated in 2 BC) where he again demonstrated restraint, curtailing the size of his forum to avoid forcing people to sell their property, though adding a rather large wall between the forum and the Subura.⁷⁹²

The change from the competitive chaos of the Republic to the ordered and unified building strategy of one man was most prominent on the Campus Martius where Agrippa transformed the space into a public area worthy of the aspirations of a new Empire.⁷⁹³ Agrippa constructed the Aqua Virgo, which fed the *thermae Agrippa* (25 BC) Rome's first public baths which boasted a huge leisure area, a park with an artificial lakes, streams, woods, exercise areas and Greek artwork on display.⁷⁹⁴ A new voting hall, the *Saepta Julia* was constructed with

⁷⁸⁶ Wallace-Hadrill, 1990, 167; Zanker, 1988, 72-75, 98-100, 140-143; Palmer, 1990; Favro, 1996, 210; Galinsky, 1996, 141-224. *Ara Pacis*, *LUTR IV, Pax Augusta*.

⁷⁸⁷ *Res. Gest.* 20; Galinsky, 1996, 37; Livy 5.51 and Cic. *Acad.* 1.9 on Varro's role in preserving the rites of the past.

⁷⁸⁸ Zanker, 1988, 79-82; *LTUR*, III *Iulius Divus, Aedes*.

⁷⁸⁹ *LTUR*, IV *Rostra Augusti*.

⁷⁹⁰ *LTUR*, I *Arcus Augusti (29 BC) and Arcus Augusti (19 BC)*.

⁷⁹¹ *LTUR*, IV *Porticus Gai et Luci*; *LTUR*, I *Curia Iulia*.

⁷⁹² Suet. *Aug.* 56; *LTUR*, II *Forum Augustum*; Zanker, 1988, 214.

⁷⁹³ Vitruvius, *Pre.* expressed the idea that the aspirations of the empire should be expressed through the buildings of its capital city.

⁷⁹⁴ Plin. *NH.* 36-121; 34.62; *LTUR V, Thermae Agrippae*; Zanker, 1988, 98-100, 140-143.

colonnades and the *diribitorium* (a building for counting votes) and the Agrippan Pantheon, which housed another statue of Augustus in the porch (not to be confused with the current, Hadrianic, Pantheon which retained the inscription *M. AGRIPPA L. F. COS TERTIVM FECIT*: Marcus Agrippa, son of Lucius Consul for the third time made this).⁷⁹⁵ Even the Horrea Agrippiana for the storage of grain was impressive, all were designed to instill and remind the inhabitants of Rome of their identity and position at the centre of the Empire. The meshwork of the Pons Mulvius connected to all these structures, through images, inscriptions and movement. The Pons Mulvius was also one of the monuments which retained its Republican heritage, along with the theatre of Pompey and the temples, ensuring that the Augustan vision still reflected elements of its Republican heritage.⁷⁹⁶

We must now return to the question of the statues which adorned the Pons Mulvius; as stated above there is no direct illustration of the form of the Augustan statues, but to understand how and why they may have had such an impact we need to consider their most plausible form. In 16 or 17 BC a series of Spanish coins were struck to celebrate Augustus's repair and construction of roads, which included three different images associated with bridges, a *quadriga* above an arch, two arches surmounted by equestrian statues and a *biga* drawn by an elephant (see fig. 47).⁷⁹⁷ While it is not possible to conclusively link the images to particular Roman or Spanish bridges, Kleiner argues that a significant number of monuments from Rome featured on Spanish coins during the Augustan period.⁷⁹⁸ Freestanding arches were a Roman creation dating from the second century BC and were associated with Roman generals

⁷⁹⁵ Zanker, 1988, 141-42.

⁷⁹⁶ *Res. Gest.* 20.

⁷⁹⁷ Kleiner, 1991, 188-192; Pollini, 2012, 81-83; Wiegels, 2000. Thomas, 2007, 62.; Sumi, 2005, 243-245. Buildings and monuments on Roman coins in Roman, 1999; Price and Trel, 1977. chapter 2, some possible representations actual structures not just replicating a fixed type, in provinces purpose to proclaim local identity through architectural form structures depicted likely to be significant. Williams and Meadows, 2001, 27-49. Coins with monumental image to promote continuity in times of change, or consolidation.

⁷⁹⁸ Kleiner, 1991, 189. Wallace-Hadrill equated this arch with a coin *BMC 432 QVOD. VIAE. MVN. SVNT*. Displaying the image of an elephant *biga* and arch on top of a bridge Kleiner, 1991, 191. Plin. *NH.* 34. 10. 19 states that elephant statuary began under Augustus. On statuary in the Roman world; Stewart 2003 for a discussion of the different classes of Roman statues and the culture of statues in the context of Roman society. On monumental buildings and structures on ancient coinage Tameanko, 1999, 80-81 *cippi* put up along the edge of the roads as monuments. Referencing the Denarius of Mn. Aemilius Lepidus from the mint at Rome *ANS 1941.131.97* gives the competing arguments for the aqueduct and the Pons Aemilius. Coarelli, 1988, 143-44; Elkins, 2015, 65-67. Trajan's coin argument for Pons Sublicius or the Danube bridge, Elkins, 2015, 88-89.

commemorating military success.⁷⁹⁹ It was not until the reign of Augustus that the combination of a bridge with preceding or central arches became familiar.⁸⁰⁰ Numismatic evidence, and the remains of bridges and arches from across the Empire, attest to the popularity of the form, but in Rome itself the only evidence for the arch and bridge combination is from Cassius Dio (above), and the remains of the fourth century AD Pons Valentinian.⁸⁰¹ The image of the *quadriga* was associated with Augustan image in Rome, arches to celebrate the Actium victory and the Parthian settlement were erected in the Forum Romanum and surmounted with a *quadriga* and the later Forum of Augustus also had *quadriga* in its central space where it was also connected to the image of Alexander the Great; also a famous bridge builder and a popular motif for Augustus.⁸⁰² The images on the coins and the corresponding statues in Rome suggest that the likeness on the Pons Mulvius could plausibly have been Augustus, in a triumphal pose, riding in a *quadriga* celebrating the construction of roads as he celebrated his victory over his rivals.

⁷⁹⁹ MacDonald, 1996; Popkin, 2016 ,61-63 for a recent overview and bibliography of the evolution of the free-standing arch in Rome. Both ends of the Via Flaminia were adorned with arches, the Pons Mulvius at Rome and the free-standing arch at Rimini to which we will return below.

⁸⁰⁰ On the coin of Lepidus an equestrian statue stands on top of the bridge itself rather than an arch. Representation of bridges on coins after the Augustan period include: RIC II Trajan 570 Dupondius minted in Rome AD 103-111 Single span bridge with arches. For example, RIC III Marcus Aurelius 1047 sestertius minted in Rome AD 171-172 a bridge crossing the Danube.

⁸⁰¹ On bridges across the empire with arches see Galliazzo, 1994 and 1995; Kleiner, 2010, 92-93. The Pont Flavien in Saint-Chamas is the only surviving example of a bridge with preceding arches (see fig. 51 & 52) Galliazzo, 1994, 249. CIL XII 647 'L DONNIVS C F FLAVOS FLAMEN ROMAE ET AVGVSTI TESTAMENTO FIEREI IVSSIT ARBITRATV C DONNEI VENAE ET CATTEI RVFEI' Lucius Donnius was a priest of Rome and Augustus. The bridge has been dated to both the Augustan period and the second century AD through architectural comparison, which makes it difficult to situate within a chronology. See Anderson, 2013, 74-75. The bridge in Alcántara in Lusitania, Spain, second century AD in the reign of Trajan, CIL II.759, II.760, II.761 which has a central arch. Galliazzo, 1994. O'Connor, 1993. On the Pons Valentinian see *Bull. Com. Arch.* 1888, Lanciani, 1897. The two arch bridge is well attested from coin evidence see above note 140.

⁸⁰² Thomas, 2007, 22. Galinsky, 1996, 24, 379-381. Zanker, 1988, 54-56 on coin representations of Augustus early in his reign including the *quadriga* on a free-standing arch. On the arch in the Forum Romanum see *LTUR I, Arcus Augusti* (29 BC and 19 BC). Rich, 1998; Scott, 2000. See chapter 4, section 5 Alexander the Great who was also a bridge builder and was a role model for Roman leaders JC Octavian had modelled himself on painting of Alexander the Great in the forum Plin. *NH.* 35. 93-94. Galinsky, 1996, 48. Nicolet, 1991, 41-42; for the Augustan Forum Suet. *Aug.* 31.8. Dion. Hal. *Ant. Rom.* 2.54; Plut. *Rom.* 16.8; Suet. *Aug.* 18 and 50; Suet. *Caes.* 7 Augustus and Alexander on the shield of Aeneas see chapter 4.



Figure 47: Spanish coins minted in 16 or 17 BC to celebrate Augustus's repair of the roads. Image: The Trustees of the British Museum.

The Republican bridge's conceived space was appropriated but retained the identity of its early conceived space; the image of Augustus was integrated within the existing historical landscape of Rome; Augustus built his new political power within the foundations of Rome's Republican grounding it firmly within the city's streets.⁸⁰³ As of 27 BC, every movement into or out of northern Rome passed the reimagined Pons Mulvius which became the starting point or culmination of movement into and through the Augustan city. The bridge became part of an experiential armature of urban movement in correspondence with the city's

⁸⁰³ See chapter 4 for the importance of the spaces of Rome.

meshwork and able to alter its perception.⁸⁰⁴ The familiarity with the Republican bridge would have made travelling between peri-urban and urban Rome a pre-reflective experience. Over time the bridge would have become an invisible element of the journey; the new statues changed the rhythm, they forced the body into the reflective, compelling it to reconsider the new materiality of the bridge in the context of the daily lives; it created a new sensory layer within the meshwork of the Pons Mulvius.⁸⁰⁵

In the same way, the sensory affordances of the bridge were altered, Ingold offers the example of a chair which when imbued with a meaningful element such as gold, red cloth or a coat of arms can become a throne, in a similar way the statues added to the bridge transformed it into a celebration of the new Augustan city.⁸⁰⁶ The bridge marked the entrance to the city from the north and as the body moved toward the bridge and its statues increase in size and meaning, it redefined the space of Rome twenty years before the wider regional changes of 7 BC; which transformed a city of four regions into an ordered city of fourteen administrative regions.⁸⁰⁷ The meshwork between the bridge the road and the city are altered by the process of adornment giving expression to the process of production and reproduction within the spaces of the city and assisting in the stabilisation of community identity within the spaces of the city.⁸⁰⁸ In this case, the Pons Mulvius provided the space for the development of new social identities after a period of turmoil.⁸⁰⁹

On the straight road from the Pons Mulvius to the Servian walls, each additional building and image reinforced the meshwork of connection across the city taking a traveller out of their pre-reflective mode continually re-assess their familiarity and perception of the city with each alteration.⁸¹⁰ As discussed in chapter 4, the buildings did not have to be physically seen, they were part of the experience of the city itself. The familiarity of the city would pre-reflectively

⁸⁰⁴ Favro, 1996, 209-210; Favro recognised the Pons Mulvius as a doorway to Rome and part of the new Augustan ideology. MacDonald, 1986, 74-109 does not include the bridge in his discussion of urban armature: The distinction between road and river travel will be developed in the chapter 3. Merleau-Ponty, 2012, 341.

⁸⁰⁵ Gibson, 1978, 21.

⁸⁰⁶ Ingold, 2010.

⁸⁰⁷ Lott, 2004; Galinsky, 1996.

⁸⁰⁸ Merryfield, 2008, 110.

⁸⁰⁹ Notroff, Dietrich, Schmidt, 2014; Woolf, 1996.

⁸¹⁰ Favro 1996 who demonstrates that transition from the beginning of the Augustan reign to his death. Strabo on the wonders of the Campus Martius and the Augustan building program. Strabo 5.3.

recall all the connected monuments as a person moved around the city. The recognition and experience created by the meshwork of the bridge flowed across the city; the urban experiential armatures became lived spaces of experience and recognition, not simply conceived space of architectural form. They gathered and directed movement across the city, reinforcing the new ideology and promoting a shared element within the socio-cultural transformation of the city which encouraged discourse and social cohesion through familiarity and permanence.⁸¹¹

The journey into and out of Rome did not just encompass the road, it also included the river. As with the entrance along the road, the bridge set the tone for the travellers' perception of the city. The statues on the arches were prominent from both the road and the river, as was the dedicatory inscription (accepting that there was an inscription on the arches). The bridge may also have had niches along its river arches which contained statuary; a relief from Cherchel, Algiers depicts a model of the bridge being carried on a *fercula* (litter or barrow) as part of a triumphal cortege.⁸¹² The bridge shown is the Pons Mulvius which is confirmed by a *tabula ansata* inscribed: *PONS MVLVI | EXPEDITIO | IMPERATORIS | coNstantini*.⁸¹³ People and vehicles can be seen crossing the bridge and niches holding statues and a representation of a ship's prow can be seen on the bridge, demonstrating that the bridge was both a recognisable and meaningful structure.⁸¹⁴ As on the road, the river traffic passed a series of sensory indicators including the Augustan mausoleum and the Pons Agrippae before passing the reimagined Augustan Campus Martius, both forms of movement toward Rome had multiple cues to remind travellers that they were in a powerful and well financed city ordered and controlled by Augustus.

⁸¹¹ MacDonald, 1996, 3-4, 74-109.

⁸¹² Ostenberg, 2009, 202-203 image of the relief suggest a late antiquity date possibly Constantine's victory over Maxentius in AD 312; though it has also been interpreted as relating to Caracalla's Germanic campaign in AD 213 with the inscription *Pons Mulvi | Expeditio | imperatoris | in Germa- | niam*. Gros, 1976, 60-61 on models.

⁸¹³ From Ostenberg 202-203 *CIL* viii. 9356; *ILS* 686, the relief was considered to be a fake but is now considered to be authentic.

⁸¹⁴ The Tiberian bridge at Rimini had niches which may have contained statues, though there is no direct evidence Mansuelli 1960. Aqueducts used the arcades/niches which were appropriated by people who placed statues and inscriptions in their voids. A Republican As of 88 BC issues by C. Marcius Censorinus shows two arches of the Aqua Marcia with the statue of Victory in one and the prow of a warship used as a trophy in the other.

Martial offers a perspective of the place of the Pons Mulvius which he views from the tranquil setting of his friend's 'few acres' on the Janiculum.⁸¹⁵ The passage related to the bridge is worth quoting in full:

'a traveller on the Via Flaminia and Via Salaria is visible, though his chariot is silent in case the wheel is disruptive of sweet sleep which neither the boatmen's commands nor the shout of the barge-pullers is strong enough to break, although the Ponte Milvio is so close and keels glide smoothly through the sacred Tiber'⁸¹⁶

Martial is able to take in the whole of Rome and its periphery from his position on the hill and he is drawn to the Pons Mulvius. He describes the bridge as being close, yet there is a sense of quiet which is undisturbed by the calls and commands of the bargemen or the boatmen as they move along the river. He can observe the peaceful rhythm of the Tiber while experiencing separation from the usual cacophony of noise associated with the city. Martial's is an embodied experience of the bridge which encompassed his previous knowledge of being on the road or the river near the bridge. His familiarity with the spaces enables him to recall the sensory cues which he would have been experiencing if he were on the road or the river below. The position of the body alters the perception of a thing, in the case of a bridge, the experience from the river is markedly different from the road; the chariot he associates with the sound of its wheels, while the river he associates with the sounds of the men working on the water. There is a contrast between the wheels of the vehicle on the road and the silent boats on the river, creating two very distinct sensescapes, one fast moving and the other noisy and slow. In terms of the place Martial is describing, it is an open one where both the river and the road traffic diverge on the bridge; it is very different from the enclosed and crowded spaces of the bridges at the Forum Boarium. Martial does not reference the adornment on the bridge which by the first century AD was very familiar, but his descriptions suggest that the bridge and its statue of Augustus would have been experienced from multiple places around Rome. Martial's description should remind us that the complexity of our understanding of the world should not be reduced to one sense; mainly if the things which

⁸¹⁵ Mart, *Ep.* 4.64. '*iugera pauca*'. Laurence, 2011, 89-90; Vout, 2007, 201-207.

⁸¹⁶ Mart. *Ep.* 4.64. '*illinc Flaminiae Salriaeque gestator patet essendo tacente, ne blando rota sit molesta somno, quem nec rumpere nauticum celeuma nec clamor valet helciariorum, cum sit tam prope Mulvius sacrumque lapsae per Tiberim volent carinae.*'

we are perceiving are conspicuously aimed toward the visual; Martial is not just seeing the bridge or the bargemen he sees a unity of place which is created through his familiarity with the bridge and its spaces.

The adornment of the bridge stretched the flow of the meshwork out further than the city itself, the Via Flaminia connected Rome to modern day Rimini and as Cassius Dio related that the arch at Ariminum was also adorned with Augustan statues.⁸¹⁷ Travelling toward Ariminum from Rome a person would already have to experience the Augustan imagery on the Pons Mulvius the Via Flaminia, remade by Augustus was punctuated with mile markers reminder a traveller that they were on the Augustan road. The correspondence along the flows of the meshwork ensured that the connection to Augustus was retained to their destination at Ariminum. The inscription on the arch at Ariminum proclaimed the Via Flaminia as a *celeberrimus*, a celebrated road which was enhanced and framed by the presence of the Pons Mulvius and the arch at Ariminum as well as its imperial patronage.⁸¹⁸

Arches across the bridges marked bridges as places of transitional movement by providing physical cues which altered the perception of movement across.⁸¹⁹ In the case of the first century AD bridge at St. Chamas in France the arches dominate the relatively small bridge marking a clear transition between the arches and the bridge (see fig. 48 & 49).⁸²⁰ The statues of the lions and the inscriptions face outward as if waiting for the traveller to emerge from the in-between place.⁸²¹ In the case of the Pons Mulvius, the liminality of the crossing created a betweenness of place (see chapter 4, section 3) which demarcated the transition between

⁸¹⁷ The arch of Augustus in Rimini stands just away from a small bridge before the entrance to the city rather than with the larger Tiberian bridge which is on the other side of the city.

⁸¹⁸ Laurence, 1999, 39. *CIL* XI. 365. SENATUS POPULUSQ[UE ROMANUS] / [IMP(ERATORI) CAESARI DIVI F(ILIO) AUGUSTO IMP(ERATORI) SEPT(IMO) 3] / CO(N)S(ULI) SEPT(IMO) DESIGNAT(O) OCTAVO{M} V[IA FLAMIN]IA [ET RELIQUEI]S / CELEBERRIMEIS ITALIAE VIEIS CONSILIO [ET SUMPTIB]US [EIUS MU]NITEIS. As part of the Augustan attempt to encourage others to see infrastructure works as worthy of *memoria* 20 BC Dio Cass. 53.22 Golden milestone at Rome Dio Cass. 54.8, 54.26 Front. *Aqu.* 2.101. Dio 53.22 *CIL* 11.365 Images of the arch connecting Jupiter and Roma, Zanker, 1988.

⁸¹⁹ See chapter 4 for a discussion of the experiential nature of physical cues.

⁸²⁰ The Pont Flavien in Saint-Chamas is the only surviving example of a bridge with preceding arches (see fig. 49 & 49) Galliazzo, 1994, 249. *CIL* XII 647 'L DONNIVS C F FLAVOS FLAMEN ROMAE ET AVGVSTI TESTAMENTO FIEREI IVSSIT ARBITRATV C DONNEI VENAE ET C ATTEI RVFEI' Lucius Donnius was a priest of Rome and Augustus. The bridge has been dated to both the Augustan period and the second century AD through architectural comparison. See Anderson, 2013, 74-75.

⁸²¹ MacDonald, 1986, 74-86.

moving into the Augustan world or passing out of its protection, reinforcing the permanence and power of Rome within the spaces of the city.⁸²² After the introduction of the Pons Mulvius and its presence on coins in the provinces (above) bridges became a part of the Augustan aesthetic of power over the landscape. As members of the provincial elite competed to show their loyalty to the Emperor and create towns which reflected their aspirations, bridges became powerful tools which could stand as a testament to their builders loyalty to Rome, examples include the bridge at *Mediolanum Santonum* (Saintes, France) and the Alcántara bridge.⁸²³ In particular the bridge at *Mediolanum Santonum* marked the end point on the western branch of the Via Agrippa, one of the principle communication routes in Gaul, which connected Saintes directly with the great terminus of Lyon, the capital of Santones.⁸²⁴ The monumental bridge and double bayed arch which marked the entrance to the town and dated to AD 18/19 making it one of Roman Gaul's earliest monumental urban structures, in the wooden iron age town the first structure which was chosen for monumentalisation was the bridge.⁸²⁵ The scope of this thesis does not allow for a further discussion of the provinces but it is an area which remains to be exploited in future work.

⁸²² For a detailed discussion on the Augustan image see Zanker, 1998.

⁸²³ For Augustus and the imperial cult in the provinces see Zanker, 1988, 297-333; Laurence, Esmonde Cleary, Sears, 2011; Bridges in the provinces see Galliazzo, 1995. The bridge in Alcántara in Lusitania, Spain, second century AD in the reign of Trajan, *CIL* II.759, II.760, II.761 which has a central arch. Galliazzo, 1994. O'Connor, 1993.

⁸²⁴ Woolf, 2000. Lyon, a populous city and a port of trade (emporium) and an imperial mint, was arguably the most important regional capital in Gaul. Livy, *Epit. Per.* 139; Dio Cass. 54.32; Suet. *Claud.* 2; Strab. 4.3.2.

⁸²⁵ Woolf, 1996, 126. The double bayed arch which currently resides on the right bank of the river Charente, now approximately fifteen metres from its original location, where it was moved in 1851, due to the river encroaching on the arch and undermining the structure; the bridge was demolished around the same time as the arch was moved (Galliazzo, 1994, *Pont Gaul*, 223); during the demolition of the medieval bridge in the mid-19th century, it was discovered that the arch was anchored within the bridge's structure, meaning the two structures were in fact conceived and built as one.



Figure 48 & 49: The Pont Flavien in Saint-Chamas in France, one of the few Roman bridges to retain both its original arches. An inscription can just be made out just above the arch. Author images.

The creation of the monumental engenders a consensus in a society which can tell something about the societal concerns in its period of conception. The Pons Mulvius was perceived as a familiar element of the northern journey into and out of Rome, but it was appropriated and adapted to fulfil a new need to project a new ideology which valued the city and would retain its Republican meaning, and the flows of meaning which were part of the bridges established space.⁸²⁶ Monumental has a multiplicity of meanings which flow within its temporal meshwork to enable its reinvention but it also enables a bridge, within a central and meaningful place at the edge of Rome to achieve a social agreement and dispel tension and create a new perception of the city based on confidence and renewal.⁸²⁷

When Augustus added his statutory to the Pons Mulvius during the early period of his reign, he altered the experience of Rome for every person who approached the city from the north, both from the river and road. The Republican bridge was adorned with Augustan imagery, but it was not renamed for the Emperor but reflected a combination of the Republic and the *princeps*. The bridge re-became a symbol of the Augustan commitment to Rome and the power of the new regime. From that point on every additional element of the Augustan building programme was understood and reflected through that experience of the emperor as travellers passed into Rome. The monumentalisation of Rome's bridges was about exploiting spatial practice to reconceive space to reflect a new political and social ideology; it was about sustaining and reflecting the present within the meaningful places of the city. The Pons Mulvius became familiar within the city's spaces, its re-becoming early into the Augustan transformation of Rome meant that it played a role in-reasserting traditional Roman values back into the identity of the city, by combing a familiar Republican place with the stability and prosperity of the Augustan present.

5.3.1. Rebecoming Rome

The Pons Agrippae also played a role in the Augustan cultural renewal of Rome, connecting to the east bank near the sacred space of the Tarentum. In 17 BC Augustus restored the *ludi*

⁸²⁶ The bridge was the site of a key moment in the Catilinarian conspiracy Cic. *Cat.* 3.2; Sall. *Catil.* 45, Livy 27.51 Who stated that the people ran to the Mulvian bridge to hear new of the triumph over Hasdrubal at the end of the Punic war. Lefebvre, 1991, 110.

⁸²⁷ Lefebvre, 1991, 222.

saeculares to mark a new milestone; the beginning of a new Augustan golden age.⁸²⁸ A series of Spanish coins, reference above in relation to the Pons Mulvius, were created to celebrate the reconstruction of roadways but were also a reminder that the current period of stability and prosperity was built on Augustus's restoration of the Republic ten years earlier.⁸²⁹ The coins coincided with the *ludi saeculares* and the rebecoming of a new tradition, one which incorporated another of Rome's urban bridges.

The eastern bridgehead of the Pons Agrippae adjoined the Tarentum, an ancient sacred area where the *ludi tarentini* were held during the Republic.⁸³⁰ Augustus preserved the connection between the Tarentum and the *ludi saeculares* undertaking rituals in the space. As with the statuary on the arches of the Pons Mulvius ten years earlier, the Senate voted that a permanent record of the games should be created and erected in the sacred space, next to the Pons Agrippae. The placement of the monumental bronze and marble inscriptions was dictated, not by the spaces of the ritual themselves but by the busy spaces of the adjacent bridge, which attracted a high enough level of movement to ensure the inscriptions received the greatest exposure.⁸³¹ The inscriptions needed to be seen to be effective in reminding Rome's citizens of the return to traditional values such as *pietas*.⁸³² Sacred spaces, with their established and often ancient meanings, were places which became a *foci* for movement during festivals or rites, combined with a bridge they provided a flow of movement which enabled a multitude of possibilities and competition for display.

⁸²⁸ Val. Max. 2.4.5; Fest. 440L, 478-79L; Ov. *Fast.* 1.501; Censorinus 17.8; Livy, *Epit.* 49; Mart. 4.1.8, 10.63.3; Statius, *Silv.* 1.4.18, 4.1.38; Ausonius 16.34; Servius *ad aen.* 8.63; Tac. *Ann.* 11.11; Rantala, 2013, 195; Zanker, 1988, 101-166. Rantala, 2013, 195; Zanker, 1988, 101-166. Kleiner, 1991.

⁸²⁹ 16 or 17 BC Sumi, 2005, 243-245; his was the same period as the repaving of the Via Flaminia and the adornment of the bridge. For detailed descriptions of the representation and meaning of Augustan coins with bridge and arch imagery with a focus on these coins. The coins display a mixture of triumphal and honorific Kleiner, 1991, 189; Wallace-Hadrill, 1990, 143-181.

⁸³⁰ For the origins of the Campus Martius bridge see chapter 1. The *Ludi Saeculares CIL. IV. 32326—32335* fragments place the Tarentum in proximity to a paved square on the riverbank on the northwest corner of the Campus Martius between the Campus Martius bridge and the Pons Aelius. References to the site and games: Val. Max. 2.4.5; Festus 440L, 478-79L; Ovid, *Fast.* 1.501; Censorinus 17.8; Livy, *Epit.* 49; Mart. *Ep.* 4.1.8, 10.63.3; Statius, *Silv.* 1.4.18, 4.1.38; Ausonius 16.34; Servius *ad aen.* 8.63; Tac. *Ann.* 11.1. A subterranean altar and religious space were associated with an early fording point of the river and the *ludi Tarentini*; Festus. 440; Zos. 2.3; Val. Max. 2.4.5; Fast. 1.501; Virg. *Aen.* 8.63; Coarelli, *LTUR V*, 20-22.

⁸³¹ Steward, 2003, 138-140, on the importance of adding images to busy places see above.

⁸³² Galinsky, 2010, 80-128.

The bridge with its Agrippan imagery connected to the meshwork of monumental structures around the city and in particular those on the Campus Martius. Placing the inscriptions near the bridge connects Augustus, restoration and piety within the spaces of a busy and sacred part of the city. The monumental elements of both the bridge and the inscriptions create a permanence of place which along with their mutability, enabled the continuation and structuring of social ideology. Places are made and remade for each generation; the act of place creation, and recreation enables a sense of ownership and belonging.⁸³³ This invention of tradition linked two periods of significance in the Augustan timeline to bridges.⁸³⁴ The combination of bridge and inscription created one of the multiple centralities within Rome, and invented a new version of an old tradition, one successful enough that nearly two hundred years later Septimius Severus erected his own *ludi saeculares* inscription next to that of Augustus.⁸³⁵

As with the Pons Mulvius, the monumental inscriptions are not separate from the Pons Agrippae rather, they were gathered within the unity of perception of the bridge. The experience and language of the space was changed, marking it as a focus for the collective understanding of the Augustan renewal.⁸³⁶ Augustus's use of the space enhanced the power of the place and rejuvenated the ancient mythical ritual. The busy spaces of the bridge which attracted movement ensured that the inscriptions were visually prominent enough to create a new and lasting tradition which legitimise the new Augustan golden age. These rituals were also performed before Augustus had become *Pontifex Maximus*; when he finally got to perform the rites on the Pons Sublicius, after it was damaged in 5 BC, he was already well established as an emperor connected to bridges through literary narratives and his association with two of Rome's bridges and the rites of the *ludi* performed at the Pons Agrippae bridgehead.⁸³⁷ Augustus used the *locus celeberrimus* of the bridge space and the restorative ritual to reaffirm his commitment to traditional values and the association with

⁸³³ Harvey, 1996, 29-34.

⁸³⁴ Hobsbawm and Ranger, 1983, 1-14.

⁸³⁵ Newsome, 2009, 35, building on Lefebvre, 2015; Spencer, 2007 64. Rantala, 2013, for a detailed discussion of the links between the Augustan and Severan *ludi saeculares*. Hobsbawm and Ranger, 1983, 1-14.

⁸³⁶ Varro. *Ling.* 5.15; Newsome, 2009, 32-33.

⁸³⁷ See chapter 4, section 5 on the Augustan refoundation of Rome and the role of the *Pontifex Maximus*.

the refoundation of Rome.⁸³⁸ The use of an ancient space on an ancient route reinforced the image of Augustus as a man committed to both the religious and physical city of Rome.⁸³⁹

Monumentality is an important part of the urban landscape; it provides socio-cultural continuity through its enduring presence, giving spaces of identity to whole communities; and framing the urban landscape.⁸⁴⁰ Monumental space becomes a 'collective mirror', an image of the membership of a society which offers familiarity and recognition.⁸⁴¹ Monumental connect in the present through their complex and evolving conceived spaces; they reflect the political and individual aspirations of their dedicators and those who inscribe or adorn them at a later date, but they also become meaningful within the life and daily rhythms of the city. In London during the Blitz, Churchill issued a call to save St Paul's at all costs, knowing that the loss of the cathedral would have a devastating impact on the moral of the city, and at the recent fire in *Notre Dame* distraught inhabitants of the city gathered in the streets as the iconic building was consumed by flames. It is not just the religious aspects of these structures which makes them important it is the place they occupy and the form they take which frame our urban spaces. After the loss of the World Trade Centre Towers in New York, inhabitants of the city found themselves disorientated within the familiar spaces of their city; suddenly aware that they were had been unconsciously orientating themselves within the city based on the visible presence of the Twin Towers.⁸⁴²

Monumentality is a space of experience which appeals to every element of the body's sensorium, but that experience is not just affected by physical changes to the bridge but by the natural rhythms of the day.⁸⁴³ It is imperative to look further than the façade of a 'thing' and on to the underlying ideologies and discourses embodied within the fabric of the

⁸³⁸ Gowing, 2005, 17-27; Galinsky, 2010, for the restoration and reforms see 128-138; 288-312 for *the Ludi Seculares* 100-106. *Res. Gest.* 6.1 Cooley, 2009, 130-131 on Augustus's desire to be seen as the defender of Roman customs.

⁸³⁹ Miles, 1995, 117, 125-126.

⁸⁴⁰ Kostof, 1999, 40.

⁸⁴¹ Lefebvre, 1991, 220.

⁸⁴² Personal conversations in New York (2002), in which residents expressed their disorientation within their own city.

⁸⁴³ Harvey, 2004, 8.

structures and the forms of behaviours and practices they enabled.⁸⁴⁴ Temporal rhythm can also be a key factor in the perception of the monumental bridge. For example, the night can have a significant impact on the perception of space within the meshwork of a bridge, there are flows of meaning which relate not just to one sensory layer but many.⁸⁴⁵

At night, the Pons Mulvius offered the possibility for a different type of behaviour. The permanence of the bridge and its place at the natural boundary of the city created a liminal or 'edge' place where the city stopped, and the countryside started. It was the proposed meeting place, in the first century BC, of the Allobroges and those involved in the Catilinarian conspiracy, providing a place which was both inside and outside the city, and must have offered the best chance for the conspirators to avoid detection.⁸⁴⁶ While we know nothing of how the working inhabitants of Rome would have understood this night-time transformation, by implication the Pons Mulvius must have been a place which was regularly frequented by people from all walks of life. The conspirators, it could be suggested, picked the place because they would be able to approach the city and meet while undetected.

In the first century AD, Tacitus recounts that the Pons Mulvius was an infamous haunt of nightly profligacy, deemed inappropriate by the elite of the city, and enjoyed regularly by the Emperor Nero.⁸⁴⁷ Bridges have always been places which attract traders drawn by the regular flows of movement, stalls and shops were often set up either on the bridges or along the approach roads; excavations at London bridge have discovered evidence of medieval taverns (from the at least the 1600's) which lined the roads to the bridge.⁸⁴⁸ The Pons Mulvius must have had its share of taverns and bars, transforming the night-time world of the bridge into a lived space of competing tensions, in which people of different social classes interacted; the

⁸⁴⁴ Revell, 2014, 397. For an overview of *damnatio memoriae* in statuary in the Roman imperial period see Varner 2004. For a detailed and general overview see Flower, 2011.

⁸⁴⁵ Newsome, 2011 on discussion around the changing flows within the Fora.

⁸⁴⁶ Cic. *Catil.* 3.2; Tac. *Ann.* 13.47

⁸⁴⁷ Tac. *Ann.* 13.47, The conspiracies of the Bacchanalia mysteries carried out at night in secret where Livy, 39.8-18; narrates all manner of excess and vice happened. for the night, which were banned from Rome and Italy in the second century BC. Cic. *Leg.* 2.15.

⁸⁴⁸ Watson, 2004, 38-40.

Pons Mulvius was a place of transition at night; a liminal world at the edge of the city, far enough away from the central city to offer a different set of possibilities at night.⁸⁴⁹

The rhythm of the night changed the lived spaces of the bridge altering its sensory affordances, all the adornment and symbolic meaning was muted beneath the cover of darkness; Augustus no longer looked down from the arches, and the dedicatory inscriptions were absorbed into the material of the bridge.⁸⁵⁰ Travelling by night could also provide cover for a clandestine return; Suetonius and Cassius Dio both recount Augustus returning to Rome at night to evade detection and the ceremonies which greeted his day time arrivals.⁸⁵¹

The alterations between night and day at the bridge were not reserved just for the Pons Mulvius. The Pons Agrippa occupied a place near where night-time rituals were undertaken during the *ludi seculares*.⁸⁵² Rituals undertaken at night provided a whole new experience which was understood and interpreted through the body, but then became associated with the place. The monumental inscriptions erected near the bridge would have acted as a reminder to all those who had experienced the rites of the Augustan renewal and the new golden age.⁸⁵³ The bridges reflected a multiplicity of meanings both temporal and rhythmic, which reminded the inhabitants of the city of the complexity and mutability of its places.⁸⁵⁴

Bridges sit within a meshwork which offers 'conditions of possibility' creating temporal flows of correspondence between hubs.⁸⁵⁵ As the perceiving body is in constant dialogue with its experiences, so the meshwork becomes reductive, contracting the temporal space between generation.⁸⁵⁶ In the case of the Pons Mulvius and the Pons Agrippae, their meshwork gained

⁸⁴⁹ Newsome, 2013,72-77 on the possibilities of appropriation of place at night which enabled the creation of clandestine written space and location specific activities appropriating official spaces. De Certeau 1984, 29-37; Plautus who describes the act of walking alone at night as brave. Plaut. *Am.* 1.1.95 Newsome, 2013, 72.

⁸⁵⁰ Newsome, 2013. Martial offers an insight into the different trades which differentiate the rhythm of the night from the day Mart. *Ep.* 12.57 'Schoolmasters deny you life in the morning, bakers at night, the hammers of the coppersmiths all day' '*negant vitam ludi magistri mane, nocte pistores, aerariorum marculi die tot'*

⁸⁵¹ Dio Cass. 54.10 on Augustus returning to Rome at night to avoid the ceremonies which would greet his arrival in the city. And Suet. *Aug.* 53 who stated that Augustus did this across the provinces to avoid people having to undertake the ceremonies to welcome him at night.

⁸⁵² North and Beard, 1998, 139-144.

⁸⁵³ Betts, 2011, 122.

⁸⁵⁴ Harvey, 1991, 203.

⁸⁵⁵ Lefebvre, 1991, 221-224.

⁸⁵⁶ Ingold, 2011, 85; Hamalakis, 2013, 122-125.

complexity as the city evolved and expanded. The monumental stretched far beyond the visual to the pre-reflective experience which is embedded within the socio-cultural understanding of the world. The correspondence between people and monumental structures ensured continuity of place even when the meaning of the space itself was fluid.

5.4. Conclusion

Monumentality was situated within the bridges of Rome's 'becoming', it gained meaning from its use and discourse within a community of people; it was a lived space, holding contextual meaning which altered temporally with every experience. The monumental bridges of Rome held a different meaning for every generation and every culture which passed their roadways.⁸⁵⁷ Meaning is negotiated between the 'thing' and the people, it is situated within myriad values and symbols embedded in an ever-flowing socio-cultural relationship.⁸⁵⁸ The Pons Mulvius was a marker point for a series of future architectural changes instigated by Augustus during the Principate. These changes altered existing spatial practice and the rhythms of movement around the city, creating new sensory layers attributed to the Augustan aspirations for the city.⁸⁵⁹ These new conceived spaces were understood through lived space, where new experiences were integrated within the existing spaces of the Republican city creating a meshwork between the city, the new structures, and its inhabitants.⁸⁶⁰ Structures which were part of the existing city, such as the Pons Mulvius, became the hub which enabled Augustus to transform Rome without stripping of its familiarity and primary patterns of movement; providing city with a meshwork of correspondence strong enough to adapt its discourse without removing its familiarity, was part of the success of the Augustan transformation of the city.⁸⁶¹

Monumental things are a reaction to movement; they are not merely structures with adornment; there would be little point putting a monumental bridge in a place where it would

⁸⁵⁷ Osborne, 2014, 4. For the emergence of Roman monumentality from the Etruscan period see Meyers, 2012, 1-20.

⁸⁵⁸ Osborne, 2014, 13.

⁸⁵⁹ Lefebvre, 1991, 220-223

⁸⁶⁰ Harvey, 2012, 132.

⁸⁶¹ Barthes, 1975, 92.

not be experienced.⁸⁶² Movement is critical in defining place, in the case of the Pons Agrippae the busy space of the bridge was appropriated by Augustus for his *res restitute publica* through the addition of bronze tablets which celebrated the restoration of the *ludi saeculares* and the beginning of a new golden age. The rhythmic disruption caused by the introduction of the tables and the statutory of the Pons Mulvius caused people to reflect and reassess their understanding of the city's spaces and the broader Augustan political changes.⁸⁶³ The Pons Mulvius became the entrance way to the newly restored Rome of Augustus the incorporation of the Republican structure reassured the city of its longevity and traditions. The Pons Fabricius made a statement on the river which transformed the functional into the monumental.

The monumental bridges were the anchor which gathered correspondence (such as inscriptions) and created ideologies which were central to the reproduction and renegotiation of Rome's urban space. The mutability of the space allows the meaning of the bridges to alter and adapt within the current political and social requirements of the city, they gathered new symbols, movement and meaning to create new sensory layers, which connected people, creating a social place in which the *oeuvre* of the monumental could be admired by all, reflecting the characteristics and ambition of a society and transporting people out of the everyday.⁸⁶⁴

Monumental bridges reflect all three elements of Lefebvre's spatial triad, they are built to facilitate existing spatial practice, they are conceived spaces which become symbolic and integral to the daily rhythms of the city's life. Merleau-Ponty's embodied perception of the world is considered in terms of contextualising the bridges and understanding how material and adornment can alter the experience of the bridge from within the wider city. The concept of meshwork demonstrates correspondence of meaning as well as form. When materiality and perception change, new affordances and social meanings are created. By exploring the experiential qualities of the monumental bridges which are both part of its conceived and

⁸⁶² Newsome, 2011, 30.

⁸⁶³ Chen, 2017.

⁸⁶⁴ Lefebvre, 2003 and 1991, 21-22 but check ref's may have got confused.

reconceived spaces, to identify temporal appropriation of the bridges within their social context; we can use the bridges to trace the changes in the socio-cultural life of the city.

6. Conclusion

This thesis transforms the perception of the bridges of Rome; building on the literary and archaeological evidence, it demonstrates that the bridges were an integral part of the urban morphology and the socio-cultural life of Rome. This thesis is the first study of Rome's bridges to apply philosophical and spatial theories in order to demonstrate the transformative and communicative aspects of the bridges through their temporal alteration of space, movement, rhythm, habit and perception. This study concentrates on four original research questions; the first of which places the bridges within the temporal urban spaces of the city to analyse their role as a technology of urban production. The second seeks to identify the role of the bridges in the construction and maintenance of both the urban morphology and the socio-cultural life of the city. The third focuses on the movement and social interaction facilitated by the bridges, and the fourth on the relationship between bridge building and the monumental development in the city of Rome. Taking a new methodological approach to Rome's urban bridges enables these questions to be studied successfully.

As a riverine city, Rome's urban morphology was influenced by movement between the settlement areas and the river. The importance of the river to early spatial practice within the city cannot be overemphasised. Rome's first wooden bridge (the Pons Sublicius) played a significant role in altering the concept of near and far and transforming the daily rhythms of movement around the riverfront, enabling unrestricted movement between the east and west banks of the Tiber; that movement opened up possibilities for increased trade, settlement and defence. Each subsequent bridge (the Pons Aemilius, Pons Mulvius, Pons Fabricius, Pons Agrippae) had a role to play in the development of the city, but their evolving presence framed every traveller's perception of the city, from the busy river the hills and market to the roads which passed along each side of the river. The bridges were a central element of the experience of Rome from its early history until its demise, which is why this study has sought to demonstrate the value of the bridges and encourage their consideration in the future research of the city.

The biggest challenge for any study of the bridges of ancient Rome is the paucity of any new archaeological data. Therefore, in order to advance the study of the bridges, it was necessary

to move beyond the traditional objective approach to seek new perspectives outside of ancient history. This thesis has taken an original and multidisciplinary approach to the study of bridges by applying a methodology based on the complementary theoretical approaches of spatial and sensory studies. The methodology utilised enabled the consideration of how the body interpreted movement and material both from a spatial and temporal perspective. The new methodology permitted experience to be included as a factor in the study of the bridges, which, when combined with the literary and archaeological evidence, offered a new set of considerations — for example, studying how the addition of a new type of material for bridge construction altered the perception of the city's current wooden bridge, and how the addition of inscriptions or statutory affected the perceived role of a bridge within the socio-cultural life of the city. It also highlighted the importance of the temporal and contextual landscape of the bridges and gaining an understanding of the 'lived' experience of Rome.

The thesis was broken down into three complementary themes, which focused on the research questions outlined in chapter 1. Starting with the spatial, chapter 3 applied the theories of Lefebvre and his spatial triad (perceived, conceived and lived) to the issues of the bridges as tools of urban production. The result was unexpected and demonstrated that production of Rome's first wooden bridge was determined by both economic and natural considerations; the need to cross the river and journey toward the mouth of the Tiber and the shifting morphology of the Tiber which rendered the ford unpassable. The bridge was a natural space, a functional response which required little adaptation of the surrounding landscape and could be easily removed and reconstructed when necessary; as a result of a flood or as a defensive measure for the city. It also highlighted the importance of early movement and the creation of spatial practice to the development and structure of the riverine landscape around the bridge. The application of spatial techniques also led to a consideration of the placement of the Pons Sublicius based on patterns of movement and access.

The Pons Aemilius had a very different process of production; it was a conceived space which was located to take advantage of the existing spatial practice of the Pons Sublicius. The analysis of spatial production demonstrated that the area of the river along the Forum Boarium was reconstructed as a result of the addition of the bridge. The alterations to the riverfront necessitated by the bridge provided evidence for the increasing migration of the harbour

downriver of the bridge; not because of the presence of the bridge itself but because the Temple of Portunus was cut off from the harbour by the addition of the bridgehead road running away from the Pons Sublicius. Studying the spatial processes production for the two bridges enabled an assessment of the bridges' spatial development over the *longue durée* and demonstrated that the Pons Aemilius was a tool of urban production, reshaping the spaces of the riverfront.

Chapter 4 focused on the socio-cultural aspects of the bridges by exploring the material juxtaposition of Rome's first wooden and first stone bridges; the Pons Sublicius and the Pons Aemilius. Through a consideration of the effects of materiality on embodied perception, it demonstrated how the proximity and materiality of the two bridges created a betweenness of space which enabled the Pons Sublicius to become ancient. In other words, it was the act of adding a second and materially distinct bridge, in close proximity to the first, which created the perception of the authentic ancient wooden bridge and enabled the use of the *exempla* of Horatius Cocles throughout the history of the city. The materiality of bridges created a flow of temporal correspondence within the meshwork of the bridges which enabled the becoming and rebecoming of Roman traditional values and identity within the socio-cultural life of the city; physically bringing the past into the present for its inhabitants. The two bridges transcended their functionality to become part of a unity of perception which incorporated the foundation, religious, economic and political elements of Rome within one of the city's ancient spaces. As the city evolved the authentic bridge became ever more ancient perpetuating its role in the preservation of collective social identity.

It was also crucial that this thesis emphasised the temporality of the bridges and the fluidity of their meaning, which was assimilated and understood through the act of moving around the city. The bridges themselves, their spaces and meaning were never static; literary recounting added to the flows of knowledge which passed along the meshwork of the bridges, altering their correspondence with the inhabitants of the city, for example when the Pons Sublicius was appropriated by Julius Caesar, Augustus and Antoninus Pius to represent their new political agendas. Cues around the city also enabled the bridge to be experienced in other locations around the city; the statue of Horatius Cocles, for example, would have engendered a conscious or subconscious experience of the bridge across the Tiber. The rituals conducted on

the wooden bridge reaffirmed its association with Rome's past every year while rites conducted whenever the bridge was damaged, offering the *Pontifex Maximus* the opportunity to reassert his bridge builder credentials and re-connect himself to a long line of famous bridge builders. All these rites could be viewed from the platform of the Pons Aemilius emphasising the juxtaposition between the two bridges and providing a physical connection to the past, a past which shaped the identity of the present.

Between spaces also encompassed the sense of other which extended to the west bank of the Tiber which within the temporal lived spaces of the city represented either the military focused other as represented by the Etruscans or the threat from the east in the form of Cleopatra. In the later first century AD, the notion of the other evolved to encompass the different industries which resided on the west banks of the Tiber and marked the two different sensescapes of the west and east bank of the city. This chapter used sensory, spatial, and the notion of the meshwork to demonstrate the role Rome's first two bridges played in the creation and continuity of the shared social and cultural identity of the city.

The final chapter focused on the monumentality of the bridges and pulled together all the elements of the methodology to study the rebecoming of the bridges. The unity of perception or the background of the embodied experience was critical to this chapter in order to demonstrate how the additions of inscriptions and statues can change the perception and the meaning of the bridges within the urban spaces of the city. The bridge inscriptions enabled them to retain a Republican identity and ensured that they were connected to their patron's work or the work of their family across the city. However, the addition of Augustan statuary to the Pons Mulvius was one of the most effective appropriations of bridge space.

When Augustus added his statuary to the Pons Mulvius during the early period of his reign, he altered the experience of Rome for every person who approached the city from the north, both from the river and road. The bridge was situated in a relatively open space, which unlike the bridges within the Forum Boarium, could be seen, even from the Janiculum.⁸⁶⁵ The Republican bridge was adorned with Augustan imagery, but it was not renamed for the Emperor but reflected a combination of the Republic and the *princeps*. The bridge re-became

⁸⁶⁵ If we accept Martials's account as real. See chapter 5.

a symbol of the Augustan commitment to Rome and the power of the new regime. From that point on every additional element of the Augustan building programme was understood and reflected through the first image of the emperor as travellers passed into Rome. The monumentalisation of Rome's bridge was about exploiting spatial practice to reconceive space to reflect a new political and social ideology; it was about sustaining and reflecting the present within the meaning places of the city.

This thesis has demonstrated that by expanding the types of evidence used, a whole series of new questions were raised which enabled this study to take an innovative approach to the role and development of the bridges within the socio-cultural life of the city. This study used a substantial body of knowledge from ancient history, archaeology, classics, geography, engineering, philosophy and architecture facilitated a new perception of Roman bridges which would not have been possible had stayed within the parameters of traditional approaches to the urban infrastructure. The multidisciplinary approach also enabled the reassessment of Pons Agrippae which chapter 1 demonstrated should be associated with the bridge piers of the Campus Martius, previously known as the Pons Neronianus, rather than the structure at the Villa Farnesina.

Further studies may consider the city's Imperial bridges the Pons Aelius, the Pons Valentinian and the Pons Probi to analyse how movement around Rome from the second century AD-affected their creation and perception. For example, did movement across the Pons Aelius focus solely on the mausoleum or did the new bridge instantly usurp the role of the Pons Agrippae to become the principal route to the Vatican district. It would also be interesting to analyse the Pons Aelius and the Pons Agrippae to see if they also created a juxtaposition of betweenness like that of the Pons Sublicius and the Pons Aemilius, but with different temporal and material elements.

There are several areas of future study which have been highlighted by this thesis. The methodology outlined in this work can be applied to the study of the provincial bridges. Saintes, in particular, demonstrates the influence of the monumental bridges in Rome through the meshwork of correspondence created by coin imagery. An analysis of the process of spatial production of the bridges could provide a greater understanding of the correlation between coin imagery and the influence of Rome on bridge construction.

Situating the bridges within the ritual life of Rome is currently a challenging issue due to the paucity of ritual evidence which can be positively attributed to the bridges. Prehistorians have long made the connection between bridges and ritual offerings, but the link eludes Roman studies. This is largely, as stated in chapter 4, a result of the heavy use of rivers around the bridges and the multiple sources from which the votives may have come, such as shifting riverbanks or boats. A systematic analysis of assemblages found in the vicinity of bridges across the provinces could be compared for commonalities, data is available from sites such as London Bridge, Piercebridge, Arles and the Tiber itself. Added to the existing work, such as the anatomical votives from the Tiber, these groups of assemblages may indicate a pattern which connects Roman bridges to ritual movement.⁸⁶⁶

Despite the innovative coring work which has been undertaken in the Forum Boarium there is so much which is still unknown about one of Rome's oldest spaces. Further coring work on the Tiber Island and the Trastevere, if ever undertaken, may offer new clues to the development of the area but work on the Forum Boarium and Trastevere would enable a bigger and more accurate picture of Rome's riverside to emerge.

This thesis has shown how the application of spatial and sensory studies can be beneficial, especially to areas and structures which have no new evidence to evaluate. Spatial studies have begun to be integrated into the toolkits of urban analysis but should be on the agenda for all studies of Roman urban spaces.⁸⁶⁷ Sensory studies is also a useful and powerful research tool and have the potential to change the way we understand the ancient world. However, more definition around what is classified as sensory studies would set it apart from the increasing number of studies which fall more into the realm of experimental archaeology, for example, recreation and consumption of Roman food is experimental archaeology, we gain little insight into the Roman world from tasting Roman food with the modern pallet.⁸⁶⁸ Studies which fall into the sensory discipline need to be clear about their objectives and the questions they address, to avoid slipping into imagined descriptions of the ancient city. To that end, I have argued throughout this thesis that without a compelling reason, and I accept that there

⁸⁶⁶ See chapter 4.

⁸⁶⁷ See Laurence, 1999; Newsome, 2010; Poehler, 2018.

⁸⁶⁸ To be clear I am not suggesting experimental archaeology is not based on evidential footing just that it answers a very different set of questions to sensory studies.

sometimes are excellent reasons, that sensory studies should mean the multisensory experience.

This thesis demonstrates that a multidisciplinary approach can transform the study of Roman bridges from the functional and structural, to things which were involved in the production of urban space, facilitated the continuation of foundational and social identity and were employed in the creation of new political ideology. The philosophical and spatial theories assisted in the articulation of new ideas and concepts, but all observations are underpinned by the evidence from literary sources, epigraphy and archaeology; theory is used to expand the understanding of the bridge's role within the urban spaces of Rome. My aim was to alter the perception of everyone who reads this thesis and to make them reflect on their knowledge of the bridges of Rome, and perhaps take a trip to down to the Tiber the next time they are in Rome to experience what extraordinary structures the bridges were and still are today.

Bibliography

For reference some of the common abbreviations of periodicals and series titles are listed below: (this thesis follows the conventions of the Oxford Classical Dictionary).

AJArch.	American Journal of Archaeology
AJPhil.	American Journal of Philology
<i>Bull. Com. Arch.</i>	<i>Bullettino della Commissione archeologica comunale di Roma</i>
LTUR	<i>Lexicon Topographicum Urbis Romae, 1993-2000, E.M. Steinby (ed.) six Vols.</i>
LTUR Sub.	<i>Lexicon Topographicum Urbis Romae – Suburbium</i>
JRA	<i>Journal of Roman Archaeology</i>
JRA Supp.	<i>Journal of Roman Archaeology Supplementary Series</i>
JRS	<i>Journal of Roman Studies</i>
MAAR	<i>Memoirs of the American Academy in Rome</i>
<i>Not. Scav.</i>	<i>Notizie degli scavi di antichità (1876-)</i>
OCD	<i>Oxford Classical Dictionary</i>
PBSR	<i>Papers of the British School at Rome</i>
<i>Röm. Mitt.</i>	<i>Mitteilungen des deutschen archäologischen Instituts, Römische Abteilung</i>

Loeb translations are used throughout this thesis unless otherwise stated.

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