

**SHAPING SOCIAL RELATIONS AT THE GRAVE:  
A SPATIAL ANALYSIS OF TOMBS 88-90 AT THE ISOLA SACRA NECROPOLIS  
AND TOMB B AT THE VATICAN NECROPOLIS**

by

Elizabeth Meshel

B.A., New York University, 2015

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR  
THE DEGREE OF

MASTER OF ARTS

in

THE FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

(Classical and Near Eastern Archaeology)

THE UNIVERSITY OF BRITISH COLUMBIA

(Vancouver)

October 2022

© Elizabeth Meshel, 2022

The following individuals certify that they have read, and recommend to the Faculty of Graduate and Postdoctoral Studies for acceptance, the thesis entitled:

Shaping Social Relations at the Grave: A Spatial Analysis of Tombs 88-90 at the Isola  
Sacra Necropolis and Tomb B at the Vatican Necropolis

---

submitted by Elizabeth Meshel in partial fulfilment of the requirements for

the degree of Master of Arts

in Classical and Near Eastern Archaeology

**Examining Committee:**

Dr. Matthew McCarty, Assistant Professor of Roman Archaeology, UBC

Supervisor

Dr. Katharine P.D. Huemoeller, Assistant Professor of Roman History

Supervisory Committee Member

## Abstract

Scholars typically consider Roman funerary monuments to be static representations of the commissioner or deceased. However, this common approach limits our inquiries to a single individual and the moment of the tomb's commission, ignoring decades and centuries of subsequent use and users. Furthermore, it belies the fact that the tomb was also a locus of social activity amidst collective mourning and annual festivities like *parentalia*. To address these shortcomings, this thesis proposes a new approach centered on the agency of the tomb. In so doing, it argues that tombs actively influenced the social activity of its users in ways that changed over time. I employ this approach on two diachronic case studies, Tombs 88-90 at the Isola Sacra Necropolis and Tomb B at the Vatican Necropolis, through an application of space syntax. This analytical framework developed by Hillier and Hanson (1984) permits us to quantify, represent, and interpret the spatial relationships in the built environment that impact the probable movement and encounter patterns of its users. The results of this study reveal that the built environment of the tomb and the material manifestations of its inhabitants structured the social environment of the living as much as it structured their interactions with the dead. Just as relationships amongst the living were not equal, so too were spaces in these chamber tombs. The physical and topological properties of the tomb could reinforce social stratification and create an experiential hierarchy for its users. Consequently, changes to the tomb precipitated not only shifts in its social potential and the lived experience of its users, but also in their experience of social stratification within the space. Finally, this thesis demonstrates that an approach centered on the agency of the tomb can lend new insights into oft-discussed topics and opens the field to new questions, insights, and methodologies that can consider the lifespan of the tomb and the oft-forgotten individuals buried within.

## **Lay Summary**

This thesis advances a new approach to Roman funerary monuments that centers the agency of the tomb and demonstrates its validity with two case studies: Tombs 88-90 at the Isola Sacra Necropolis and Tomb B at the Vatican Necropolis. This new approach not only reveals how the tomb's built environment structured the social environment of the living, but also how it could specifically reflect, reinforce, and create social stratification amongst its users. Consequently, changes to the tomb precipitated not only shifts in its social potential and the lived experience of its users, but also in their experience of social stratification within the space. Significantly, this thesis proves that an approach centered on the agency of the tomb can lend new insights into oft-discussed topics and open the field to new questions and methodologies.

## **Preface**

This thesis is the original, unpublished, and independent work of the author, Elizabeth Meshel.

All figures are the property of their original creators who have been acknowledged in the captions.

## Table of Contents

<b>Abstract.....</b>	<b>iii</b>
<b>Lay Summary .....</b>	<b>iv</b>
<b>Preface.....</b>	<b>v</b>
<b>Table of Contents .....</b>	<b>vi</b>
<b>List of Tables .....</b>	<b>viii</b>
<b>List of Figures.....</b>	<b>ix</b>
<b>Acknowledgements .....</b>	<b>x</b>
<b>Dedication .....</b>	<b>xii</b>
<b>Chapter 1: Introduction .....</b>	<b>1</b>
<b>Chapter 2: Methodology.....</b>	<b>5</b>
2.1 <i>Theoretical Framework: Material Agency and Structuration Theory.....</i>	5
2.2 <i>Methodological Application: Integrated Spatial Analysis.....</i>	6
2.3 <i>Selection of the Case Studies: Tombs 88-90 and Tomb B .....</i>	12
2.4 <i>Key Working Assumption.....</i>	14
2.5 <i>Limitations to this Paper.....</i>	16
<b>Chapter 3: Tombs 88-90 at Isola Sacra.....</b>	<b>17</b>
3.1 <i>Introduction to the Isola Sacra Necropolis Case Study.....</i>	17
3.2 <i>Context of the Case Study .....</i>	17
3.3 <i>The Hadrianic Period: Tombs 88 and 90 .....</i>	20
3.4 <i>The Antonine Period: Tombs 88, 89, and 90 .....</i>	25
3.5 <i>Conclusions of the Case Study.....</i>	30
<b>Chapter 4: Tomb B at the Vatican Necropolis .....</b>	<b>32</b>
4.1 <i>Introduction to the Vatican Necropolis Case Study.....</i>	32
4.2 <i>Context of the Case Study .....</i>	32
4.3 <i>First Phase, Hadrianic Period.....</i>	36
4.4 <i>Second Phase, mid-3rd century .....</i>	40
4.5 <i>Third Phase.....</i>	45
4.6 <i>Fourth Phase.....</i>	49

4.7	<i>Conclusions of the Case Study</i> .....	53
<b>Chapter 5: Conclusions</b>	.....	<b>56</b>
<b>Tables</b>	.....	<b>60</b>
<b>Figures</b>	.....	<b>65</b>
<b>References</b>	.....	<b>76</b>

### List of Tables

<b>Table 1.</b> Summary of Relevant Syntactic and Spatial Measurements.....	60
<b>Table 2.</b> Syntactic and Spatial Properties of Tombs 88 and 90 (Phase 1).....	61
<b>Table 3.</b> Syntactic and Spatial Properties of Tombs 88-90 (Phase 2).....	62
<b>Table 4.</b> Syntactic and Spatial Properties of Tomb B (Phase 1) .....	63
<b>Table 5.</b> Syntactic and Spatial Properties of Tomb B (Phase 2) .....	63
<b>Table 6.</b> Syntactic and Spatial Properties of Tomb B (Phase 3) .....	63
<b>Table 7.</b> Syntactic and Spatial Properties of Tomb B (Phase 4) .....	64



## List of Figures

<b>Figure 1.</b> Plan of the Isola Sacra Necropolis.....	65
<b>Figure 2.</b> Photograph of Tombs 88-90 .....	66
<b>Figure 3.</b> Section of Isola Sacra Necropolis Plan with Tombs 88-90 .....	66
<b>Figure 4.</b> Convex Spaces for First Phase Configuration of Tombs 88 and 90.....	67
<b>Figure 5.</b> Justified Access Graph for First Phase Configuration of Tombs 88 and 90. ....	67
<b>Figure 6.</b> Photograph of Tomb 90's Burial Chamber. ....	68
<b>Figure 7.</b> Photograph of the Interior of Enclosure 89 Looking Towards 89A.....	68
<b>Figure 8.</b> Convex Spaces for Second Phase Configuration of Tombs 88-90.....	69
<b>Figure 9.</b> Justified Access Graph for Second Phase Configuration of Tombs 88-90. ....	69
<b>Figure 10.</b> Plan of the Vatican Necropolis. ....	70
<b>Figure 11.</b> Plan of Tombs D-A from the Vatican Necropolis .....	70
<b>Figure 12.</b> Reconstruction Drawing of Tombs D-A from the Vatican Necropolis.....	71
<b>Figure 13.</b> Drawing of Tomb B Illustrating Post-Third Century Modifications.....	71
<b>Figure 14.</b> Convex Spaces for First Phase Configuration of Tomb B .....	72
<b>Figure 15.</b> Justified Access Graph for First Phase Configuration of Tomb B .....	72
<b>Figure 16.</b> Convex Spaces for Second Phase Configuration of Tomb B .....	73
<b>Figure 17.</b> Justified Access Graph for Second Phase Configuration of Tomb B.....	73
<b>Figure 18.</b> Convex Spaces for Third Phase Configuration of Tomb B .....	74
<b>Figure 19.</b> Justified Access Graph for Third Phase Configuration of Tomb B .....	74
<b>Figure 20.</b> Convex Spaces for Fourth Phase Configuration of Tomb B .....	75
<b>Figure 21.</b> Justified Access Graph for Fourth Phase Configuration of Tomb B .....	75

## Acknowledgements

It is never easy to move to a new country and start a new chapter in graduate school, let alone during a global pandemic. I am therefore exceedingly grateful to the entire department of Ancient Mediterranean and Near Eastern Studies whose professors, administrators, and students made my graduate experience so fruitful.

I would first like to thank my supervisor, Dr. Matthew McCarty, for his enthusiasm and tireless support over the past few years. He has taught me as much about the ancient world as he has modeled what it means to be both a compassionate scholar and teacher. I would also like to thank my second reader, Dr. Kat Huemoeller, for her thought-provoking scholarship, exceptional pedagogy, and consistent support throughout this degree. I am indebted to Dr. Kevin Fisher for his encouragement and interdisciplinary work. This thesis would not have been possible without his excellent 'Space and Place' course. Thanks as well to Sheri Pak and Odessa Cadieux-Rey for their help in navigating the transition and the degree process with kindness and empathy.

I am also thankful for the support and camaraderie of my fellow graduate students. Lara-Sophie Boleslawsky filled me with laughter and new ideas while Bronwyn Langley offered consistent encouragement. Maya Porebska-Smith provided invaluable support and kindness during times of stress. I am particularly grateful for Kim Edher, who has steadfastly supported and challenged me as both a scholar and a friend these past few years.

I also owe a great debt to the communities at Green College and the Watt School of Irish Dance for bringing me joy throughout the process. Thanks also to the vibrant Irish dancing community, particularly Dr. Susan Sheng and Sarah Velasquez for cheering for me on and off the stage for six years - celebrating completed full rounds and guest lectures with equal enthusiasm.

Finally, thanks to the following individuals who I will never be able to thank enough: my parents, David and Sherrill Meshel, and my best friend, Michelle Arbulu, for their consistent love and support. Anna Reynolds for her generous friendship, our excellent adventures, and for turning a new city into a home. And last, but never least, to Matt Ziskin - for all the above and so much more.

*To Matt and Anna - for hiking every mountain with me.*

## Chapter 1: Introduction

“After all it’s a big mistake to have nice houses just for when you’re alive, and not to worry about the ones we have to live in for much longer... I’ll appoint one of my freedmen to be caretaker of my tomb and prevent people from running up and shitting on it. I’d like you to put some ships in full sail on the monument, and me sitting in my room of office on a platform, wearing five gold rings and distributing money from a bag in public; for you know that I gave a dinner worth two *denarii* a head...”

(Petronius, *Satyricon* 71, translated in Hope 2007, 77)

In the 1st century CE, the Roman author Petronius ascribed these words to the fictional freed slave Trimalchio speaking to his dinner guests about his desired funerary monument. The description of this elaborate tomb - its monumental 300ft<sup>2</sup> size and iconography of wealth and charity – was one of the many ways in which Petronius represented freedpeople as the gaudy *nouveau riche* of the Roman world (Borg 2011). And while this section is partly to blame for scholars problematically interpreting freedpeople and their funerary monuments, it also relies on the same premise by which Roman tombs are most often approached today: as representations of those by and for whom they were erected (Hackworth Petersen 2006). They may be seen as representations of self (McDonnell 2005), articulations of (often problematic) socio-cultural identities (Borg 2011; Carroll 2013), or indices of ancient Roman society (Taylor 1961; Grigoropoulos 2009/2010; King 2020).

This approach is a staple in the field of archaeology, but it has also fundamentally limited the scope of inquiry for Roman funerary monuments. An interest in parsing the identity of a funerary monument commissioner or recipient inherently confines studies to those named in an inscription and the very moment of its creation. Scholarship on the ‘Monument of Naevoleia Tyche’ in Pompeii’s Porta di Ercolano necropolis, for instance, centers exclusively on how Naevoleia Tyche represented herself and her husband’s achievements to advertise her rise in status from enslaved individual to a wealthy freedwoman (Bernstein 2007; McDonnell 2005).

The others for whom the tomb was built, noted in the inscription as her freedpeople, and those buried within the monument, including an enslaved boy named Salvius, are rarely mentioned let alone the subject of inquiry (Campbell 2014, 128).

This practice has also rendered tombs as static entities despite many having a lifespan far beyond their initial construction (Borg 2019). For example, in her 2003 dissertation entitled “The Vatican Necropolis: Ritual, Status and Social Identity in the Roman Chamber Tomb” (an apt reflection of the field’s prevailing interests!), Regina Gee examined the interior and exterior decorations of tombs F, H, and Phi. Although she acknowledged that these tombs had longstanding histories of their own, she noted that “the purpose of this examination is not to follow the trail of these monuments...but to consider their appearance and use as conceived originally by the first owners” (Gee 2003, 18). When diachronic case studies are conducted, they focus more on a shift in broader architectural trends than examining a singular tomb’s history.<sup>1</sup> Yet it was a monument’s very ability to withstand time that made them valuable and whose ongoing appearance and maintenance across generations served as a source of real concern to their ancient users.<sup>2</sup> Indeed, Petronius’ image of a freedperson guarding the tomb to protect it from desecration isn’t far off from the truth - some elaborate monuments even had rooms for such caretakers (Zanker and Ewald 2013, 27-28)!

By rendering the tomb as a static representation of an individual, we also frequently forget what else Petronius’ satire reveals in the image of the freedman ordered to guard the tomb

---

<sup>1</sup> See, for example, Borg 2018 on trends in funerary architecture and Feraudi-Gruénis 2001 or Wallace-Hadrill 2008 on the debate surrounding the shifting importance given to a tomb’s interior and exterior decorations.

<sup>2</sup> A common funerary abbreviation ‘HMHNS’ stands for *hoc monumentum heredem non sequetur*, a clear statement that the tomb does not pass to the heirs of the commissioner is but one example of a desire to control the future of the tomb. Another famous example includes numerous letters by Cicero to Atticus in which he discusses plans for a shrine to his deceased daughter. In one letter, Cicero elucidates concern over changing ownership: “But I have to consider how to make sure it [the monument] can stay as it were consecrated through the innumerable changes in ownership which may occur in the infinite future, if our society survives” (Cicero, *Att.* 12.19.1 translated in Hope 2007, 151).

from individuals so intent on defiling it: the tomb could be a lively place! In ancient Rome, tombs were the liminal locations by which the living could appease the deceased (Ovid, *Fast.* II.533-556). The *familia*<sup>3</sup> and friends of the deceased would visit multiple times a year during funerary rituals and a number of yearly festivals.<sup>4</sup> Far from only a space in which the living catered to the deceased, these tombs thus served as a social space in which the living regularly congregated as individuals, members of a *familia*, and part of the broader community. A reconsideration of the Roman funerary monument as a social space is therefore long overdue. Rather than interpreting the tomb as representations of status for the dead whose meanings were fixed at the moment of their commission, I argue that they were active agents in the production of social relationships in ways that changed through time.

By reframing the tomb as an active agent in shaping society, we go beyond the confines inherent in a representational study by acknowledging the agential role of a tomb on *all* who use and encounter it across the entirety of *its lifespan*. Consideration of a tombs agency therefore invites questions with a diachronic scope and a broad focus of users as well as the application of new methodologies to reveal new nuances in the field. I demonstrate this by centering the agency of the tomb – and even its deceased inhabitants! – in a diachronic spatial analysis of Tombs 88-90 in the Isola Sacra Necropolis and Tomb B (“the Tomb of Fannia Redempta”) in the Vatican Necropolis. I show how the built environment of the tomb and the material remains of its

---

<sup>3</sup> In the context of ancient Rome, *familia* refers not only to the nuclear family, but also to the slaves and former slaves, or freedpeople, of the household (Hackworth Petersen 2006, 213). I will therefore use the phrase *familia* rather than family to avoid modern connotations of the phrase.

<sup>4</sup> After the burial, the *familia* held a funerary feast (*silicernium*) at the grave site and returned on the ninth day following the funeral (*cena novendialis*) to pour a libation on the burial (Toynbee 1971, 179-180). Individuals may have also gone to the grave on the deceased's birthday, as well as during the Roman festivals of the *rosalia*, *violaria*, and *parentalia* to perform a sacrifice at the grave site (von Hesberg et al. 2015, 246). In addition to the festivals, individuals could leave specific bequests in their will for people to conduct additional rites. An inscription from Rome, for example, requested that an individual burn a lamp with incense at the grave three times a month (CIL 6.10248, translated in Stevens 2017, 156).

inhabitants influenced the inter/actions of its living users and, significantly, that these changed over the tomb's lifespan. I thereby expand the discussion of hierarchical burial locations in chamber tombs to include consideration for hierarchical locations amongst the living during visitations in the first phase(s) of use.<sup>5</sup> I further nuance this by illustrating how the tomb's production of hierarchy could shift over time, impacted by new tombs, diminished available space, and even the oft-discussed shift from cremation to inhumation. In so doing, I prove that this theoretical and methodological approach can not only be applied to Roman funerary monuments, but also offer novel insights into the Roman funerary landscape.

I will begin by introducing my theoretical and methodological frameworks as well as a key assumption and limitations that guide this thesis in Chapter 2. In Chapter 3, I perform access analysis on Tombs 88-90 in the Isola Sacra Necropolis during the Hadrianic and Antonine periods. The distinct syntactical differences in the tomb group between the two periods demonstrate that built changes to the funerary environment could significantly alter the tomb's social potential and with whom an individual was most likely to engage. In Chapter 4, I apply the same methodology to a single tomb (Tomb B) in the Vatican Necropolis to better understand how changes to the tomb over four periods of use informed intrafamilial dynamics. The paper concludes with Chapter 5 wherein I consolidate the findings from the case studies and highlight the opportunities offered by an application of this framework to funerary sites.

---

<sup>5</sup> Many scholars, such as Hope (1997) and Hackworth Petersen (2006), take the stance that burial positions within chamber tombs often reflect a hierarchy with central niches on the wall opposite the entrance as spots most often reserved for the tomb's commissioner or close family. Feraudi-Gruénais (2003) convincingly contests this by demonstrating that, while some case studies follow this pattern, it is certainly not always the case.



## Chapter 2: Methodology

### 2.1 Theoretical Framework: Material Agency and Structuration Theory

The substantial shift in approach from reading tombs as representative objects to interrogating the impacts of their agency relies on the application of two theories – material agency and structuration – to funerary monuments in a manner that has hitherto been absent from the field. In the hallmark work *Art and Agency: An Anthropological Theory*, the late Alfred Gell argued that an artist imbues their work with agency and that art in turn affects a recipient (Gell 1998). This idea of material agency has since been expanded, challenged, and nuanced over the last thirty years (see: Knappett and Malafouris 2008, van Oyen 2016). Although the debate continues, I utilize the position advocated by Feldman which stipulates that agency is the ability to affect “real social consequences” both unintentional and intentional (2010, 149-150). For example, a wall has agency in that its physicality prevents individuals from walking through the space in which it was built. Employment of this framework enables us to consider how material culture, the very bread and butter of archaeology, can *actively* influence individuals engaging with it.

Structuration theory has allowed scholars to further extend the impact of material objects from an individual to a societal level. In his seminal 1984 work, *The Constitution of Society: Outline of the Theory of Structuration*, British sociologist Anthony Giddens argued that there is a recursive and reciprocal relationship between social structures (i.e., government, organized religion, imperial hierarchies) and human agents (25). In this manner, individuals are simultaneously the creators *and* the products of social structures, duplicating or changing the conditions of social structures through their daily practices within its context. Giddens notably acknowledges the importance of the built environment as the context of this constitutive

relationship although he yields little agency to it and instead privileges the role of the individual (xv, 118). The applicability of structuration theory here and in other studies of the built environment thus hinges on amending it to include an important precept of his contemporary, French sociologist Pierre Bourdieu (Gieryn 2002, 41).<sup>6</sup> In his seminal analysis of the Kabyle house, he acknowledges the building's agency in reproducing and reinforcing gender roles in Berber society although does not allow for the possibility of wholly conscious creation or interaction by the individuals (Bourdieu 1970). By combining the ideas of Bourdieu and Giddens, we acknowledge that the built environment, as the formative context of individual interaction, plays an important role in shaping society *and* that this environment is created, inhabited, and changed by the conscious and unconscious actions of individuals therein (Gieryn 2002). This amended framework has been particularly appealing to those studying the Roman provinces and has served to further nuance the process of 'Romanization' (Revell 2008). Yet the significance of this theory, particularly when combined with a framework of material agency, has much more to offer the field than commenting on Romanization because it allows us to claim that material culture – including funerary monuments – is not only shaped by social structures but also plays an *active* role in structuring and reproducing them.

## 2.2 Methodological Application: Integrated Spatial Analysis

As noted above, the built environment plays an integral role in the reproduction and negotiation of social structures by serving as the physical context of individual interaction and daily practice (Hillier and Hanson 1984, ix; Fisher 2009). It therefore follows that different

---

<sup>6</sup> Bourdieu also proposed a reciprocal relationship betwixt social structures and agency in his seminal work, *Outline of a Theory of Practice* (1977), although with several differences including divergent attributions of agency. Whereas Giddens offered room for conscious action by his 'knowledgeable human agents,' Bourdieu instead suggested that individuals are governed by the *habitus*.

properties of the built environment can impact social interaction and thus, social structure. For example, spatial properties of a room, such as its accessibility, visibility, depth, and integration with other spaces in a building, can facilitate the inclusion or exclusion of other individuals, simultaneously reflecting and enforcing both internal and external hierarchies. Space syntax,<sup>7</sup> developed by Hillier and Hanson (1984), is a framework and a series of methods that permits us to quantify, represent, and interpret these spatial properties and relationships in the built environment (Fisher 2009, 440). Space syntax can therefore help determine how the built environment of the tomb impacted the probable movement and encounter patterns of its users and the type of social interaction most likely to be fostered within it (Fisher 2009, 440).

In order to consider *how* the agency of the tomb and its deceased could shape society over time, I utilized space syntax techniques in two case studies: Tombs 88-90 in the Isola Sacra Necropolis and Tomb B in the Vatican Necropolis. The former provides an opportunity to examine how a group of tombs shaped the interactions of different *familiae*. The latter, a solitary tomb, offers the ability to investigate how the tomb shaped intrafamilial dynamics. I have also chosen to conduct these analyses diachronically because there is a tendency to render tombs static due to a focus on iconography. Yet tombs, like all buildings, change and evolve with their users' needs and it is this change in the built environment and the subsequent impact on inter- and intra-familial societies that I wish to highlight (Gieryn 2002).

---

<sup>7</sup> The utility of space syntax is well documented (Fisher 2009, Letesson 2015) and the approach has been widely applied to analyses of domestic spaces, street networks, and even religious landscapes in Roman Italy (Grahame 2000, Battistin 2021, Crawford 2018). Little work, however, has been done applying it to tombs or necropoleis in Roman Italy or elsewhere. This gap in application is likely because necropoleis are rarely thought of as spaces of the living and, as will be discussed shortly, individual tombs are not ideal candidates for space syntax. One aim of this paper is to therefore highlight the research opportunities offered by reframing the tomb as a place of the living and employing interdisciplinary socio-spatial methodologies, rather than representational ones, to study it.

Each case study first underwent a space syntax analysis technique known as convex spatial analysis, or access analysis. This process entails representing the tomb(s) in an abstract access graph that depicts the connections between the tomb's spatial units and the 'outside world.' Although Hillier and Hanson use 'bounded space' (i.e., spaces designated by borders or walls) as the basic spatial unit for an individual building, I instead follow Fisher (2009) in utilizing convex spaces, defined as "the fewest and most square spaces that can fit into a bounded space such that a straight line can be drawn between any two points within a convex space without passing its boundary" (Fisher 2009, 440). This enables us to capture the unique movement patterns and social circumstances that can arise in irregularly bounded spaces and those defined by specific features, such as the protruding floor tomb in Tomb B. In a justified access graph, these convex spaces are further organized by depth from the building's point(s) of entry, or "carrier." Convex spaces with the same depth are arranged along one horizontal line, providing a clear visual representation about the accessibility of each space (ibid). On the justified access graphs for Tombs 88-90 ([Figs. 5, 9](#)) and Tomb B ([Figs. 15, 17, 19, and 21](#)), the carrier is represented by a circle with an 'x', each convex space by a circle, and the connections between them by a line.

After the justified access graph was created, several syntactic properties were calculated for each convex space to study the tombs' potential for social interaction. The **control value (CV)** of a convex space reveals how much 'control' a space has over its neighbors. It is calculated by first assigning every space (including the carrier) a value of one. The one is divided by the number of spaces to which it is directly connected, and these numbers are then added up

for each convex space.<sup>8</sup> A higher number indicates that a convex space exerts greater control over its adjoining spaces. The **depth**, the measure by which the justified access graph is organized, is the number of spaces one must pass through from the tomb's exterior to reach the designated convex space. In general, a higher depth value indicates that a space may be more inaccessible to a visitor and thus more exclusive. The **mean depth (MD)** of a convex space is the average depth of the convex space from all other spaces within the tomb. To calculate this value, one must first start from the convex space in question and note how many spaces are one depth away, two depths away, etc. The number of spaces is multiplied by their depth value, and these values are added together. The sum is then divided by  $k$  (the total number of spaces) minus one. This value can provide quantitative insight into how accessible a convex space is within a built unit as a higher number can indicate greater inaccessibility. However, this value is rarely used on its own and is instead more commonly employed in calculating a space's **relative asymmetry (RA)**. The RA value details a space's accessibility from any other space within the overall structure and thus its overall integration within the unit (Fisher 2009, 441). It is calculated with the formula  $2(MD - 1) / k - 2$  and provides a standardized value between 0 and 1. A RA value close to 1 indicates that a space is less accessible or integrated while a value closer to 0 suggests a highly integrated and accessible space. Because a structure's total number of constituent spaces ( $k$ ) significantly impacts the resultant RA value, additional conversion to a **real relative asymmetry (RRA)** enables a user to compare accessibility and integration values across

---

<sup>8</sup> A brief example of how to calculate the control value may be illustrative here. You must measure the CVs of a structure that consists only of a central courtyard connecting to an entryway and into three solitary rooms. The central courtyard provides "1/4" measure of control to the total of four spaces that it adjoins (1 measure of control divided equally among 4 spaces yields 1/4). On the contrary, the four spaces that lead only to the courtyard provide the courtyard with "1" - a full measure of control - because they adjoin only the courtyard. The courtyard would have a CV of 4, while the constituent spaces would have a CV of 1/4. In this example, the CV quantitatively illustrates that there are more options for movement available to an individual in the courtyard than in a room.

structures or systems with different constituent spaces. This can be done by dividing each RA value by a ‘D-value’ based upon the total number of constituent spaces and located in Table 3 of Hillier and Hanson (1984). The result is a number between 0 and  $n$  with a lower number indicating greater accessibility and integration. A summary of these properties is provided in [Table 1](#).

There are limitations to using access analysis alone to study space. First, this technique disregards non-topological properties, like a space’s visibility or decoration, that can impact movement and social interaction (Fisher 2009, 440). Additionally, as noted above and will be demonstrated by Tomb B, fewer convex spaces result in less nuanced values that can be difficult to interpret or compare. Indeed, a structure must have at least five convex spaces for an individual to calculate the RRA value (Hillier and Hanson 1984, 109-113). Although there is still inherent value in using this method diachronically on structures with few convex spaces to elucidate changes over time, additional analytical techniques are required for a more meaningful analysis - particularly of structures with few spatial units.

To this end, I include additional calculations such as area, relative convexity, room capacity, and average doorway widths as part of the integrative spatial methodology advanced by Fisher (2009). A space’s **area**, calculated as *length x width*, can inform us about the kinds of social interactions capable of taking place there. For instance, a larger space that is easily accessible would be well suited to a greater variety of public people than a small inaccessible space. The area also directly informs the **room’s maximum capacity**, calculated by Fisher as 3.4 standing persons/m<sup>2</sup> or as 1.9 seated persons/m<sup>2</sup> (2009, 444). In addition to its size, a space’s shape can likewise influence social interactions. Spaces that are longer and more rectangular can accommodate a smaller number of people in one area compared to their squarer counterparts.

These longer rectangular spaces are therefore more likely to be used as ‘movement spaces’ and encourage transitory interaction, much like a hallway. The ‘squareness’ of a space, or its **relative convexity**, is calculated by dividing its width by its length. A value closer to 1 indicates a square while a value closer to 0 indicates a longer and more rectangular space.

The presence of a doorway or threshold also offers important information about the social potential of a space. Doorways and thresholds limit accessibility and provide a visual and physical clue about the separation of space, and thereby, of people. A closed doorway can restrict movement to an ‘in-group,’ while an open doorway can limit physical *and* visual accessibility. By measuring the **average doorway width** of a convex space, we can better identify restricted spaces and consider the type of social interactions encouraged by the door itself. For instance, a 0.6m doorway could allow for an average individual to enter but would require multiple users to enter one by one (Fisher 2009, 445). The width of an opening - whether created by a doorway, threshold, or otherwise - and the layout of a structure also controls a user’s visual access to the constituent spaces. Visual access is significant because it informs whom a user might encounter, what they can and cannot see, and even how social structures and relative hierarchies are manifested in the user’s lived experience (Fisher 2009, 448).

After the syntactic values are calculated, a few final steps are taken to aid in interpretation. First, the syntactic values are ranked as low, medium, or high - appearing on the syntactic charts as either yellow, orange, or red, respectively. The control values are considered low if they have a value of  $n < 1$ , medium if  $1 \leq n \leq 2$ , and high if  $n > 2$ . The remainder of syntactic values within a system are ranked by dividing the values into thirds while keeping the same value within the same scaled marker (Fisher 2009, 446). These rankings enable us to more readily determine the type of social interaction most likely to take place within a space. I follow

Fisher's characterization of three different types of social interactions: gatherings, public-inclusive occasions, and private-exclusive occasions (448). **Gatherings** are considered social interactions of an informal and transitory nature like a passing greeting in a hallway as two people move to their intended destination. Spaces best suited for such interactions are those with a medium-high control value and low convexity and relative asymmetry scores. On the other hand, formal and more sustained social interactions are classified as occasions. Fisher further breaks this down into occasions of a more public and private nature. **Public-inclusive occasions** consist of a sustained gatherings that, while not entirely public, would include a larger and more inclusive group of participants as compared to **private-exclusive occasions**. Spaces well-suited towards the former tend to be larger and more convex, accessible, and centered around a node (a space with a high control value). Their syntactic properties are marked by a medium-high control value, a low relative asymmetry score, low depth, wide doorways, and the inclusion of important fixed or semi-fixed elements. Those more geared towards the latter are less accessible and thus more exclusive. Therefore, their syntactic properties are typified by a low control value, medium-high relative asymmetry measure, narrow doorways, and high depth and convexity (447-448). These measures and interpretative means allow for a more meaningful analysis of the social potential of the individual tomb and of tomb groups over time.

### 2.3 Selection of the Case Studies: Tombs 88-90 and Tomb B

In order to achieve the diachronic data necessary for this analysis, I selected case studies based on their state of preservation, documentation, and the breadth and availability of chronological data. The Isola Sacra Necropolis is well-preserved due to the site's abandonment in the ninth century and the protective coverage afforded by ancient sand dunes (Keay et al.



2020, 22). The excellent state of preservation enabled archaeologists to retrieve data from different periods of use and this data, in turn, is meticulously laid out in Ida Baldassare's readily accessible *Necropoli di Porto* (1996). I selected Tombs 88 and 90 due to their orientation towards one another, their contemporary date of erection – and thereby of use – as well as the interesting and relatively well-documented development of enclosure 89 between them. The extant tombs composing the Vatican Necropolis are also well-preserved, having been sealed in the fourth century by Constantine's basilica to St. Peter, and are meticulously documented in Harald Mielsch and Henner von Hesberg's *Die Heidnische Nekropole unter St. Peter im Rom, Die Mausoleen A-D* (1986) and *Die Mausoleen E-I und Z-Psi* (1995). I chose Tomb B due to its numerous and clearly delineated phases of use, particularly its continued use during the construction of St. Peter's Basilica, as well as its underrepresentation in scholarship as compared to the more elaborate Tomb H.

The individual tombs selected, Tombs 88-90 and B, are all classified as chamber tombs. This type of tomb consists of a freestanding square or rectangular burial chamber intended to house multiple burials (McDonnell 2013, 271). The monument's exterior typically includes a slab of marble for the titulary inscription, or *titulus*, as well as window openings (Gee 2003, 4). Many chamber tombs are surmounted by a pediment which gives the illusion of a modern-day brick house, resulting in the common referent of 'house tomb.'<sup>9</sup> Some chamber tombs have an open-air square or rectangular enclosure preceding the chamber that also contains space for burial in the walls (McDonnell 2013, 271). This type of funerary monument is particularly well-suited for this study for two reasons. First, chamber tombs were built for multiple burials, often intended for more than one generation. This aspect of communal burial and prolonged periods of

---

<sup>9</sup> Wallace-Hadrill rightfully notes that the term 'house tomb' is misleading as not all houses in Rome looked like this and it is our affiliation modern homes that informed the vernacular more than any ancient evidence (2008, 45).

use enables us to consider how the tomb structured the interactions of numerous people over an extended period. Second, the clearly defined convex spaces within the often-rectangular chambers enable spatial analysis because it contains clearly defined convex spaces with which to perform calculations. Because these calculations require more than one convex space, I selected chamber tombs with courtyards to maximize the utility of the method.

## 2.4 Key Working Assumption

Before proceeding, it is necessary to outline a key assumption by which this thesis operates: that the original commissioners of Tomb 90 and Tomb B were enslavers and therefore counted slaves and freedpeople amongst their *familia*. The extant inscriptions surviving for the two tombs do not include any indication that they did or did not have slaves, however, the assumption is justifiable given contemporary evidence.

In the case of Tomb 90, we can look to its contemporary, Tomb 88. An inscription within the enclosure of Tomb 88 marks the burial of the freedman Marcus Antonius Zosimus's son, which was granted by his patron (Helttula et al. 2007, 129).<sup>10</sup> This suggests that the *familia* of Tomb 88 included both slaves and freedpeople and that Tomb 90, the former's closest contemporary in design, size, and date, likewise counted enslaved individuals and freedpeople amongst its ranks.

Similarly, evidence from tombs contemporaneous with Tomb B suggest that its commissioners likewise had a *familia* with enslaved and freedpeople. The *titulus* of Tomb A (quoted at length below), upon whose western wall Tomb B was built, marks its commissioner as a slave owner (AE 1946, no. 136). Tomb C, built along Tomb B's western wall shortly after its

---

<sup>10</sup>“*Diis Manibus / M(arco) Antonio M(arci) filio) Antonio / vixit ann(is) VIII m(ensibus) VII d(iebus) XVII / M(arcus) Antonius Zosimus fil(io) piissimo / loco donato ab optimis patronis / fecit*” (Inscription no. 111 in Helttula et al. 2007, 129).

completion, consists of a single rectangular burial chamber of 12x17 Roman feet commissioned by L. Tullius Zethus for himself, his wife, their children, grandchildren, *and their freedpeople*<sup>11</sup> – likewise marking this *familia* as including enslaved and formerly enslaved individuals (Liverani and Spinola 2010, 64; Platschek 2012, 289). Given that Tomb B and C are relatively contemporaneous and somewhat similar in size – the larger plot size of Tomb B accounted for by its smaller burial chamber – it is reasonable to assume that the commissioner of Tomb B likewise had some enslaved and freed individuals.<sup>12</sup>

With this assumption in mind, we must then consider what these lower-status individuals might do in the funerary space. A closer look at Tomb A's *titulus* provides some information:

“From the testament, written on three leaves, of Popilius Heracla. Gaius Popilius Heracla to his heirs, greeting. I ask you, my heirs, I order you, and I rely upon your good faith, to build me a tomb on the Vatican Hill near the Circus, next to the tomb of Ulpus Narcissus, at a cost of 6000 sesterces. For this purpose, Novia Trophime will pay 3000 sesterces and her co-heir 3000. I wish my remains to be placed there and also those of my wife, Fadia Maxima, when her time comes to join me. **I charge my freedmen and freedwomen with the right and duty of maintaining cult at that tomb.** This applies also both to those whom I shall free by my will and to those whom I leave to be freed on certain conditions; and the same likewise applies to the freedmen and freedwomen of Novia Trophime and to all the descendants of the persons above mentioned. **They are to enjoy the right of free access to the tomb for the purpose of making sacrifice there.**” (Translation of AE 1946, no. 136 from Toynbee and Ward Perkins 1957. Emphasis added by author.)

We may therefore imagine that some freedpeople and slaves would be present within the burial chamber to accompany members of the *familia*, pay their respects, and aid in different rites during burials and festivals. They may have also been buried within the complex. Although freedpeople are not expressly granted burial space in Tomb A's inscription like they are in Tomb

---

<sup>11</sup> *D(is) M(anibus) L(ucius) Tullius Zethus fecit / sibi et Tulliae Athenaisi coniugi bene / merenti et Tulliae Secundae et / Tullio Athenaeo filis et libe/ris eorum libertis liberta/busque, quos hi, qui supra scripti / sunt, manumisissent. / In front(e) ped(es) XII in arg(o) ped(es) XVII.* (Transcription from Platschek 2012, 289).

<sup>12</sup> The assumption that slaves and freedpeople were present amongst the *familia* of the tomb's commissioner is not only justifiable given contemporary evidence for other tombs, but also an action that can help re-write marginalized individuals back into the historical narrative.

C, they and enslaved members of the *familia* may have still been inhumed in the tombs covered by the case studies with or without the explicit titular inclusion of *libertis libertabusque* (Platschek 2012, 289). Their presence and actions at the tomb will therefore be considered throughout this work.

## 2.5 Limitations to this Paper

Finally, it is worth outlining the inherent limitations of this paper before proceeding. I will not discuss Roman funerary practices at length due to a focus on the built environment and its impact on social interaction and society.<sup>13</sup> One significant absence in this regard is the funerary banquet. This practice undoubtedly had an impact on social relationships, particularly in terms of reasserting social hierarchies and engaging in a relatively public form of conspicuous consumption (Gee 2003, 58). Although there were couches (*klinai*) erected for this purpose near the facades of tombs 88 and 90 (Baldassare 1996, 61-67), I do not include them for a few reasons. First, they lack the chronological information necessary to situate them confidently within the time frame considered. Additionally, the representation and practice of funerary banquets have been comparatively well represented in scholarship (e.g., Roller 2006; Carroll 2013; Roberts and Iadanza 2019) and are an ongoing focus of numerous analyses grounded in ecofacts (e.g., Dananai and Deru 2018; Salazar-García et al. 2022). However, modern connotations of ‘banquets’ as consisting of numerous people may not necessarily apply to the range of social classes represented in these case studies (Hackworth Petersen 2006, 187). While sacrificial meals at the tomb occurred across the social spectrum, the number and identity of people who partook in them remains too vague to consider here.

---

<sup>13</sup> Extensive information on funerary practices can be found in Toynbee 1971 and Hope 2007, 2009, 2018.

## Chapter 3: Tombs 88-90 at Isola Sacra

### 3.1 Introduction to the Isola Sacra Necropolis Case Study

In this chapter, I re-consider the necropolis as a place of the living and examine the ways in which the built environment of a group of tombs could shape social interactions amongst and across their affiliated *familiae*. First, I argue that any hierarchical burial location of the deceased would, in turn, manifest into a similarly hierarchical location for its living users.

Spatial analysis of the tombs 88-90 in the Isola Sacra Necropolis reveals that the tomb space would further affirm or create an experiential hierarchy for its living users by producing distinctly different social experiences based upon their location in the funerary space (i.e., open space, enclosure, and burial chamber). For instance, the first configuration of the tombs provided space for greater social separation and privacy between commissioning *familiae*. However, this was not static. Diachronic access analysis reveals that changes to the built environment of the group drastically changed its social potential. The erection of enclosure 89 and tombs 89A-C during the tomb group's second phase of use wrought a configuration that encouraged a greater degree of near-unavoidable mixing across individuals of different *familiae* and social strata.

### 3.2 Context of the Case Study

The Isola Sacra Necropolis ([Fig. 1](#)) is an ancient Roman necropolis located on the Isola Sacra, an artificial island situated between Ostia Antica and Portus. In 42 C.E., Claudius constructed a new harbor (Portus) at the mouth of the Tiber to meet the growing importation demands of Rome's rising population (Hackworth Petersen 2006, 186). The imperial harbor prompted the development of the surrounding area as well as the creation of a new road, the Via Flavia, which provided a direct link to Ostia (Germoni et al. 2019, 149). It is along this road that

the Isola Sacra Necropolis developed because Roman law prohibited cremation and burial within city walls (McDonnell 2013, 268). The necropolis saw increased use during the second century, likely corresponding to additional people brought to Portus with the creation of an expanded and safer harbor in 103 C.E. and remained in use until the fourth century (Hackworth Petersen 2006, 186). The area, alongside Portus and Ostia, declined in prosperity in the fourth century, and invasions by Goths and Vandals led to the area's abandonment in the ninth century (Harrison 2021, 71-72).

In the 1920s, the Opera Nazionale Combattenti accidentally uncovered some tombs while leveling the terrain for agricultural use (McDonnell 2005, 55). Guido Calza commenced excavation of the site shortly thereafter. He led excavations of the necropolis from 1923 until 1938 (Petersen 2006, 185), and his meticulously illustrated monograph, *La Necropoli del Porto di Roma nell' Isola Sacra* (1940) continues to serve as the backbone for most research on the site (McDonnell 2005, 56).<sup>14</sup> In 1973, Ida Baldassare renewed work on the site in conjunction with the Istituto di Archaeologica dell'Università di Roma and the Soprintendenza Archaeologica di Ostia (Hackworth Petersen 2006, 186). Baldassare's work yielded new detailed information about Calza's tombs and uncovered approximately 600 previously unknown burials. Although a monograph has yet to be published, preliminary results were published in *Necropoli di Porto* (1996). The Portus Project, a collaborative endeavor of the University of Southampton and the British School in Rome, is currently researching the character and development of the area (Germoni et al. 2019, 149).

Due to Isola Sacra's abandonment in the ninth century and the coverage afforded by ancient sand dunes, the tombs are remarkably well-preserved (Keay et al. 2020, 22). Particular

---

<sup>14</sup> Unfortunately, this monograph was unavailable to me and thus its contents are only gleaned secondhand in their reproduction through the published work of Baldassare (1996).

attention has been paid to the “house tombs,” the best-known type at the site (McDonnell 2013, 271), due to continued interest in comparing the home of the dead to the home of the living (Hope 1997; Wallace-Hadrill 2008). Recent scholarship on these tombs has centered primarily on questions of status and patronage. McDonnell (2005) utilized the house tombs of the Isola Sacra Necropolis and Pompeii to understand how female patrons expressed themselves in the funerary sphere while Hackworth Petersen (2006) used them to demonstrate how freedpeople engaged in a shared culture and practice of funerary art. Collective burials and their implications for group identity also remain an ongoing focus of scholarship for this tomb type due to the large number of burials enabled by the form (Hope 1997; Borbonus 2020). My contribution thus complements this ongoing theme of scholarship by discussing how the built environment fostered interaction amongst and between groups of living users.

My case study will therefore focus on Tombs 88, 89, and 90 ([Fig. 2](#)) situated along the west side of the Via Flavia ([Fig. 3](#)). Tombs 88 and 90 were built nearly concurrently during the Hadrianic period by two families, the Antonii and Gabinii (McDonnell 2005, 373). Baldassare dated Tomb 90 to approximately 125 – 130 CE and postulates that Tomb 88 was built first due to its slightly lower ground level (Baldassare 1996, 62-69). The tombs mirror each other in their basic rectangular plan, each with a roofed burial chamber and a contemporary open-air enclosure whose walls contained niches for urns containing cremated remains. While the burial chamber of Tomb 88 originally contained spaces both for cremation and inhumation, Tomb 90 contained only niches for cremation in its first phase of use (McDonnell 2005, 365-376). Rather than facing the street, their entrances faced one another and shared the well and oven built in-between them. This unusual positioning of entrances suggests that the Antonii and Gabinii had a pre-existing relationship which they chose to solidify and commemorate in death (Baldassare 1996, 60).

During the Antonine Period, approximately 160 - 170 CE, enclosure 89 was built between 88 and 90. The entrance to the open-air enclosure faced out towards the road and contained three burial chambers, 89A-C, labeled 8, 9, and 10 in [Fig. 4](#) (Baldassare 1996, 66-71).

### 3.3 The Hadrianic Period: Tombs 88 and 90

During the Hadrianic period, the children of Iulia Quinta and Marcus Antonius Hermes erected Tomb 88 for their parents (Helttula et al. 2007, 128).<sup>15</sup> A short time later, P. Gabinius Longinus and Annia Epictesis erected Tomb 90 for their son, P. Gabinius Annianus, according to an inscription surmounting the entrance to the burial chamber (Helttula et al. 2007, 134-135).<sup>16</sup> The tombs were both situated away from the street and their entrances faced one another, sharing a contemporary well and the oven between them. This configuration yields five distinct convex spaces ([Fig. 4](#)). The resulting justified access graph ([Fig. 5](#)) is non-distributed and asymmetrical (Hillier and Hanson 1984, 148-9) with the primary node of departure at the shared open space (5), underscoring the public accessibility of the open area and the relatively private domain of the tombs themselves (1-4). The syntactic properties of the group, outlined in [Table 2](#), further support this reading.

Space 5 has the highest control value as well as the lowest real relative asymmetry value of the set denoting its high degree of accessibility, but its low relative convexity rating marks the area as more suitable for gatherings than for public-inclusive occasions (Fisher 2009, 448). This suggests that the probable social interactions were primarily brief and transitory, perhaps consisting of quick glances or exchanges between the public or the *familiae* that used the space

---

<sup>15</sup> “*Iuliae C(ai) f(iliae) Quintae et M(arco) Antonio Hemeti / fili parentibus piissimis*” (Inscription no. 110 in Helttula et al. 2007, 128).

<sup>16</sup> “*D(is) M(anibus) / P(ubli) Gabini Anniani / P(ublius) Gabinius Longinus / et Annia Epictesis / fecerunt filio piissimo / visit annis XVI*” (Inscription no. 114 in Helttula et al. 2007, 134).



much like a hallway to get to their respective tombs (Fisher 2009, 440). However, that is not the only type of interaction that would have been fostered by the space. Two important fixed features in space 5, a well and an oven, would have been used by the Antonii and Gabinii to make the funerary meals shared between the living and the deceased (Baldassare 1996, 60). In this case, it is plausible to suggest that some freed or enslaved members of the *familia* likely congregated at the oven to prepare the funerary meal, making these features nodes of interaction between lower-status members of the *familiae* during *parentalia* or *rosalia*.

However, the potential for interaction was not exclusive to members of the Antonii and Gabinii. The lack of walls between the tombs in this period left the oven and well in plain sight to passersby, exposing those cooking to external interactions. The physical and visual accessibility of these features may have also prompted the users of the smaller contemporary tomb 70 (Helttula et al. 2007, 90) to seek out the Antonii and Gabinii inside or outside of the necropolis to get permission to use the utilities that their smaller tomb lacked. Thus, these fixed features could act not only as nodes for interaction between lower-status individuals of the Antonii and Gabinii, but also catalyze interaction in and beyond the necropolis by other individuals seeking use of the well and oven.

The open-air enclosures of Tombs 88 (1) and 90 (3) acted as liminal spaces with medium control values, real relative asymmetry, and relative convexity scores. This would make the area suitable for larger, but more personal, gatherings of the *familia* during the deceased's birthday or during one of the festivals. During the initial use of the tomb, if the burials were confined to the chamber, this enclosure could act as a private space for the members of the *familia* to congregate before entering the chamber. The light offered by the open-air enclosure would have encouraged members to stop and get themselves and any additional material such as a lamp, incense, or

wine, ready before they entered the darker burial chamber (Stevens 2017, 156). Depending upon the size of the funerary party, the enclosure could also act as room for excess individuals to congregate while specific members went into the burial chamber to perform rites. The latter scenario would have been particularly likely in Tomb 90, whose enclosure had a higher convexity score and significantly more usable area (13.65m<sup>2</sup>) than the burial chamber (8.66m<sup>2</sup>). This substantial difference in space may have encouraged those who did not need to be in the chamber to move into the more spacious and bright outdoor area. Indeed, we may also imagine that lower-status individuals tasked with meal preparation may have been in this enclosure and talking amongst themselves, able to make a quick transition to the well or oven in the open area when needed.

Such a scene would change as the niches along the walls of the enclosures were filled with deceased individuals. The focus of the burial rites, and thus the locus for social interaction for the *familia* of these individuals, would then center on the open-air enclosure rather than the roofed chamber. In tomb 88, Marcus Antonius Zosimus and his *familia* would mourn the loss of his son, Marcus Antonius Antoninus, who was buried in the enclosure (Helttula et al. 2007, 129). Although Zosimus' *familia* likely had privacy on the birthday of the deceased, festivities that brought more people to the tomb, like *rosalia* and *parentalia*, would have warranted them little privacy as people passed through the enclosure on their way in and out of the burial chambers. This may have interrupted proceedings or encouraged different members to engage in conversation as they saw fit with the broader group.

The burial chambers of 88 (2) and 90 (4) have low control values and the highest real relative asymmetry values making them suitable for private-exclusive occasions (Fisher 2009, 448). The distinction between the enclosure and the high-status chamber would have been

physically marked in both cases by a travertine architrave and jambs with an inscription above, denoting for whom the tombs were built, as well as the visual transition from a bright open space to a smaller, darker, and more lavishly decorated area (McDonnell 2005, 365, 373). During this period, the interiors had central niches on the rear and side walls framed by pilasters and a triangular pediment. Such elaboration of the central niches, particularly compared to the smaller unframed niches which flanked them, would have immediately drawn the viewer's attention. In particular, the rear niche directly across the entrance was the most elaborate and visually prominent ([Fig. 6](#)).

According to Hope (1997, 8), the most visually elaborate niches in the burial chamber – often placed directly opposite the entryway – would have served as the resting place for the highest-ranking member of the *familia*. Unfortunately, there is a paucity of evidence for exact placements within the burial chambers of 88 and 90 to wholly substantiate this claim in this case study. Indeed, in her research on hierarchical burial locations, Feraudi-Gruénais (2003) argues that, while the central and most elaborate niche is in some cases used for the highest-ranking member or commissioner of the tomb, it is not always the case (42). This is undoubtedly true as Feraudi-Gruénais notes instances in the Vatican Necropolis, such as Tomb C and Tomb K, in which descendants of the commissioners occupied the central niche (27, 34). This is significant because while it suggests that we cannot immediately assume the burials reflect a clear social hierarchy, it can frequently reflect a *relational* one wherein members with a close relationship to the commissioner might occupy this pride of place regardless of whether this wholly reflected the exact structure of the *familia*. Even in cases where exact burial locations within the chamber are difficult to surmise, it is not unreasonable to suggest that those buried in the chamber may have had closer ties to the commissioner as compared to those buried in the enclosure. In the

case of Tomb 90, constructed by P. Gabinius Longinus and Annia Epictesis for their son, P. Gabinius Annianus, an in-situ altar to Annianus reveals that he was buried within the burial chamber while the burial of a freedperson's son was relegated to the enclosure of Tomb 88 (Helttula et al. 2007, 129, 134-5).

Burial location is significant because the above consideration of spatial use by living agents suggests that any hierarchical placement of burials within the tomb would have further manifested in spatial hierarchies amongst those who attended to them. Although the influence of the *familia*'s relational hierarchy may not have been readily visible during individual death days, where only one group would have been using the tomb, the connection between space, hierarchy, and social interaction would be apparent during festivals. The relatives and entourage of those buried in the burial chamber, plausibly those closest to the commissioner, would attend to them with the greatest degree of privacy. Depending upon their relationship with the Antonii or Gabinii, the freed and enslaved people would have attended to their friends and family in the smaller niches of the chamber or in the enclosure, subject to intrusion and potential interaction from those going in and out of the burial chamber and tomb itself. The lower-status individuals tasked with preparing the meals would have congregated around the well and oven outside of the tomb – opening themselves to a higher degree of intrusion and interaction both amongst themselves and from passersby. The hierarchical location of the dead, enabled and reified by the varying degrees of decoration and privacy afforded by the arrangements of the tomb, informed their surviving mourners' spatial location and, subsequently, their experience and with whom they would be most likely to engage.

### 3.4 The Antonine Period: Tombs 88, 89, and 90

Around 160-170 CE, enclosure 89 was erected between 88 and 90. This closed the space between the two tombs, created one entrance into the whole complex, and added three additional burial chambers visible in [Figure 7](#) (Baldassare 1996, 66-68). These changes in the built environment had a substantial impact on the user experience and the potential for social interaction, as demonstrated in the new convex space plan ([Fig. 8](#)). The syntactic properties of this new configuration are outlined in [Table 3](#).

The erection of enclosure 89 further established the relationship between Tombs 88 and 90 by uniting them as part of one physical complex. Although this act of enclosure subsequently increased the depth and thus relative inaccessibility of burial chambers 2 and 4, demonstrated by the justified access graph ([Fig. 9](#)), the shared entryway may have also created or reaffirmed a degree of collective affiliation amongst its users (Horton 1994, 152). During festivals, we might imagine that a single entryway into a complex with numerous rooms would create a line of individuals consisting of different *familia* waiting to enter the enclosure, as the width of the doorway (1.1m) only allowed a few people at a time. In this way, the single entry prompted group interaction amongst individuals that the Hadrianic period lacked. The enclosure also shifted the visual and physical accessibility of the well and the oven from public to private. This would have reduced opportunities for engagement with passersby possible in the Hadrianic configuration.

The creation of new burial chambers further altered the social potential of the space both in terms of the new *familiae* they represented and in the numerous ways in which the chambers themselves took up and shaped the open space of the enclosure. Although we lack inscriptions

for 89B and 89C, an inscription above 89A reveals important information about the users of the complex and the social potential of the tomb:

Messia Candida has erected this monument for her very beloved husband and for herself, her freed slaves, and their descendants. Permission to use the place has been given by two members of the family Gabinius, Chresimus and Entychus, and two members of the family Antonius, Iulianus and Polio. Entering the terrain is allowed.<sup>17</sup>  
(Inscription no.113 in Helttula 2007, 132 - Translation from McDonnell 2005, 371)

This inscription states that Messia Candida erected the tomb for herself, her husband, and her freedpeople with permission from members of the Antonii and Gabinii from Tombs 88 and 90. This reveals two important points. First, this inscription demonstrates that Messia was not an heir to the space and needed to get permission from descendants of the original *familiae* to build burial chamber 89A. Just as the visibility of the well and the oven to passersby may have prompted social interaction with the two *familiae* for permission to use the utilities during the Hadrianic period, so too did the land itself. Although we do not know who initiated the erection of enclosure 89, this inscription reveals that it was likely done either at the behest or with the permission of descendants from both the Antonii and the Gabinii as building within the complex stipulated their permission at this time (McDonnell 2005, 371). Messia's need for burial space, and what may have been a preexisting relationship with a member of the Antonii or Gabinii, prompted her to engage with the appropriate descendants to secure a spot – further demonstrating that the social potential of the tomb goes beyond interaction at the grave itself.

Second, this inscription proves that at least one of the new burial chambers expanded the use of the complex beyond the Antonii and Gabinii. This indicates an expanded and more diverse user group whose interactions would have been shaped by the burial chambers in a few ways.

---

<sup>17</sup> “D(is) M(anibus) c(oniugi) / carissimo Messia / Candida fecit et sibi / et libertis libertabus/que posterisque eorum / locus concessus ap / Gavinis II Crhesimo / et Eutycho et ap Antonis / II Iuliano et Polione / itu ambitu introitum liberum” (Inscription no. 113 in Helttula 2007, 132).

The physicality of the new chambers reduced the space available to congregate and prepare meals amongst the users. Whereas the Hadrianic configuration offered approximately 39m<sup>2</sup> of ‘public’ space between the tombs suitable for transient interactions and external encounters between passersby and lower status people, the enclosed Antonine layout provides only 21m<sup>2</sup> of open space exclusive to the expanded user group. This has ramifications for the syntax of the space, and thus for the ways that groups interacted in this zone.

The location of the burial chambers further defines and limits this open space as their borders delineate four distinct convex spaces (5, 6a, 6b, and 7 in [Fig. 8](#)) each yielding specific syntactic properties suitable for different types of social behavior ([Table 3](#)). Spaces 5 and 6a both have high control values, low real relative asymmetry values, and medium-high relative convexity values suitable for extended interactions characteristic of public-inclusive occasions (Fisher 2009, 448). Space 6b has the lowest relative convexity of the set and a small area (1.35m<sup>2</sup>) suggesting that it served more as a transitory entryway into Tomb 90 than as a space for continued social interaction. Space 7 has a low relative convexity and control value paired with a medium real relative asymmetrical value suggesting that the space may have served as a congregating area for those using the oven but is not ideal for larger groups of people.

The syntactic properties of the new burial chambers also would have a profound impact on the use and social potential of the enclosure. Each burial chamber (8-10) has a low control value and medium/high real relative asymmetrical value marking it as suitable for private-exclusive occasions (Fisher 2009, 448). Burial chamber 89A (10) also has a high relative convexity value and an area of almost 5m<sup>2</sup> which makes it suitable for a few individuals to remain within its confines while pouring libations into the tombs. Chamber 89B (8) has a smaller area of 2.87m<sup>2</sup>, but a medium/high relative convexity value of 0.81 that still allows for some

individuals to congregate within the tomb and attend to the cremated individuals held within the niches (Baldassare 1996, 67). Enclosure 89C (9), on the other hand, has an area of only 1m<sup>2</sup> with a door of 1.1m. Little information remains about the types of burials held within the space, but suffice to say that the few people capable of coexisting in the space at one time would be in close quarters. While an individual burial or death day may bring a small number of individuals capable of being contained in 89A and 89B, the relatives of those buried in 89C would likely overflow and congregate in area 6a.

During a festival setting, the syntactic properties of the burial chambers and the open spaces defined by them would play a crucial role in determining and facilitating the social interactions of its users. Individuals would first enter through the single entryway, likely engaging with one another as they waited to get into the enclosure, before proceeding into space 5. Although ideal for extended gatherings in terms of its convexity, space 5 is visually defined by 89B directly across from it. Depending upon the number of individuals buried within 89B and the subsequent number of living members attending to them, it is plausible to suggest that they used space 5 like a courtyard as individuals prepared offerings or waited to enter the chamber. Thus, those entering the complex may have first encountered the *familia* using 89B and may have engaged with them briefly before moving deeper into the enclosure. The limited space of the new burial chambers, particularly compared to those of 88 and 90, would be unlikely to accommodate the number of individuals needing to attend to their dead - particularly for those of 89C. As a result, a greater number of individuals may have congregated in 6a. The same might be said of Messia and her *familia*. During the early phase of 89A, she and a few of her freedpeople may be able to attend to her deceased husband in the chamber at one time. As more individuals were buried, some would have likely awaited their turns or prepared themselves in



6a. Any descendants of the Antonii and Gabinii would continue through 6a and into their respective enclosures or burial chambers, while they or lower status individuals would remain outside 88 and 90 to prepare food for the deceased in space 7.

Space 6a thus served as the primary social node of the enclosure, as demonstrated by its location in the justified access graph and its substantial control value of 4.33. Its central location meant that most complex users had to travel through the space to reach their burial chambers or the oven, while some may have remained in the space for an extended period to use the well or await their turn for burial chambers 89A or 89C. The social weight placed upon the location by the well thus differed substantially from the earlier phases of the tomb's use. During the Hadrianic period, this location would have served primarily as a node for a few individuals to use while cooking. In the Antonine period, this area would have been highly trafficked during festivals, producing more opportunities to engage with other users - and little space with which to avoid them.

It is in this hustle and bustle of a festival, that one might notice the breakdown and intermingling of different social classes. In the earliest phases of the tomb, I have argued that a relational hierarchy of the dead would have plausibly manifested into a spatial, and therefore experiential hierarchy, amongst the living. Those who spent the most time in the burial chamber might be more closely linked to the commissioners of the tomb, the *familia*'s freedpeople might be relegated to corners of the chamber or the enclosure, while the lowest status people were those most likely to remain by the oven and the well subject to intrusion. However, the addition of new *familiae*, in conjunction with the physical changes in burial space, might blur these distinctions. The highest levels of one *familia* may stay in 6a before entering 89C while the enslaved people of another *familia* fetched water from the well. The changed layout and new

individuals wrought by the additional burial chambers thus introduced relational diversity amongst the users and increased opportunities for extended social interaction amongst them while decreasing opportunities for public interaction and intrusion.

### 3.5 Conclusions of the Case Study

Space syntax revealed how integral the built environment was to the movements of living agents and thus the social potential of the tomb. During the earliest phases of the tombs' use, the individual for whom 88 and 90 were built were entombed in the burial chambers subject to little intrusion, while the son of a freedman was later relegated to the enclosure whose privacy may have been disrupted at any time due to the liminal and transitory nature of the open-air enclosure. The open area between the two tombs didn't necessitate social interaction, although the oven and well may have served as nodes of interaction between lower-status individuals and passersby. In the Antonine period, the changes to the built environment resulted in different social potentials and scenarios for the living users of the tombs. The construction of 89 and the syntactic properties of the new burial chambers not only reduced the available open space but also placed more social weight upon it making interaction amongst the new *familiae* nearly unavoidable during times of festivals.

This study also demonstrated that the built environment of the tomb could serve as an impetus for social interaction beyond the grave by *familia* and strangers alike. In the Hadrianic period, it is plausible that the visibility of the well and oven prompted tomb owners of smaller spaces nearby to seek permission to use the utilities. When the utilities were excluded from public view in the Antonine period, the need for a burial space prompted Messia to reach out to the descendants of the Antonii and Gabinii to build a burial space within the enclosure. Her

inscription also revealed that the idea of tomb space, or a promise of burial space, could be an impetus for influencing social interactions amongst individuals across the Roman social hierarchy. Messia allocated space for her husband, herself, her descendants, and her freedpeople in an explicit designation that grew more common in the second century: *libertis libertabusque* (Baldassare 1996, 42; McDonnell 2005, 38). While this formulation was standard, it was not always so inclusive. In Tomb 100, roughly 31m away from our case study and built around 140 CE, Scribonia Attice designated her tomb for several of her *familia* and her freedpeople *except* for Panaratus and Prosdocia (Baldassare 1996, 67). This clear exclusion of two individuals illustrates that a proper burial place was not always a certainty. While some individuals joined *collegia*, groups in which monthly fees could guarantee a proper burial and rites, freed and enslaved individuals could often be expected to be buried with their owner or patron – but this was not a given (Hope 2007, 88, Borbonus 2020, 20). In this way, we might imagine that the promise of a burial spot may have prompted the enslaved or freedpeople of a household to be particularly cautious of their behavior as the wills of their dying owners or patrons were made.

## Chapter 4: Tomb B at the Vatican Necropolis

### 4.1 Introduction to the Vatican Necropolis Case Study

The previous case study demonstrated that the built environment of a tomb group could forge and prompt interactions between different *familiae* and across some of the social boundaries that are seen as determinative in Roman society. Furthermore, it illustrated how a substantial structural change to the overall space, like the construction of enclosure 89 and new burial chambers, could profoundly change the space's social potential from what was engendered in its first phase of use. In this chapter, I examine how the built environment of a single tomb, Tomb B from the Vatican Necropolis, impacted social interactions on an intra-familial level and how this changed over time. This smaller scope allows us to examine how common architectural changes *within* chamber tombs, such as the addition of *arcosolia* and floor tombs meant to accommodate a shift towards inhumation, impacted the social potential of the tomb. Using diachronic spatial analysis, I demonstrate that the tomb's built environment could physically create and reinforce internal hierarchies – but that this too was not static! The tomb's production of, and ability to produce, internal hierarchies changed alongside the structural changes that took place over its c.200-year lifespan.

### 4.2 Context of the Case Study

Underneath St. Peter's Basilica and its papal tombs lie a series of well-preserved ancient Roman chamber tombs that once stood unobstructed in the *Vaticanum*, a narrow portion of the ancient *Ager Vaticanus* whose area stretched along the right-hand bank of the Tiber River just outside of Rome ([Fig. 10](#)) (Liverani and Spinola 2010, 12). During the Imperial Period, the *Vaticanum* contained several suburban villas and imperial *horti*, the Circus of Caligula and Nero, as well as two significant thoroughfares (the Via Triumphalis and the Via Cornelia) along which

necropoleis developed (Liverani and Spinola 2010, 18). By the second century C.E., limited space along the Via Cornelia prompted individuals to erect tombs along the slopes of the Vatican Hill and north of the Circus (Liverani and Spinola 2010, 42). These tombs, labeled A-G, O, and S by archaeologists, represent the oldest excavated house tombs in the necropolis dating between c. 117 - 145 CE and the context of our second case study: Tomb B (ibid). In the second half of the second century C.E., the Circus fell into disuse, providing more real estate for tombs and marking the area's increasingly funerary character (Gee 2011/2012, 66).

The fourth century C.E. marked an important shift in both the empire and in the site itself. The tetrarchy, a new form of government initiated by Diocletian in 284 CE that entailed splitting the Empire between East and West with two augusti ('head' rulers) and two caesars, began to crumble and the Diocletianic persecution of the Christians came to an end with a series of imperial proclamations made by Constantine (307 CE) and Galerius (311 CE - Edict of Toleration) (Wilken 2012, 76-81). In 312 CE, Constantine defeated Maxentius, who had declared himself to be the new Augustus of the West following Galerius' death and became sole ruler of the West. He credited his victory to the Christian god (83) and in the years that followed, expanded the rights of the Christian community, returned confiscated property to the Church, and patronized new building projects on their behalf. One of his most significant projects was the creation of what is now called 'Old Saint Peter's Basilica' atop the presumed resting place of the apostle who had purportedly been martyred in the Circus of Caligula and Nero and interred near it amongst the other burials in the *Vaticanum* (Toynbee and Ward Perkins 1957, 13). By Constantine's time, a small shrine to St. Peter marked the presumed site of his burial and it is around this that Constantine chose to erect his new basilica - necessitating the removal and burial of the surrounding tombs (Toynbee and Ward Perkins 1957, 135). The construction of the

basilica over the tombs, and the new religious significance that it represented, not only inadvertently preserved them for the future, but also prompted their rediscovery.

Over the course of the 15th – 17th centuries, the Papacy’s desire to create an even grander basilica prompted the slow demolition of the old basilica, occasionally revealing a hint of the pagan tombs underneath (Apollonj-Ghetti et al. 1951, 23; Gee 2003, 1).<sup>18</sup> The tombs were largely forgotten until 1939, when the Vatican’s preparation for the burial of Pope Pius XI and the lowering of the Grotte floor revealed masonry and a tomb’s cornice (Toynbee and Ward Perkins 1957, xv-xvi). This prompted Pope Pius XII to authorize a complete excavation of the crypt and the area underneath the papal altar and Confessio to investigate the “truth of the apostle’s burial-place” (Toynbee and Ward Perkins 1957, xvi). The excavations were carried out between 1940-1947 and 1953-1957 by the members of the Collegio degli Architetti della Reverenda Fabbrica alongside archaeologists B. Apollonj-Ghetti, A. Ferrua, E. Josi, and E. Kirschbaum, who wrote the initial report, *Esplorazioni sotto la Confessio di San Pietro in Vaticano* (1951). Due to the authors’ belief that many had already written about the pagan necropolis, they chose to focus their writing on the subject of greatest interest: the location of Peter’s tomb and its environs (Apollonj-Ghetti et al. 1951, 3-4).

The same interest in St. Peter’s burial place that first prompted the excavations likewise dominated the early historiography of the site. Jocelyn Toynbee and John Ward Perkin’s dedicate more than half of their 1957 publication, *The Shrine of St. Peter and the Vatican Excavations*, to the shrine and its excavations (per the title), although it differs significantly from the initial

---

<sup>18</sup> Notably, workers uncovered a portrait statue of a Roman named Flavius Agricola reclining on a banquet while digging the foundations for Bernini’s baldachino in 1626. The accompanying inscription introduced its readers to the man from Tivoli, encouraged friends to do his bidding, and “mix the wine, drink deep, wreathed in flowers and do not refuse to make love to pretty girls” - a sentiment that may have hastened its destruction following documentation (Liverani and Spinola 2010, 134, n. 184).

report by proffering detailed case studies of three representative tombs – B, F, and Z – from the eastern necropolis (Toynbee and Ward Perkins 1957, 37). The whole eastern necropolis, however, did not receive a detailed study until Harald Mielsch and Henner von Hesberg’s *Die Heidnische Nekropole unter St. Peter im Rom, Die Mausoleen A-D* (1986) and *Die Mausoleen E-I und Z-Psi* (1995). Recent scholarship on the tombs from the Vatican Necropolis, much like that on the tombs from Necropoli di Porto, centers on questions of domestic parallels of the “house tomb” type (Wallace-Hadrill 2008; Gee 2011/2012; Borg 2018). Many scholars have also utilized the exceptionally well-preserved tomb interiors, particularly that of the sumptuous Tomb H, to craft arguments about the articulation of social status and its presentation to internal, as compared to external, audiences (Gee 2003; Wallace-Hadrill 2008). However, these arguments exclusively consider the tomb’s first phase of use and often use Tomb H, the largest tomb with the most self-aggrandizing decorative program, as a case study (Gee 2003, 18). This chapter explores the renewed interest in internal audiences from a new perspective by exploring how the spatial properties of Tomb B can inform their actions.

Commonly known as the Tomb of Fannia Redempta, Tomb B is rectangular in plan and composed of an open-air courtyard that precedes a vaulted burial chamber ([Fig. 11](#)). It was built along the western wall of Tomb A during the Hadrianic period and remained in use until the completion of St. Peter’s Basilica in the fourth century C.E. Although rarely a subject of scholarly focus,<sup>19</sup> Tomb B’s extensive lifespan makes it a compelling case study for examining diachronic change. As Toynbee and Ward Perkins aptly note: “[Tomb B] gives us, in miniature,

---

<sup>19</sup> Although a few scholars have briefly focused on the iconography and meaning of the frescoed Helios in the vault of the burial chamber, interpreted as a reference to the cosmic allegory inherent in the nearby Circus (Gee 2011/2012, 66-67) or as a possible reference to early Christian imagery (Olaru 2010), Tomb B has received comparatively little attention from scholars beyond a description in books about the necropolis as a whole (Mielsch and von Hesberg 1998; Liverani and Spinola 2010).

a cross-section of the story of the whole necropolis, of its architectural and artistic development, and of the evolution of its religious beliefs” (Toynbee and Ward Perkins 1957, 44).

### 4.3 First Phase, Hadrianic Period

Tomb B was constructed during the Hadrianic Period shortly after the erection of Tomb A, the Vatican Necropolis’ oldest chamber tomb, and before Tomb C (Liverani and Spinola 2010, 60). The rectangular tomb measures 17 x 22 Roman feet and is composed of two well-connected rectangular spaces: an open-air forecourt (1) and a vaulted burial chamber (2) behind it (Mielsch and von Hesberg 1986, 11). The courtyard was approximately 3.7m x 2.5m with 2.6m high walls (Toynbee and Ward Perkins 1957, 39). The facade of the courtyard, an integral aspect of the tomb’s overall facade, was composed of neatly laid brick with a central travertine doorway and a framed space for the titulus slab to the left of the door ([Fig. 12](#)). The courtyard’s interior eastern and western walls contained two tiers of three round-headed niches for cremation burials (Toynbee and Ward Perkins 1957, 39). The focus of this interior, however, was the large brick archway that spanned nearly the width of the forecourt itself and provided an unobstructed entryway into the burial chamber.

The vaulted burial chamber, whose interior measured approximately 3.33m x 2.23m, contained numerous niches on the northern and lateral walls that remain partially visible in [Figure 13](#). The northern wall was the most elaborately decorated of the three, containing a large central scalloped niche (N1) flanked by two smaller tiered rectangular niches (N2-5) and at least one smaller distal arched niche (N6-7) to either side. The central niche was surmounted by a triangular pediment with a segmented gable to the left and right and framed by semi-engaged stucco columns that were removed in the third century (Liverani and Spinola 2010, 60). The eastern and western walls mirrored each other in their layout with central rectangular niches (O1,



W1), surmounted by a triangular pediment, and flanked by smaller arched niches. The central niches contained painted attributes of different gods including a peacock for Juno in N1, a lance that may reference Mars in O1, and a dove and necklace for Venus in W1 (Liverani and Spinola 2010, 60). The fresco on the vaulted ceiling contained five circular frescoes arranged in a cross formation. The large central medallion depicted Helios in a quadriga while the other medallions had busts representing the four seasons (Toynbee and Ward Perkins 1957, 43).

In this first phase, the tomb consisted of two clear convex spaces highlighted in [Fig. 14](#) and whose topological properties, included in [Table 4](#), yield a non-distributed and asymmetrical justified access graph ([Fig. 15](#)). Of the two areas, the forecourt best lent itself to public-inclusive interactions as its high control value and low relative asymmetry measure mark the space as the most easily accessible while the larger area and high convexity score provide the space and ideal shape (i.e., squarer as opposed to long and narrow) for sustained interaction with larger groups of individuals. The burial chamber was also well suited for social interaction due to a relatively large area and convexity score; however, its greater depth, lower control value, and higher relative asymmetry measure suggest that it was more exclusive than the forecourt.<sup>20</sup>

Although these two rooms were well connected by a large archway and painted with a common decorative scheme of white walls and small dainty motifs (Mielsch and von Hesberg 1986, 19), the painted vaulted ceiling and elaborate interior decoration visually differentiated the rooms and underscored the burial chamber's importance. The enhanced elaboration and coverage, as well as the smaller area and additional depth, suggest that like many other tombs in

---

<sup>20</sup> The values are comparative with the rest of the spaces and, as there are only three spaces: carrier, forecourt, and burial chamber, the values present a greater contrast in their magnitude than if the two rooms were connected in a larger, well-integrated, complex as in the former case study. If one were to use these numbers alone, the burial chamber would be marked as very inaccessible - yet the wide archway of this period suggests that this is not the case, thereby further substantiating the importance of including more integrated measurements as suggested in Fisher 2009.

the Roman world, the burial chamber was likely reserved for members of the *familia* with a significant relationship to the tomb's commissioner (Hackworth Petersen 2006, 128). Although there are no surviving inscriptions from this first phase of use and thus it is impossible to know the exact hierarchy of burial locations - one might again reasonably posit that the higher an individual's standing within the *familia* or the better the relationship with the commissioner, the more likely they were placed in an elaborate niche like those on the northern wall of the burial chamber, visible to all upon entry to the tomb. The central niche (N1) would have been especially prized for its eye-catching features including its substantial size and the distinguished gable above it, while other close members of the *familia* may have featured in the surrounding niches or on the central niche of the side walls. Such is the case in the nearby Tomb H where the patron and his wife were placed in the central niche in the north wall of the chamber and were flanked by their children (Gee 2003, 137).

Just like the burial locations for the nuclear family, those of the enslaved or formerly enslaved could plausibly depend upon their relationship with the commissioner. It seems unlikely that they would occupy one of the chamber's central niches unless they had a close relationship with the commissioner and instead, may have been in the forecourt, as in the previous case study, or along a less prominent wall in the burial chamber. For instance, G. Valerius Herma of Tomb H granted his *alumnus* G. Appianus Castus a burial location along his burial chamber's southern wall that would not have been visible upon entry (Eck 1986, 260-1).

The burial of a family member in a niche on the northern wall, whether the commissioner or someone close to them, would have visibly reaffirmed their place within a relational hierarchy of the *familia* as much as it reinforced the location of any individual in attendance. Members closest to the deceased, in addition to slaves and freedpeople, might take part in grave-side

proceedings in the more exclusive and elaborate burial chamber. Yet, these were not the only ones able to view the action. The substantial archway enabled most individuals, likely further in status or relation, to look on from the forecourt. Their place in the hierarchy was underlined not only by their location in the less-exclusive forecourt, but also by their ability to bear witness to the other side and the differences wrought by the space. The vaulted burial chamber offered shade and shelter from the elements that the open courtyard lacked, providing fundamentally different physical experiences to those within and without that further served to manifest the sense of an internal hierarchy.

The structure of the tomb and the location of the burials would also reveal and affirm this hierarchy during a festival setting. The shaded space and elaborate interior decorations of the burial chamber, particularly the large central niche framed by stuccoed pilasters, would command the immediate attention of all who entered the tomb due to the open archway and the axial alignment of the courtyard door. In this way, the design of the burial chamber enabled the commissioner or those closest to them to assert their authority even in death. Those closest to individuals buried in the more exclusive burial chamber would have likely continued towards the chamber, while those of lower status may have gone in and out of the chamber to cook or perform other requisite preparations in the forecourt or outside of the tomb.<sup>21</sup> Lower-status individuals not performing work may have attended to their own deceased in a less elaborate niche of the chamber or in the forecourt. Their experience would have been informed not only by the architectural and decorative differences between the two spaces, but also by their topological positions. The forecourt served as the transitory space between the burial chamber and the

---

<sup>21</sup> There is no evidence for a well or oven in or near the tomb (Toynbee and Ward Perkins 1957, Mielsch and von Hesberg 1986).

outside world, providing little privacy to the mourners and workers situated there.

#### 4.4 Second Phase, mid-third century

In the third century C.E., inhumation became the most popular burial method in the Roman Empire (Hope 2009, 82). The substantial space required for inhumation often resulted in structural changes to pre-existing chamber tombs, like Tomb B, that were designed with only niches for cinerary urns. Some tomb-owners addressed this need by adding pits in the floor, known as *formae*, to contain one or more bodies; building large arched openings in the walls, known as *arcosolia*, in which to house sarcophagi; or simply placing sarcophagi directly onto the floor of the tomb (McDonnell 2013, 270). It is within this context of inhumation's growing popularity that some of Tomb B's subsequent structural changes occur.

In the mid-third century C.E., around a century after its erection, Tomb B underwent a second phase of construction (Mielsch and von Hesberg 1986, 37). In order to accommodate at least one case of inhumation, an oblong grave shaft "with travertine sides and rebated margins" was added to the center of the chamber, abutting the north wall, and protruding from the ground (Toynbee and Ward Perkins 1957, 41). The shaft contains an open terracotta sarcophagus, which Toynbee and Ward Perkins suspect was once closed by a marble slab (Toynbee and Ward Perkins 1957, 41). A black and white mosaic was then installed on the chamber floor surrounding the tomb. Although two-thirds of the mosaic is covered by later *arcosolia*, the surviving portion in front of the floor tomb depicts a central black crater with two doves hovering above either side of its handles. Thin leafy tendrils emerge from the ground beneath it and occupy the right and left sides of the mosaic (Mielsch and von Hesberg 1986, 15, 26). The

mosaic terminated with a newly added travertine threshold underneath the archway (Toynbee and Ward Perkins 1957, 40; Mielsch and von Hesberg 1986, 15).

An initial computation of the tomb's syntactical properties reveals few changes to Tomb B's social potential. In fact, the numbers remain unchanged when applying the standard rule of thumb for defining one convex space as an area in which an individual, from any point in that space, could be aware of someone at all points within that space (Fisher 2009, 440). For example, scholars typically count a Roman atrium as one convex space, rather than seeking to delineate the four walkable pathways around the impluvium.<sup>22</sup> Although this method works for considering the accessibility and integration of a whole room within a building, it does not provide additional quantitative insight into how the capabilities of an individual room might change with the addition of other fixed or semi-fixed features. To this end, I have opted to do two sets of syntactical measurements, detailed in [Table 5](#). The first considers the chamber as one convex space, per the typical methodology, but counts only the 'walkable' area surrounding the protruding tomb shaft. This is done with the assumption that while people may still walk on the floor tomb, they may be more inclined to follow the level space around it. The second calculation seeks to gain further quantitative insight into the three spaces created by the tomb placement and therefore considers the chamber space in front and to the sides of the floor tomb as separate convex spaces (2a-2c), as delineated in [Figure 16](#) and in the non-distributed and asymmetrical justified access graph ([Fig. 17](#)). The forecourt serves as the carrier, rather than outside the complex, to isolate the quantitative aspects of the burial chamber in this phase.

As in the previous phase, the forecourt remained the best suited for public-inclusive interaction due to its larger area, greater convexity, and the high degree of accessibility marked

---

<sup>22</sup> See, for example, how Cortés and de Soto (2022) count atria as one convex space as opposed to four.

by the low depth, high control value, and small relative asymmetry value. Likewise, the burial chamber remained more inaccessible and exclusive by comparison, as indicated by the same high depth, low control value, and high relative asymmetry measurements from the previous phase of use. The introduction of the protruding central floor tomb, mosaic, and travertine threshold did little to impact the room's overall integration within Tomb B; however, it would have altered the experience of the tomb significantly.

The protruding floor tomb inherently created a "U" shaped pathway within the chamber that was emphasized by the surrounding mosaic. Although the tomb is easily surmountable, less than 0.2m above floor level, the minor height difference would have encouraged people to remain on the mosaic pathway. This results in a 'usable' area of  $4.54\text{m}^2$  – a nearly 40% decrease in space! Not only would this increase the exclusivity of the burial chamber significantly, but the pathways created by the floor tomb would also exert substantial control over the placement and actions of visiting individuals. Meanwhile, the enhanced exclusivity of the space would be visually reaffirmed to those within *and* without by the mosaics and the travertine threshold.

A brief consideration of a visit to the individual inhumed in the floor further illustrates the impact of features new and old. All visitors would first enter the forecourt. The significant decrease in the 'usable' area of the burial chamber, however, would limit the number of individuals capable of proceeding further. This would have filtered out people based on their relation to the deceased while increasing the reliance on the forecourt as a 'holding area.' Those closest to the deceased would proceed into the burial chamber, passing over the travertine threshold - physically marking the spatial separation - before reaching the space before the tomb (designated in the chart and access graph as "2a"). This first area provided sufficient space for some, but the continuation of the mosaic to the east and west of the tomb would have encouraged

others to continue filtering into the east and west sides of the burial chamber (2b and 2c, respectively). The placement of the tomb and the pathways created by it ensured that the individual entombed was, quite literally, the center of attention.

Meanwhile, we might imagine that individuals of lower standing or more distant relation remained in the forecourt. The visual access granted by the wide archway would have allowed them not only to witness the proceedings, but also the distinct differences in their spatial experience compared to those in the chamber. As in the previous phase, the vaulted chamber's decorative walls and shade offered visual reminders of the inhabitant's importance as compared to those in the open-air forecourt. The new mosaic and travertine threshold, however, would have reaffirmed this sentiment by contributing to the visual and physical distinction between the two spaces.

Approximately a century after its erection, Tomb B's users were likely composed of a more diverse and less nucleated group than in the previous phase. The *familia*'s branches would have expanded over time through births, marriages, manumissions, and the acquisition of enslaved individuals. Other potential users of Tomb B may have been buried with *familiae* they joined,<sup>23</sup> or have founded their own familial tombs. The pool of potential users would be further diversified if an heir decided to sell off individual spaces within the tomb, granting a portion of space to another *familia* and their descendants (as in Tomb 89a of the previous case study). A festival like the *parentalia* would bring these diverse user groups - whether sparse or plentiful - together into one tomb. Whether the users were members of the same *familia* - or far distant

---

<sup>23</sup> Nearby tombs C and F provide a noteworthy example of marriage expanding a tomb's user group. In Tomb C, an altar had been built for the patron's daughter, Tullia Secunda. This altar was later reallocated to another family member when Tullia was buried in Tomb F where her husband, Marcus Caetennius Antigonos, had burial rights. Due to this marriage, members of Tullia's family may have been able to access both Tomb C and Tomb F (Liverani and Spinola 2010, p. 83).

relatives who rarely spoke with one another – their shared location within Tomb B would still solidify them as part of a distinct group with opportunities to engage and create or affirm social bonds.

These opportunities would have been particularly impacted by the introduction of the floor tomb as the subsequent decrease in the usable area affected users in the burial chamber and forecourt alike. Within the burial chamber, the decreased space and U-shaped pathway would have encouraged interaction amongst users. The space in front of the floor tomb (2a) would be the most likely to foster social interaction due to its integral location, quantitatively illustrated by the highest control value (3) of the configuration, as well as its greater relative accessibility, marked by a lower relative asymmetry value paired with a greater area and convexity than the “wings.” Those seeking to attend to a burial in the niches of the eastern or western wall of the chamber would first encounter those attending to the floor tomb in space 2a, perhaps engaging in passing interaction, as they moved towards their intended location. If a substantial number of individuals required entry to the burial chamber, the decrease in the usable area prompted by the floor tomb would force some people to wait in the forecourt. Not only would this have the effect of experientially affirming an internal hierarchy, but it would also place individuals seeking to attend potentially ‘higher status’ burials in the chamber alongside those mourning their deceased in the niches of the courtyard<sup>24</sup> and people preparing various materials in the open air. Thus, the forecourt may have not only contained more relationally and hierarchically diverse occupants, but the space’s comparably greater area, accessibility, and convexity fostered more opportunities for interaction - or disruption - amongst them. In this way, the individual inhumed in the floor

---

<sup>24</sup> Mielsch and von Hesberg (1986, 12) speculate that there may have been niches on the southern wall of the forecourt but that later additions by Constantine’s builders prevent any determination.



tomb influenced the actions, experiences, and social opportunities of the tomb's living users well beyond the burial chamber and the rites conducted on their behalf.

Despite few substantial structural changes to the tomb between its first and second phase of use, users may have had experiential differences due to the changes in the chamber coupled with a more diverse pool of users. The addition of the travertine threshold and mosaic increased the physical and visual separation of the tomb's chamber and forecourt, reinforcing the pre-existing visual hierarchy between the spaces. The prominence attached to the chamber's north wall, created and reaffirmed by its visibility and enhanced decoration, may have precipitated the decision to create a floor tomb there. Yet this very burial, whose placement and surrounding mosaic helped underscore the status of the chamber, also helped to actualize it by decreasing the usable area and enhancing the exclusivity of the space. Ironically, the chamber's increased exclusivity wrought by the tomb, coupled with a more diverse pool of users accumulated over generations, may have also decreased hierarchical separations within the forecourt during festivals as compared to the former phase.

#### **4.5 Third Phase**

In the latter half of the third century, approximately one generation later, Tomb B underwent substantial changes. The arch between the forecourt and the burial chamber was filled in with a partition wall of *opus listatum* (Toynbee and Ward Perkins 1957, 40). A doorway, approximately 0.65m wide, provided access to the chamber and two windows added above it provided light to the newly enclosed space (Mielsch and von Hesberg 1986, 13). A rectangular recess above the door offered space for a marble slab with a dedicatory inscription that has since been removed. Inside the chamber, the wall decoration was renewed, and tomb recesses were

added to the east and west walls to provide additional space for inhumation (Mielsch and von Hesberg 1986, 17).

It may have also been during this phase that the titulus on the facade of the forecourt was broken out, whose opening was then filled by yellow bricks, and a deep-red hydraulic plaster was applied to the facade (Mielsch and von Hesberg 1986, 12). Mielsch and von Hesberg posit that the exterior titulus may have been relocated to the recess above the doorway to the burial chamber, noting that the slightly smaller frame of the latter may not discount the theory if the titulus slab needed to be recut after its removal damaged the edges (Mielsch and von Hesberg 1986, 12, n. 10). Toynbee and Ward Perkins likewise implied this shift, but further speculated that it could suggest a change in Tomb B's ownership (Toynbee and Ward Perkins 1957, 41). Although the lack of evidence prevents a definitive conclusion about whether the exterior titulus was relocated to the new partition wall,<sup>25</sup> the possibility that there was a shift in ownership is not wholly unfounded. Indeed, the addition of a more exclusive doorway and new decoration in the chamber during a period when the forecourt's decoration remained unchanged certainly suggest an enhanced interest in further separating the spaces. Whether this is the result of a full shift in ownership through selling a portion of the tomb, or simply a desire to further distinguish the space, the possibility will be considered in the discussion below.

The addition of a partition wall between the forecourt and chamber, as well as *arcosolia* in the latter, significantly impacted the accessibility and available space of the burial chamber. Indeed, this is clearly visible in the convex space plan ([Fig. 18](#)). Although the primary syntactical measurements utilized by Hillier and Hanson (i.e., control value, mean depth, and relative asymmetry) suggest little change between the integration of the burial chamber and the forecourt,

---

<sup>25</sup> Notably, Liverani and Spinola seem to accept this proposed relocation as fact (Liverani and Spinola 2010, 60).

additional measurements like area and average doorway width outlined in the integrated methodology of Fisher (2009) reveal a substantially more exclusive experience. Although this is difficult to visualize in the justified access graph ([Fig. 19](#)), the physical properties detailed in [Table 6](#) clearly quantify the change. Where the transition between the forecourt and burial chamber was once an ever-open archway, approximately 2.09m in length, the 0.65m width of the new doorway is 70% smaller than the arch and even smaller than the 1.30m wide doorway into the forecourt. Furthermore, the addition of the lateral *arcosolia* decreased the ‘usable area’ of the chamber from 4.54m<sup>2</sup> to 2.83m<sup>2</sup>. This 38% decrease in the area increased the physical exclusivity of the burial chambers by proportionally limiting the maximum number of users. At the same time, the new doorway controlled their entry by ensuring individuals entered one person at a time and offered an important visual cue of separation.<sup>26</sup>

During an individual’s burial within the chamber, the group would first enter through the forecourt. As in the former phase, the decrease in the burial chamber’s usable area would have severely limited the number of individuals capable of entering the chamber. The new doorway and its restricting width would, in turn, require these select individuals to organize themselves in the courtyard to enter the chamber one-by-one. The select few capable of entering the chamber would first take in the decorations on the northern wall before they turned to face one of the *arcosolia* in which a new sarcophagus demanded their attention. Meanwhile, those in the courtyard would be forced to wait and mingle amongst themselves. The new doorway and the shift in focus from the northern wall to the lateral *arcosolia* would prevent them from clearly viewing the proceedings. Whereas relational hierarchies were previously reinforced and enabled by the archway’s provision of clear visibility into the burial chamber, hierarchies between or

---

<sup>26</sup> Although there are extant hinges in the doorway to the courtyard (Mielsch and von Hesberg 1986, 11) there is no mention in the literature about whether the doorway to the burial chamber contained a physical door.

within families might now be reified by the absence of vision and a greater restriction on available space within the chamber.

A burial in the forecourt might contain any rank of individuals depending upon the current owner(s), former heirs, and the relationship between them and the deceased. There is neither extant evidence for decorative changes nor any clearly demarcated hierarchical spaces within the forecourt that might naturally suggest or attract burials of greater relational rank (Mielsch and von Hesberg 1986).<sup>27</sup> Those of a higher social and/or relational standing to the current owner or heir may be mixed with those of a lower rank whose positionality within the forecourt may have more to do with space available than with specific hierarchies.<sup>28</sup>

During a festival, the forecourt would see individuals from across the hierarchical and relational spectrum together, mingling with one another. If Tomb B changed ownership during this time, as Toynbee and Ward Perkins (1957, 41) posited, it is plausible that a new *familia* was introduced into the space. Whether they had access to the vaulted chamber, forecourt, or both, the decrease in the chamber's usable area paired with the new doorway would have required them to rely on the forecourt whether to bury an individual there, or as a waiting/preparatory area and pathway to access the burial chamber.

In the latter half of the third century, the users of Tomb B may have been even more diverse and distant from the original commissioners than in the previous phase; the layout of the tomb certainly created a very different set of social relationships than those of previous

---

<sup>27</sup> Some tombs, like Tomb 93 in the Isola Sacra Necropolis, have a framed pediment over the central niches on the lateral walls of its courtyard.

<sup>28</sup> Although there are no surviving sarcophagi from the forecourt from this phase, it is plausible that there were contemporary sarcophagi which were later removed by Constantinian workers (Toynbee and Ward Perkins 1957, 13). If this were the case, the sarcophagi themselves would dictate not just physical placement of mourners, but also movement patterns and where others would be buried.

generations. The introduction of *arcosolia* not only shifted the focus of those utilizing the burial chamber from the northern wall to the sides, but also decreased the chamber's usable area making the burial chamber even more physically exclusive while the added partition wall increased its visual exclusivity. The forecourt, for which there is little extant evidence of change, likely remained Tomb B's social node and may have hosted a greater diversity of users across social strata and *familiae* for burial as well as for preparations and movement. The space's physical properties of a high open area, high convexity, and greater accessibility remained ideal for encouraging extended interaction amongst these users, whose location may have now been more informed by available burial space than any clear hierarchy therein.

#### 4.6 Fourth Phase

The eastern necropolis changed substantially in the fourth century CE to accommodate the creation of Constantine's basilica to St. Peter. The small pre-Constantinian shrine to the apostle, identified by the authors of the Report to be the small aedicula facing out towards "Campo P," was destined to be the focal point of the future basilica (Toynbee and Ward Perkins 1957, 138). For the shrine to become the centerpiece of the basilica, Constantine's workers had to cut into the southeastern slope of the Vatican hill and build a massive projecting platform upon which the floor would rest (197). This work necessitated both the wholesale destruction of tombs that got in the way of the church's foundations as well as the eventual enclosure and filling in of those within the foundation lines to help support the floor (198).

Tomb B, located within the walls of the foundation, was gradually closed over the course of the fourth century. Workers removed the door between the forecourt and the street and filled it in, cutting off street-level access to the tomb (Mielsch and von Hesberg 1986, 12). The walls of the tomb were then raised to the floor level of the basilica with fresh masonry clad in *opus*

*vittatum* (Mielsch and von Hesberg 1986, 13; Toynbee and Ward Perkins 1957, 37-9). Access to the tomb was provided by a semi-vaulted staircase of tufa and brick installed in the forecourt and supported by an abutment of a new southern wall (Mielsch and von Hesberg 1986, 17). The remains of stucco and paint on the stairs suggest a desire for continued decorative cohesion in the tomb, marking an implicit understanding that the space would retain its function as a funerary space until the creation of the basilica's floor necessitated the tomb's infill.

In order to address the significant structural changes to Tomb B in its final phase, I added two additional convex spaces to the syntactic calculations, the basilica (B) and the stairs (S), and separated the forecourt into two convex spaces (1a, 1b) to account for the distinct experience between the remainder of the “open forecourt” (1a) and the area underneath the stairs (1b) ([Figs. 20 and 21](#)). Although we lack specific details about the basilica's accessibility over the course of its construction, the space is included within the calculations to account for the new accessibility barrier. Likewise, the stairs are included as a separate ‘space’ to indicate the additional effort required to enter the forecourt, particularly given the likelihood that a ladder from the clivus or from the roof of Tomb A or B was required to access the stairs (Mielsch and von Hesberg 1986, 18). The quantitative results are detailed in [Table 7](#).

Although the ongoing construction of the basilica did not preclude the use of Tomb B as a funerary space,<sup>29</sup> the social experience of the tomb would have been drastically reconfigured by this context and the resulting structural changes (Mielsch and von Hesberg 1986, 17). The overall accessibility of the tomb decreased significantly once the only means of egress was through the basilica, down a ladder, and down a flight of stairs. This decrease in accessibility is demonstrably clear in the syntactical measurements. For example, the depth of the forecourt (3),

---

<sup>29</sup> The two inhumation burials in the forecourt occurred after the completion of the staircase (Mielsch and von Hesberg 1986, 17).

the tomb's most accessible room, is two depths higher than at any previous phase (1) and greater than that of the tomb's least accessible room, the burial chamber, during the previous phases (2). This complicated means of entry may have also discouraged some individuals from making the effort to enter the tomb at all and may have been too insurmountable a barrier for a variety of individuals including the elderly, differently abled, and infants (and/or their caregivers).

In addition to the exclusion wrought by the method of entry, the stairs further enhanced the exclusivity of the space by decreasing the 'walkable' area of the forecourt. The structure took up space both on the ground and above it, creating an alcove underneath the stairs (1b) that permitted little movement. The inability to freely move, as well as the visual distinction wrought by the archway, may have precipitated the decision to inhumate two individuals in that location - further eroding available space within the forecourt and shifting the social weight onto space 1a. This section of the forecourt was the most accessible space of the tomb and would have been its primary social node, indicated by its high control value and low relative asymmetry value. However, the 'walkable' area of this new node was approximately 5.63m<sup>2</sup>, a 32% decrease in 'usable area' from the previous phase. This would have restricted the number of people capable of attending a burial in the forecourt and limited the space available to wait or do preparations for a burial in the vaulted chamber.<sup>30</sup> The reduction of space would have been particularly impactful during a festival because the smaller spaces would have increased opportunities for interaction – and disruption – across individuals of all relational and hierarchical status.

---

<sup>30</sup> None of the remaining sarcophagi within the burial chamber have been securely dated to this final phase (Toynbee and Ward Perkins 1957, Mielsch and von Hesberg 1986). The only burial for which we have an extant inscription is that of Fannia Redempta, the tomb's modern namesake. The date of her burial is not wholly secure due to different interpretations of her husband's title: "*Aurel(ius) Augg(ustorum) lib(ertus)*" (Feraudi-Gruénais 2003, 71-2). Toynbee and Ward Perkins (1957, 37) suggest that the two *Augusti* served were Diocletian and Maximian, proffering a date of 286 - 305 CE. Liverani and Spinola (2010, 60) posit that this refers to Septimius Severus and his son Caracalla who reigned as co-rulers in the early third century. Feraudi-Gruénais (2003, 71-2), however, broadly attributes the inscription to the second or third centuries without further explanation.

Members and friends of the deceased's *familia* were not interacting with each other in isolation. The significant amount of construction required to build the basilica, and to adjust and fill in the tombs of the necropolis over time, would have entailed a near-constant presence of workers. These workers, likely diverse in legal status but certainly including enslaved and formerly enslaved individuals (Mayer 2012), may have interacted with the families utilizing the tombs and perhaps even formed a passing acquaintance with those whom they saw regularly. The physical presence of the tomb in a location later earmarked for construction thus offered the opportunity for social interaction beyond one's *familia*. Furthermore, the tomb and its contents provided an impetus for interaction amongst the workers themselves. The structural changes to Tomb B, such as raising the walls, creating the stairwell, and filling in the tomb, required cooperation amongst workers to achieve. During these endeavors, Toynbee and Ward Perkins suggest, workers also may have taken materials from the tomb to use for the construction of the basilica including what may have been marble slabs for the now-missing tituli inscriptions and tomb-shaft cover (1957, 41). There is no direct evidence that Constantinian workers took material from Tomb B before the tomb was filled in, but that certainly happened in the necropolis. For example, a funerary inscription to Publius Aelius Isidorus was taken from the necropolis and re-used face-down in the floor of the structure (Toynbee and Ward Perkins 1957, 202). A marble slab that once directed individuals toward the deceased became an object of attention all its own due to its desirable material, prompting interactions less about providing cult than the number of people required to lift and reuse it. In this manner, the built environment of the tomb and its material contents continued to prompt and structure social interaction beyond the funerary audience.



During this phase, the layout of Tomb B simultaneously produced a more exclusive and less hierarchical environment. Fewer individuals could access, let alone fit, into the tomb, and the pending closure may have prompted those capable of conducting a burial here to seek other funerary real estate. Those able-bodied members still willing to make the journey would have had fewer options for burial and for preparation, meaning that their placement and interaction may appear less hierarchical than what was once enabled by the tomb's original structure and context. But this final phase also reminds us that the social potential of the tomb and its materiality can extend beyond its role as a space to interact with the dead and the living individuals memorializing them to become a prompt for social interaction among construction workers as much as grave robbers, archaeologists, and tourists.

#### **4.7 Conclusions of the Case Study**

A diachronic examination of Tomb B's structural changes and resultant syntactical properties demonstrate that the built environment of even a single tomb could impact the social experience of its users and that this experience changed with the tomb. In the initial phase, the tomb likely had hierarchical burial locations elucidated by different degrees of elaboration and accessibility: the highly decorated northern wall of the burial chamber would have been reserved for the commissioner and/or those closest to them, the lateral chamber walls for those further in relational rank, and the courtyard for those even further still. During a festival, these hierarchical burial locations would translate to similarly stratified locations for the surviving mourners and individuals. The clear visibility between the burial chamber and forecourt offered by the wide archway would further affirm one's understanding of social location within the *familia*.

The hierarchical location of burial spaces and the experiences they afforded was well-understood by subsequent users who could ‘read’ the tomb’s cues of enhanced elaboration and visibility. In the tomb’s second phase of use, one individual affirmed the primacy of the northern wall with a floor tomb abutting it. In so doing, the individual created distinct movement patterns for the living and decreased the usable area within the burial chamber. A natural byproduct of cumulative use, this decrease in a tomb’s usable area over time is a point as logical as it is significant!

The decrease in space within the burial chamber enhanced its exclusivity, emphasizing the importance of the select few capable of entering. Yet much like we saw in Tombs 88-90 at the Isola Sacra Necropolis, increased exclusivity in one location could increase social pressure in another – encouraging the intermingling of people across different relational strata and blurring once clearer hierarchical lines within the forecourt. This reduction of space also impacted what spaces could constitute the subsequent generation’s focus and experience. Unable to further build out the northern wall without disrupting the floor tomb, *arcosolia* were added to the eastern and western walls in the third phase. This further reduced the area of the burial chamber and shifted the attention to spaces that were less visible from the forecourt (particularly with the introduction of a new doorway). By the end of Tomb B’s use as a funerary space, the niches of the northern wall were accessible only by stepping atop the floor tomb and the most prominent available space for its users may have been underneath the stairwell that blocked the niches (and possible burial locations) that may have once housed lower status individuals of the earlier phases. Thus, the tomb’s ability to reinforce internal hierarchies shifts over time as usable area decreases and the need for available space overrides one’s ability to follow the visual cues of importance left behind by each generation. Indeed, the contrast between the clear depiction of a familial

hierarchy offered by the first phase as compared to the last provides further contextual consideration for the decision of Marcus Caetennius Hymnus, co-commissioner of the nearby Tomb L, to prevent the ongoing use of the tomb by his heirs with the formulaic inscription of ‘HMHNS’ (*Hoc Monumentum Heredem Non Sequetur*) (Basso 1986, 53; Liverani and Spinola 2010, 113).

If a decrease in a tomb’s available area over its lifespan could significantly impact how an individual did or did not experience internal hierarchies within the funerary space, as I have argued above, the second-century shift from cremation to inhumation burials in the second takes on additional significance. Initially designed only to house cremation urns, Tomb B was not built for inhumation. The installation of floor tombs and *arcosolia* in the second and third phases decreased the usable area of the burial chamber by nearly 62%. This case study, therefore, demonstrates that this change in burial practices not only shifted how individuals may have interacted with the dead but also directly informed the social potential of the tomb and its ability to (or not to!) reinforce hierarchies amongst the funerary space’s living users.

## Chapter 5: Conclusions

In her contribution to *A Companion to the City of Rome*, Barbara Borg wrote that “Roman tombs appear so well known and researched but much work still remains to be done. It is worth its while, since few Roman contexts hold a similar potential for a better understanding of Roman ideologies, attitudes, and value systems” (2018, 419). Indeed – there is much work still to be done! However, if we continue to consider tombs as a static representational monument, then this future work will remain stymied by the same questions and methodologies. By instead considering tombs as dynamic monuments that play an active role in shaping society over time, this thesis has borne several significant conclusions that open new possibilities for future research.

This thesis has revealed that the built environment of the tomb and the material manifestations of their inhabitants structured the social environment of the living as much as it structured their interactions with the dead. The walls of the tombs, lined with niches, directed where remains were to be held while they, in turn, dictated the physical location of the mourners. Meanwhile, the organization and size of the chambers and enclosures served as the physical context of their interactions and informed how many individuals could be in the space together at any given time, who they saw, and the experience they had. Even the ideological space of the tomb informed social interaction. The need for a burial space or promise thereof informed with whom individuals engaged, like Messia Candida and the descendants of the Antonii and Gabinii, and perhaps even influenced one's behavior to avoid the fate of Panaratus and Prosdocia, excluded from internment in Tomb 100. Tombs were therefore a place in which relationships amongst the living could be recursively reflected, negotiated, and created through and beyond the grave.

These relationships were not equal - and neither were spaces within the tomb. Chamber tombs from both necropoleis exhibit evidence for relatively hierarchical burial spaces, often – though not always – reserving the burial chamber for those closest to the commissioner and the enclosure for those further in relational or social status. The tomb’s design and topological properties provided distinctly different social and phenomenological experiences to those in the burial chamber compared to those in the enclosure. Individuals in the former would be subject to a more highly decorated and exclusive space, subject to little intrusion, while those in the latter would receive little protection from both weather and social interruptions. In so doing, the tomb created an experiential hierarchy for its users.

Consequently, changes to the tomb precipitated not only shifts in its social potential and the lived experience of its users, but also in their experience of social stratification within the space. During the Hadrianic period, a member of the Antonii could enter their tomb with little need to engage individuals outside the *familia* and mourn privately in the burial chamber. On the other hand, a lower-status individual preparing food outside by the well would be subject to sharing the space with an enslaved or freed member of the Gabinii *familia* as well as the public. The construction of enclosure 89 and tombs 89A-C altered this reality by forcing *all* individuals across different relational, familial, and social strata to share a small enclosed common space that made commingling unavoidable during a festival setting. Yet such large structural changes are not the only changes that could be impactful. As the diachronic access analysis of Tomb B demonstrated, even the addition of a single burial in the burial chamber could enhance its exclusivity of the chamber while increasing the social pressure on the enclosure. The availability and organization of tomb space is therefore key to the production of social separation within the

funerary sphere. As the tomb's spatial availability decreases, so too does its ability to clearly delineate hierarchies in all spaces.

This consideration of a tomb space's agency also adds new nuance to discussions surrounding the shift from cremation to inhumation. Numerous scholars have theorized the reasons behind this change in internment practice that took place in the second century across the Roman Empire.<sup>31</sup> Fewer, however, have considered how this fundamental change impacted the lived experience beyond changes to pre-existing tombs and that this practice, particularly sarcophagi, took up significantly more space within a tomb compared to amphorae (Platt 2012, 214).<sup>32</sup> But the significance of this very act of taking up space, determining how much space to take up and where to be placed, cannot be understated. As elucidated by the spatial analysis of Tomb B, the introduction of *arcosolia* and the floor tomb accounted for a nearly 62% decrease in the usable area of the burial chamber. This increased the tomb's exclusivity by limiting the space available for *both* the living and the deceased. Meanwhile, the floor tomb's physical protrusion and placement created new walkways that not only enshrined the deceased as the center of attention but dictated the movements of subsequent users. In this manner, the materiality of the floor tomb and of the sarcophagi placed in the *arcosolia* provided the deceased not just with a lasting agency, but with a degree of it hitherto unattainable by cremation amphorae alone. We might even imagine that the commissioners of Tomb 87 in the Isola Sacra Necropolis were aware of how much sarcophagi could impact the experience of the tomb when they expressly

---

<sup>31</sup> See Barbara Borg's "Reviving Tradition in Hadrianic Rome: From Incineration to Inhumation," the second chapter in her *Roman Tombs and the Art of Commemoration* (2019), for a helpful breakdown of the main theories.

<sup>32</sup> Notable examples of consideration for the lived experience include Zanker and Eward who, in *Living with Myths: The Imagery of Roman Sarcophagi* (2013), note that the use of sarcophagi resulted in a change to commemorative rituals and that the artwork upon them could evoke different sentiments amongst the living that may aid in the mourning process.

banned their presence (Helttula 2007, 124).<sup>33</sup> Thus, in the context of a chamber tomb, the oft-discussed shift in interment practices played a substantial role in changing and dictating the social life therein.

This relationship between the tomb and society has important ramifications not only for our understanding of Roman funerary culture but also for the very means and methods by which we investigate it. By acknowledging that the tomb could play an active role in shaping society, we open the field for the application of diverse methodologies like space syntax. As this thesis has demonstrated, the application of access analysis can proffer new insights into the impact of burial practices and the means by which tombs can actively produce and negotiate inter- and intra-familial hierarchies. But perhaps the most important outcome of this acknowledgment is that enables us to see and interrogate funerary monuments in a new way. When we move beyond a focus of a tomb could *represent*, we may focus less on named individuals and the moment of the tomb's creation to instead embrace the realistic and inevitable afterlife of the tomb so feared by Petronius' Trimalchio. This perspective invites diachronic studies, rarely conducted in the funerary sphere, and a revived consideration of those not listed on a *titulus*. In so doing, we invite back into history those unnamed individuals whose lack of status, circumstance, wealth, or sheer luck prevented us from knowing their stories today but who remain silently buried alongside and sidelined by those that did.

---

<sup>33</sup> “*P(ublius) Varius Ampelus / et Varia Ennuchis / fecerunt sibi et / Variae P(ubli) f(iliae) Servandae patronae / et libert(is) libertabus posterisq(ue) eorum / ita ne in hoc monumento sarcophagum / inferatur H(oc) M(onumentum) H(eredem) F(amiliae) EX(terum) Non S(equateur) / In fronte p(edes) XS in agro p(edes) XXXIII*” (Inscription no. 106 in Helttula 2007, 124).

## Tables

<b>Table 1. Summary of Relevant Syntactic and Spatial Measurements</b> (Content derived from Fisher 2009, 440-448)			
Measure	Significance	Scale	General Interpretation
Control Value (CV)	The degree of control a space exerts over the spaces to which it directly connects.	0 - $n^*$	Higher value suggests greater control over adjoining spaces.
Depth	The number of spaces required to move from the exterior to the space in question.	1 - $n$	Higher value suggests greater depth and less accessibility for a visitor.
Mean Depth (MD)	The average depth of a space in relation to all other spaces within the studied structure.	1 - $n$	Higher value suggests less accessibility.
Relative Asymmetry (RA)	A standardized value indicating a space's overall accessibility and integration within the structure.	0 - 1	Higher value suggests less accessibility and integration.
Real Relative Asymmetry (RRA)	A value indicating a space's overall accessibility and integration which compared across structures with different constituent spaces.	0 - $n$	Higher value suggests less accessibility and integration.
Area	Size of the convex space.	0 - $n$	A greater area can accommodate more people and suggest more extended public and inclusive occasions.
Maximum Capacity (MC)	The maximum number of people capable of comfortably fitting into one space.	0 - $n$	A larger number simply indicates a greater number of people could fit within a space.
Relative Convexity (RC)	A measurement of a space's 'squareness.'	0 - 1	A value closer to 1 indicates a more square-like space, while a value closer to 0 indicates a narrow rectangular space.
Average Doorway Width (AW)	Average width of doorways and spatial openings between convex spaces.	0 - $n$	Larger openings can suggest a more inclusive space.
* $n$ stands for any positive rational number such as .54 or 6.			



<b>Table 2. Syntactic and Spatial Properties of Tombs 88 and 90 (Phase 1)</b>										
	<b>Referent</b>	<b>Depth</b>	<b>CV</b>	<b>MD</b>	<b>RA</b>	<b>RRA</b>	<b>Area (m<sup>2</sup>)</b>	<b>MC</b>	<b>RC</b>	<b>AW (m<sup>2</sup>)</b>
<b>Carrier</b>	Carrier	0	0.33	2.20	0.60	1.72	N/A	N/A	N/A	0.92
<b>88 Enclosure</b>	1	2	1.33	1.80	0.40	1.15	11.10	38	0.81	1.1
<b>88 Burial Chamber</b>	2	3	0.50	2.60	0.80	2.29	12.00	41	0.75	1.1
<b>90 Enclosure</b>	3	2	1.33	1.80	0.40	1.15	13.65	46	0.81	0.74
<b>90 Burial Chamber</b>	4a	3	0.50	2.60	0.80	2.29	8.66	29	0.78	0.92
<b>90 Burial Chamber: Niche</b>	4b	N/A	N/A	N/A	N/A	N/A	0.74	3	0.74	N/A
<b>Open: Well &amp; Oven</b>	5	1	2.00	1.40	0.20	0.57	39.36	134	0.43	1.1

Table 3. Syntactic and Spatial Properties of Tombs 88-90 (Phase 2)

	Referent	Depth	CV	MD	RA	RRA	Area (m <sup>2</sup> )	MC	RC	AW (m <sup>2</sup> )
<b>Carrier</b>	Carrier	0	0.33	2.80	0.40	1.31	N/A	N/A	N/A	1.1
<b>88 Enclosure</b>	1	3	1.17	2.10	0.24	0.80	11.10	38	0.81	1.1
<b>88 Burial Chamber</b>	2	4	0.50	3.00	0.44	1.45	12.00	41	0.75	1.1
<b>90 Enclosure</b>	3	3	1.17	2.10	0.24	0.80	13.65	46	0.81	0.74
<b>90 Burial Chamber</b>	4a	4	0.50	3.00	0.44	1.45	8.66	29	0.78	0.92
<b>90 Burial Chamber: Niche</b>	4b	N/A	N/A	N/A	N/A	N/A	0.74	3	0.74	N/A
<b>Open Space</b>	5	1	2.17	1.90	0.20	0.65	4.84	16	1.00	0.9
<b>Open Space: Well</b>	6a	2	4.33	1.40	0.09	0.29	11.10	38	0.81	0.98
<b>Open Space: 90 Entrance</b>	6b	N/A	N/A	N/A	N/A	N/A	1.34	5	0.59	N/A
<b>Open Space: Oven</b>	7	3	0.17	2.30	0.29	0.94	3.33	11	0.68	N/A
<b>89B Burial Chamber</b>	8	2	0.33	2.80	0.40	1.31	2.78	9	0.81	0.7
<b>89C Burial Chamber</b>	9	3	0.17	2.3	0.29	0.94	0.99	3	0.80	1.1
<b>89A Burial Chamber</b>	10	3	0.17	2.30	0.29	0.94	4.85	16	0.84	0.75

**Table 4. Syntactic and Spatial Properties of Tomb B (Phase 1)**

	Referent	Depth	CV	MD	RA	Area (m <sup>2</sup> )	MC	RC	AW (m <sup>2</sup> )
<b>Carrier</b>	Carrier	0	0.50	1.50	1.00	N/A	N/A	N/A	1.30
<b>Forecourt</b>	1	1	2.00	1.00	0.00	8.32	28	0.79	1.70
<b>Burial Chamber</b>	2	2	0.50	1.50	1.00	7.43	25	0.67	2.09

**Table 5. Syntactic and Spatial Properties of Tomb B (Phase 2)**

	Referent	Depth	CV	MD	RA	Area (m <sup>2</sup> )	MC	RC	AW (m <sup>2</sup> )
<b>Carrier</b>	Carrier	0	0.50	1.50	1.00	N/A	N/A	N/A	1.30
<b>Forecourt</b>	1	1	2.00	1.00	0.00	8.32	28	0.79	1.70
<b>Burial Chamber</b>	2	2	0.50	1.50	1.00	4.54* <sup>34</sup>	15	0.67	2.09
<b>BC A</b>	2a	1.00	3.00	1.00	0.00	3.25	11	0.29	1.35
<b>BC B</b>	2b	2.00	0.33	1.67	0.67	0.96	3	0.65	0.79
<b>BC C</b>	2c	2.00	0.33	1.67	0.67	0.89	3	0.57	0.71

**Table 6. Syntactic and Spatial Properties of Tomb B (Phase 3)**

	Referent	Depth	CV	MD	RA	Area (m <sup>2</sup> )	MC	RC	AW (m <sup>2</sup> )
<b>Carrier</b>	Carrier	0	0.50	1.50	1.00	N/A	N/A	N/A	1.30
<b>Forecourt</b>	1	1	2.00	1.00	0.00	8.32	28	0.79	0.98
<b>Burial Chamber</b>	2	2	0.50	1.50	1.00	2.83	10	0.53	0.65

<sup>34</sup> This area is the equivalent of the total burial chamber area minus the area of the floor tomb. Notably, this does not equal the sum of the area of its constitutive parts (2a-2c) because the area calculations of the latter are based on a perfect rectangular area, as opposed to the slight deviations created by the inexact lines of the floor tomb.

<b>Table 7. Syntactic and Spatial Properties of Tomb B (Phase 4)</b>									
	<b>Referent</b>	<b>Depth</b>	<b>CV</b>	<b>MD</b>	<b>RA</b>	<b>Area (m<sup>2</sup>)</b>	<b>MC</b>	<b>RC</b>	<b>AW (m<sup>2</sup>)</b>
<b>Carrier</b>	Carrier	0	0.50	2.80	0.90	N/A	N/A	N/A	N/A
<b>Basilica</b>	B	1	1.50	2.00	0.50	N/A	N/A	N/A	< .76
<b>Stairs</b>	S	2	0.83	1.60	0.30	N/A	N/A	N/A	N/A
<b>Forecourt A</b>	1a	3	2.50	1.60	0.30	5.63	19	0.86	1.01
<b>Forecourt B (Under the Stairs)</b>	1b	4	0.33	2.40	0.70	2.58	9	0.98	1.62
<b>Burial Chamber</b>	2	4	0.33	2.40	0.70	2.83	10	0.53	0.65

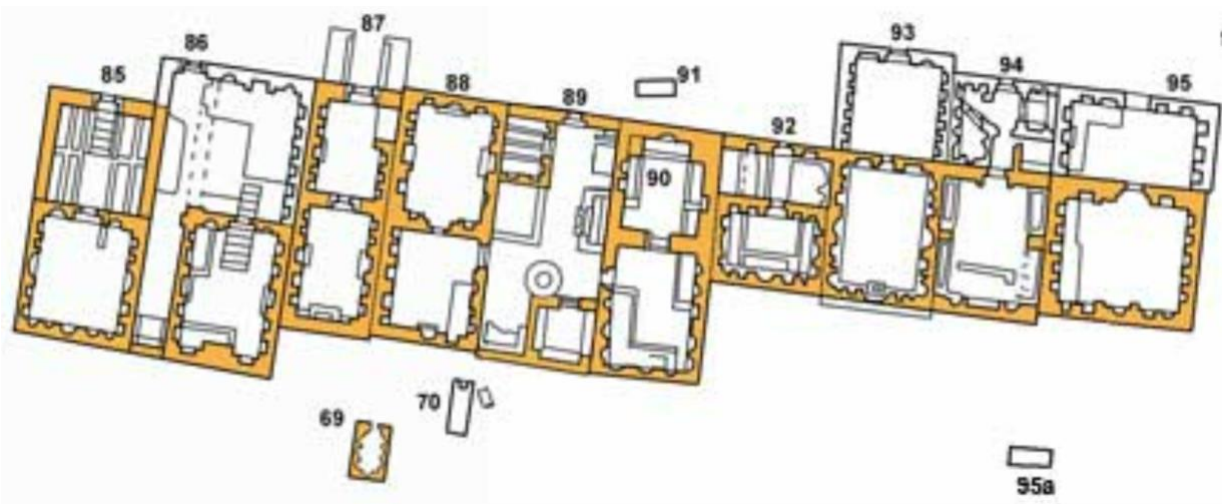
## Figures



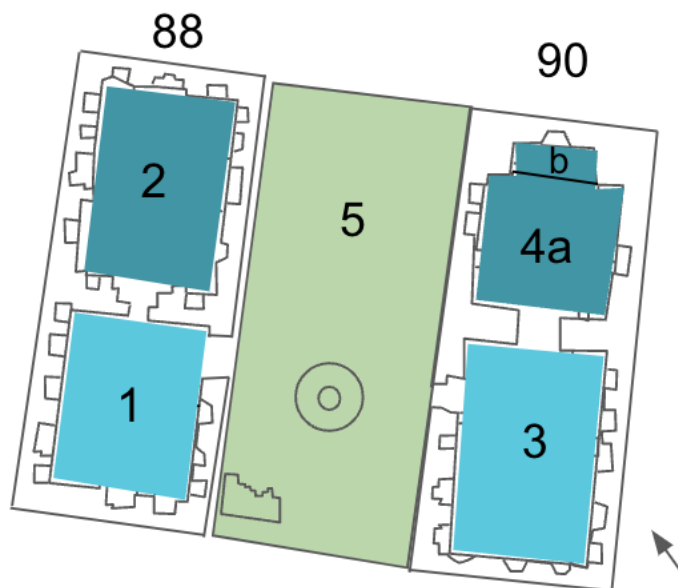
**Figure 1. Plan of the Isola Sacra Necropolis.**  
Plan by Baldassare in Olivanti and Spanu 2018, Fig. 1.



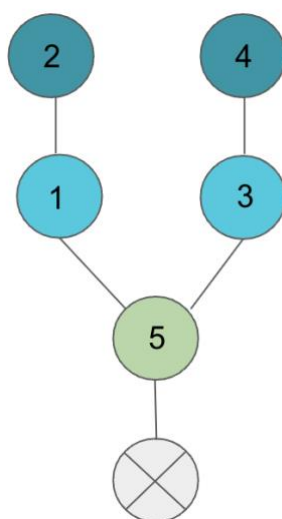
**Figure 2. Photograph of Tombs 88 (L) - 90 (R).**  
Photograph by author.



**Figure 3. Section of Isola Sacra Necropolis Plan with Tombs 88-90 (Center).**  
Plan from Romanports.org.



**Figure 4. Convex Spaces for First Phase Configuration of Tombs 88 (R) and 90 (L).**  
Adapted from plan by Romanports.org.



**Figure 5. Justified Access Graph for First Phase Configuration of Tombs 88 and 90.**



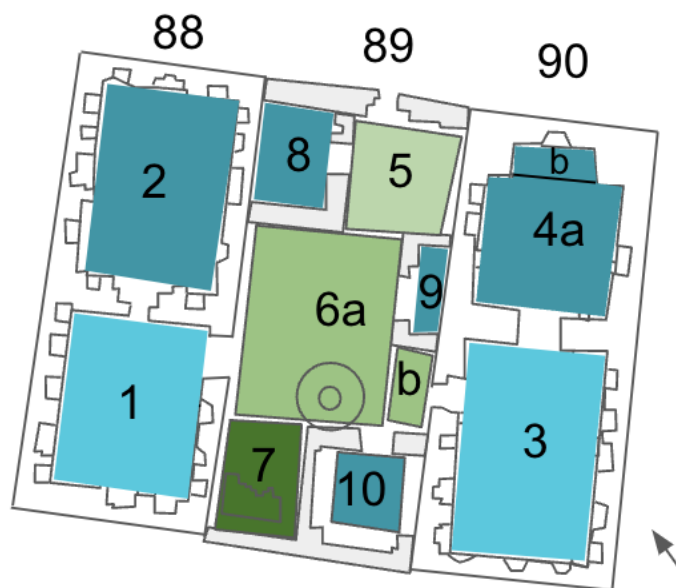


**Figure 6. Photograph of Tomb 90's Burial Chamber.**  
Photograph courtesy of Romanports.org.



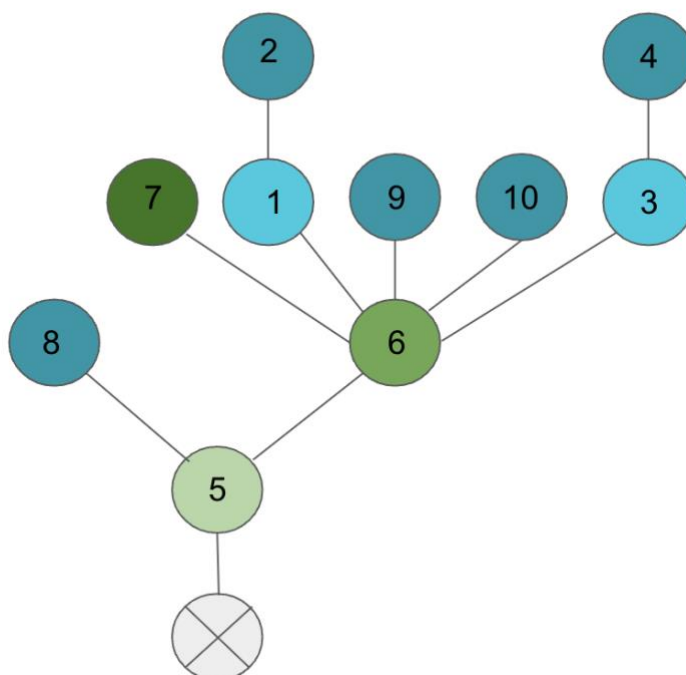
**Figure 7. Photograph of the Interior of Enclosure 89 Looking Towards 89A.**  
Photograph courtesy of Romanports.org.



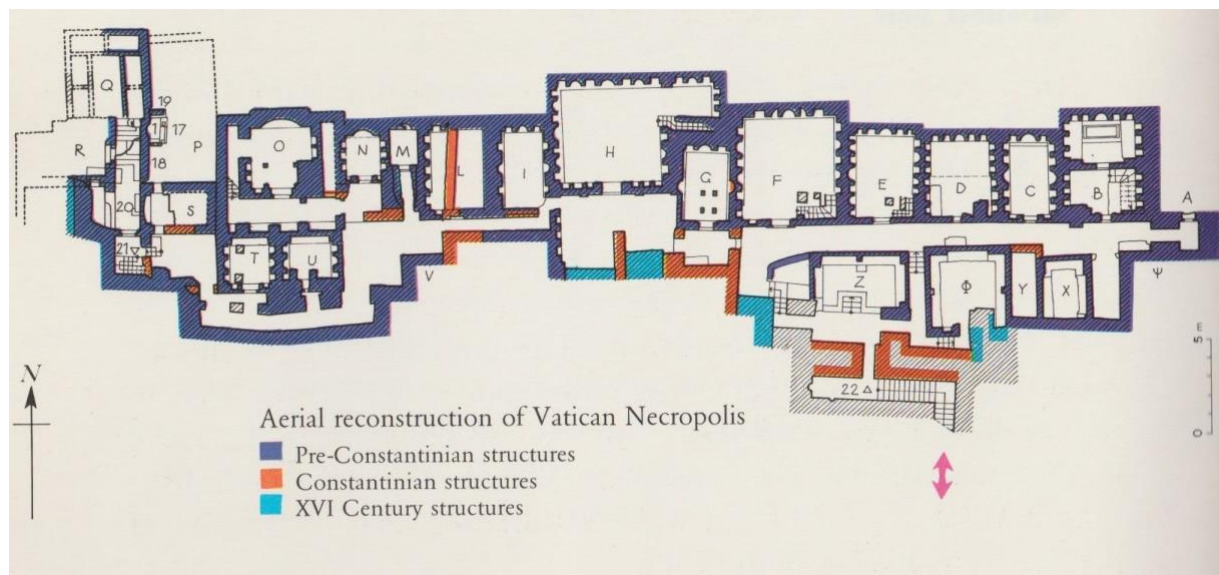


**Figure 8. Convex Spaces for Second Phase Configuration of Tombs 88 (R), 89A-C (M), and 90 (L).**

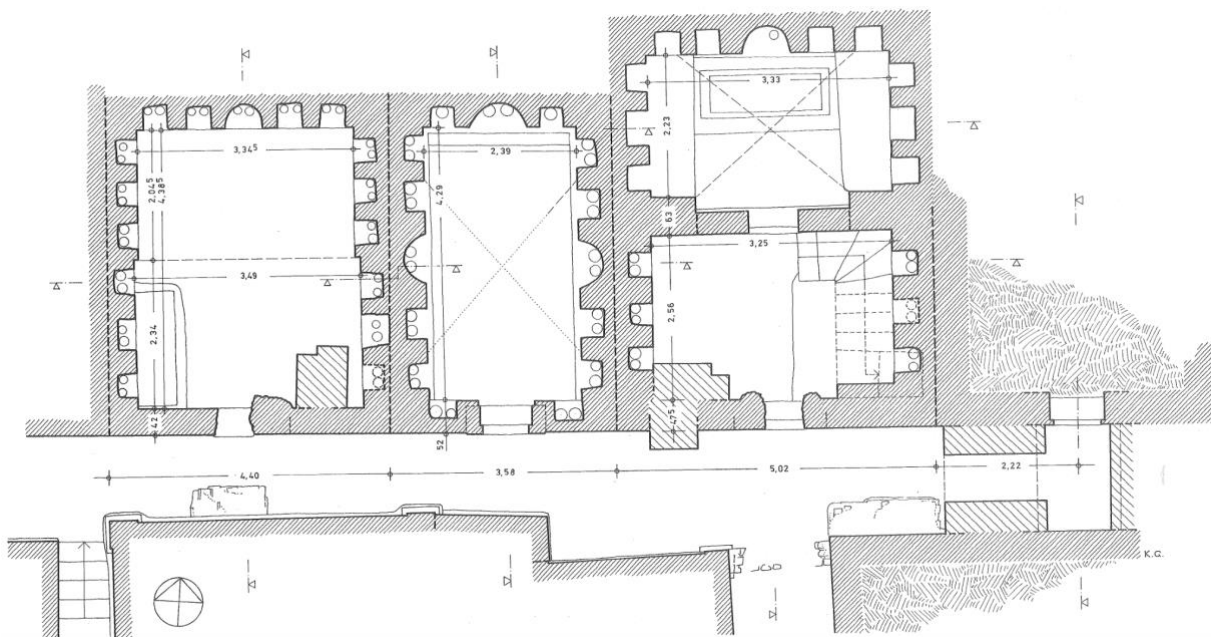
Adapted from plan by Romanports.org.



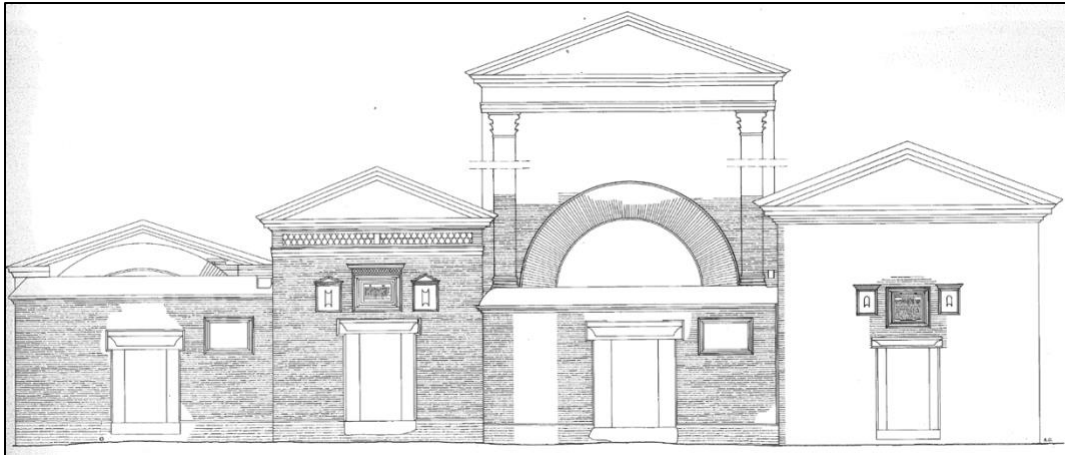
**Figure 9. Justified Access Graph for Second Phase Configuration of Tombs 88 - 90.**



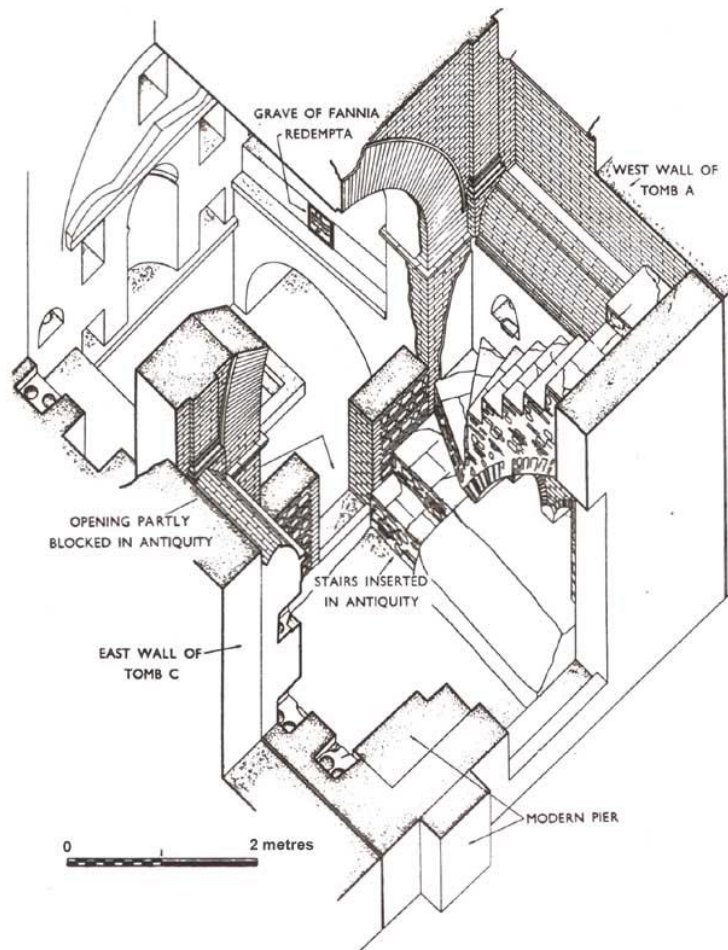
**Figure 10. Plan of the Vatican Necropolis.**  
Plan from Basso 1986, 6.



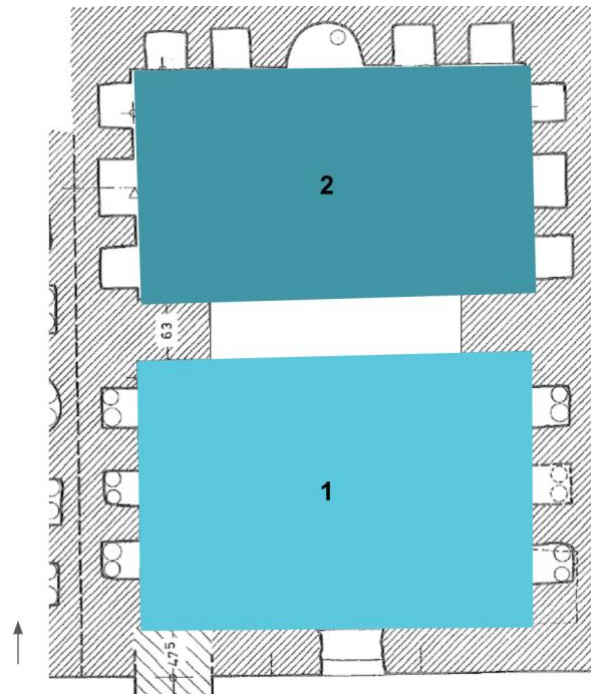
**Figure 11. Plan of Tombs D-A from the Vatican Necropolis.**  
Plan from Mielsch and von Hesberg 1986, Taf. 8.



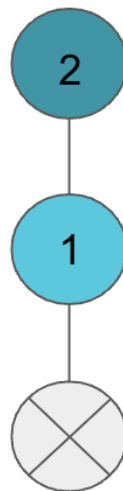
**Figure 12. Reconstruction Drawing of Tombs D-A from the Vatican Necropolis.**  
 Drawing from Mielsch and von Hesberg 1986, Taf. 9a.



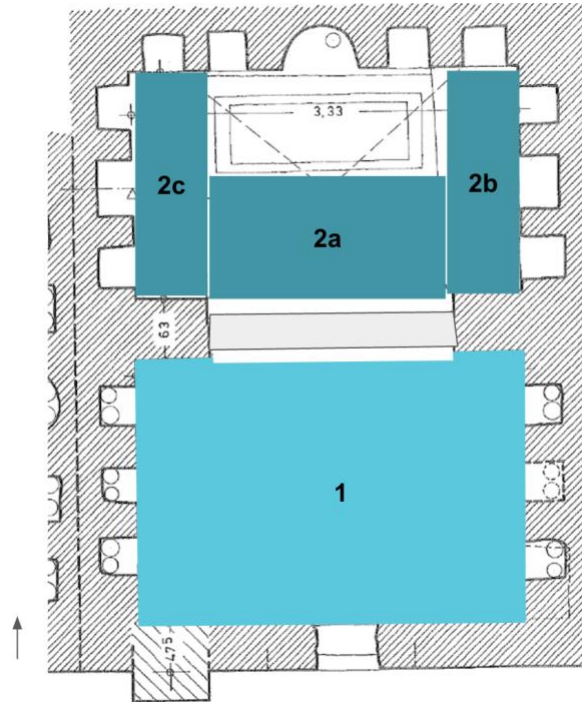
**Figure 13. Drawing of Tomb B Illustrating Post-Third Century Modifications.**  
 Drawing by B. M. Apollonj-Ghetti from Toynbee and Ward Perkins 1986, 38, Fig. 5.



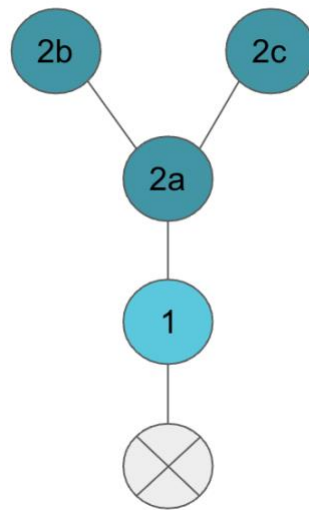
**Figure 14. Convex Spaces for First Phase Configuration of Tomb B.**  
Adapted from Mielsch and von Hesberg 1986, Taf. 2.



**Figure 15. Justified Access Graph for First Phase Configuration of Tomb B.**

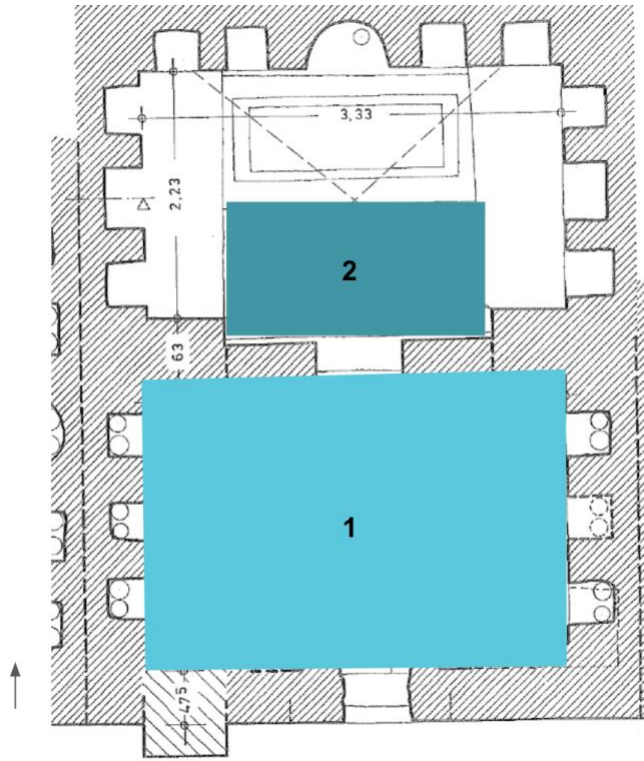


**Figure 16. Convex Spaces for Second Phase Configuration of Tomb B.**  
Adapted from Mielsch and von Hesberg 1986, Taf. 2.

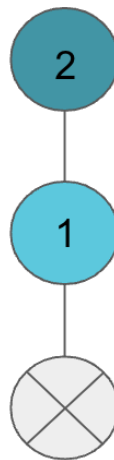


**Figure 17. Justified Access Graph for Second Phase Configuration of Tomb B.**

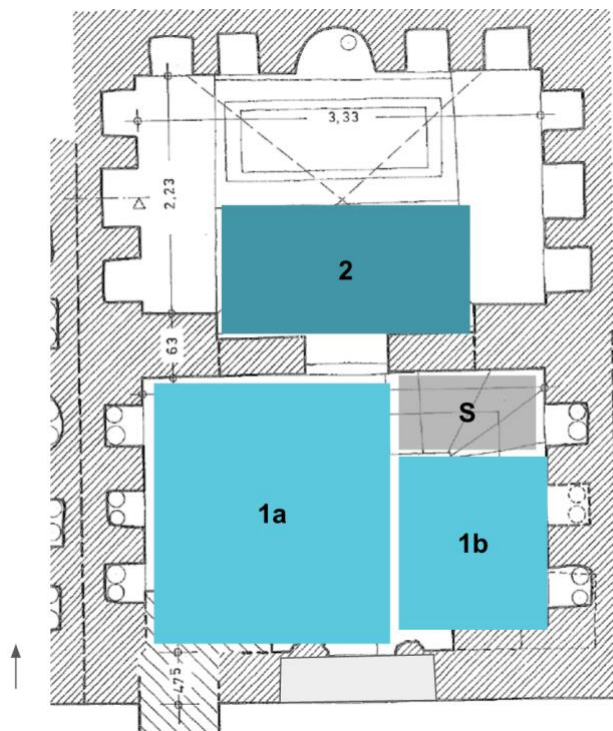




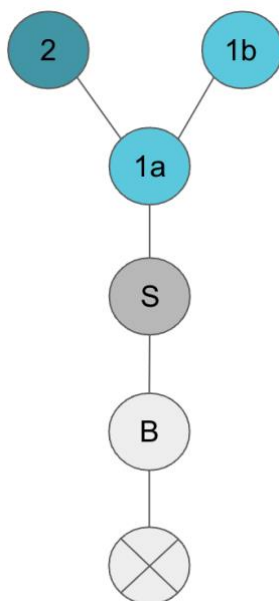
**Figure 18. Convex Spaces for Third Phase Configuration of Tomb B.**  
Adapted from Mielsch and von Hesberg 1986, Taf. 2.



**Figure 19. Justified Access Graph for Third Phase Configuration of Tomb B.**



**Figure 20. Convex Spaces for Fourth Phase Configuration of Tomb B.**  
Adapted from Mielsch and von Hesberg 1986, Taf. 2.



**Figure 21. Justified Access Graph for Fourth Phase Configuration of Tomb B.**

## References

- Apollonj-Ghetti, Bruno M., Antonio Ferrua, Enrico Josi, and Engelbert Kirschbaum. 1951. *Esplorazioni Sotto La Confessio Di San Pietro in Vaticano: Eseguite Negli Anni 1940-1949*. Vol. 1. 2 vols. Città del Vaticano.
- Baldassarre, Ida, ed. 1996. *Necropoli Di Porto: Isola Sacra*. Itinerari Dei Musei, Gallerie, Scavi e Monumenti d'Italia 38. Roma: Istituto Poligrafico e Zecca dello Stato.
- Basso, Michele. 1986. *Guide to the Vatican Necropolis*. Vatican City: Fabbrica Di S. Pietro.
- Battistin, Fabiana. 2021. "Space Syntax and Buried Cities: The Case of the Roman Town of Falerii Novi (Italy)." *Journal of Archaeological Science: Reports* 35: 1–18. <https://doi.org/10.1016/j.jasrep.2020.102712>.
- Bernstein, Frances. 2007. "Pompeian Women." In *The World of Pompeii*, edited by Pedar Foss and John J. Dobbins, 526–37. New York: Routledge.
- Borbonus, Dorian. 2020. "Organized Collective Burial in the Port Cities of Roman Italy." In *Reflections: Harbour City Deathscapes in Roman Italy and Beyond*, edited by Niels Bargfeldt and Jane Petersen, 15–38. Rome: Analecta Romana Instituti Danici.
- Borg, Barbara. 2011. "The Face of the Social Climber: Roman Freedman and Elite Ideology." In *Free at Last! The Impact of Freed Slaves on the Roman Empire*, edited by Sinclair Bell and Teresa Ramsby, 25–49. London: Bloomsbury Academic.
- Borg, Barbara E. 2018. "Roman Cemeteries and Tombs." In *A Companion to the City of Rome*, edited by Claire Holleran and Amanda Claridge, 403–24. Hoboken: John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118300664.ch19>.
- . 2019. *Roman Tombs and the Art of Commemoration: Contextual Approaches to Funerary Customs in the Second Century CE*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781108690904>.
- Bourdieu, Pierre. 1970. "The Berber House or the World Reversed." *Social Science Information* 9 (2): 151–70. <https://doi.org/10.1177/053901847000900213>.
- . 1977. *Outline of a Theory of Practice*. Translated by Richard Nice. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511812507>.
- Carroll, Maureen. 2013. "Ethnicity and Gender in Roman Funerary Commemoration." In *The Oxford Handbook of the Archaeology of Death and Burial*, edited by Liv Nilsson Stutz and Sarah Tarlow, 559–79. Oxford: Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199569069.013.0031>.



- Cortés, Ada, and Pau de Soto. 2022. "Who Lived in That Roman House? Computational Analysis on the Domestic Space to Identify a New Hybrid House in the Roman Empire." *Digital Applications in Archaeology and Cultural Heritage* 25: 1–14. <https://doi.org/10.1016/j.daach.2022.e00222>.
- Crawford, Katherine Ann. 2018. "In the Footsteps of the Gods: The Use of Computational Methods to Explore the Role of Mobility in the Religious Landscape of 2nd Century AD Ostia." Ph.D., Southampton: University of Southampton. <https://www.proquest.com/docview/2411858535?pq-origsite=summon>.
- Dananai, Alice, and Xavier Deru. 2018. "Pottery Function, Dining and Funerary Assemblages: A Comparative Study from Northern Gaul." *Internet Archaeology*, no. 50. <https://doi.org/10.11141/ia.50.6>.
- Eck, Werner. 1986. "Inschriften aus der Vatikanischen Nekropole unter St. Peter." *Zeitschrift für Papyrologie und Epigraphik* 65: 245–93.
- Feldman, Marian H. 2010. "Object Agency?: Spatial Perspective, Social Relations, and the Stele of Hammurabi." In *Agency and Identity in the Ancient Near East*, edited by Sharon R. Steadman and Jennifer C. Ross, 148–65. London: Routledge.
- Feraudi-Gruénais, Francisca. 2003. *Inschriften Und ‚Selbstdarstellung‘ in Stadtrömischen Grabbauten*. Libitina 2. Roma: Edizioni Quasar.
- Fisher, Kevin D. 2009. "Placing Social Interaction: An Integrative Approach to Analyzing Past Built Environments." *Journal of Anthropological Archaeology* 28 (4): 439–57. <https://doi.org/10.1016/j.jaa.2009.09.001>.
- Gee, Regina. 2011. "Cult and Circus 'In Vaticanum.'" *Memoirs of the American Academy in Rome* 56/57: 63–83.
- Gee, Regina Lynn. 2003. "The Vatican Necropolis: Ritual, Status, and Social Identity in the Roman Chamber Tomb." Ph.D., Austin: The University of Texas at Austin. <https://www.proquest.com/docview/305294993/abstract/D4815950B5A54526PQ/1>.
- Gell, Alfred. 1998. *Art and Agency: An Anthropological Theory*. Oxford: Oxford University Press.
- Germoni, Paola, Simon Keay, Martin Millett, and Kristian Strutt. 2019. "Ostia Beyond the Tiber: Recent Archaeological Discoveries in the Isola Sacra." In *Ricerche Su Ostia e Il Suo Territorio*, edited by Nicolas Laubry, Fausto Zevi, and Mireille Cébeillac-Gervasoni. Rome: l'École Française de Rome. <http://books.openedition.org/efr/3734>.
- Gieryn, Thomas F. 2002. "What Buildings Do." *Theory and Society* 31 (1): 35–74.

- Grahame, Mark. 2000. *Reading Space: Social Interaction and Identity in the Houses of Roman Pompeii: A Syntactical Approach to the Analysis and Interpretation of Built Space*. BAR International Series 886. Oxford: Archaeopress.
- Grigoropoulos, Dimitris. 2009. "The Population of the Piraeus in the Roman Period: A Re-Assessment of the Evidence of Funerary Inscriptions." *Greece & Rome* 56 (2): 164–82. <https://doi.org/10.1017/S0017383509990027>.
- Hackworth Petersen, Lauren. 2006. *The Freedman in Roman Art and Art History*. Cambridge: Cambridge University Press.
- Harrison, James R. 2021. "Ostia, Harbor Port of Rome: An Epigraphic and Archaeological Portrait." In *The First Urban Churches 6: Rome and Ostia*, edited by James R. Harrison and L. L. Welborn, 67–136. Atlanta: SBL Press.
- Helttula, Anne, ed. 2007. *Le Iscrizioni Sepolcrali Latine Nell'Isola Sacra*. Acta Instituti Romani Finlandiae 30. Roma: Institutum Romanum Finlandiae.
- Hesberg, Henner von, Christiane Nowak, and Ellen Thiermann. 2015. "Religion and Tomb." In *A Companion to the Archaeology of Religion in the Ancient World*, edited by Rubina Raja and Ellen Thiermann, 235–49. Hoboken: John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118886809.ch18>.
- Hillier, Bill, and Julienne Hanson. 1984. *The Social Logic of Space*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511597237>.
- Hope, Valerie M. 1997. "Constructing Roman Identity: Funerary Monuments and Social Structure in the Roman World." *Mortality* 2 (2): 103–21. <https://doi.org/10.1080/713685858>.
- . 2007. *Death in Ancient Rome: A Sourcebook*. London: Routledge.
- . 2009. *Roman Death: Dying and the Dead in Ancient Rome*. London: Continuum.
- . 2018. "Funerary Practice in the City of Rome." In *A Companion to the City of Rome*, edited by Clair Holleran and Amanda Claridge, 383–401. Hoboken: John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118300664.ch18>.
- Horton, Mark. 1994. "Swahili Architecture, Space and Social Structure." In *Architecture and Order: Approaches to Social Space*, edited by Michael Parker Pearson and Colin Richards, 147–69. London: Routledge.
- Keay, Simon, Martin Millett, and Kristian Strutt. 2020. "Background to the Isola Sacra." In *The Isola Sacra Survey: Ostia, Portus and the Port System of Imperial Rome*, edited by Simon Keay, Martin Millett, Kristian Strutt, and Paola Germoni, 11–24. Cambridge:

McDonald Institute for Archaeological Research.

- King, Charles W. 2020. *The Ancient Roman Afterlife: Di Manes, Belief, and the Cult of the Dead*. Austin: University of Texas Press.  
<http://ebookcentral.proquest.com/lib/ubc/detail.action?docID=6161718>.
- Knappett, Carl, and Lambros Malafouris, eds. 2008. *Material Agency: Towards a Non-Anthropocentric Approach*. Boston: Springer US. <https://doi.org/10.1007/978-0-387-74711-8>.
- Letesson, Quentin. 2015. "Fire and the Holes: An Investigation of Low-Level Meanings in the Minoan Built Environment." *Journal of Archaeological Method and Theory* 22 (3): 713–50. <https://doi.org/10.1007/s10816-014-9206-y>.
- Liverani, Paolo, and Giandomenico Spinola. 2010. *The Vatican Necropolises: Rome's City of the Dead*. Translated by Saskia Stevens and Victoria Noel-Johnson. Città del Vaticano: Musei Vaticani.
- Mayer, Emanuel. 2012. *The Ancient Middle Classes: Urban Life and Aesthetics in the Roman Empire, 100 BCE-250 CE*. Cambridge: Harvard University Press.
- McDonnell, Kathryn J. 2005. "A Gendered Landscape: Roman Women's Monuments, Patronage, and Urban Contexts in Pompeii, Isola Sacra, and Aquileia." Ph.D., Chapel Hill: The University of North Carolina at Chapel Hill.  
<https://search.proquest.com/docview/305423575/abstract/962C5694AE6742BDPQ/1>.
- . 2013. "Funerary Cult and Architecture." In *A Companion to Roman Architecture*, edited by Roger B. Ulrich and Caroline K. Quenemoen, 264–80. Hoboken: John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118325117.ch14>.
- Mielsch, Harald, and Henner von Hesberg. 1986. *Die Heidnische Nekropole Unter St. Peter In Rom Die Mausoleen A-D*. Vol. XVI, 1. Atti Delli Pontificia Accademia Romana di Archeologia 3. Roma: "L'Erma" di Bretschneider.
- . 1995. *Die Heidnische Nekropole Unter St. Peter In Rom Die Mausoleen E - I Und Z - Psi*. Vol. XVI, 2. Atti Delli Pontificia Accademia Romana di Archeologia 3. Roma: "L'Erma" di Bretschneider.
- Olaru, Ioana-Iulia. 2010. "The Visual Language of Paleo-Christian Painting - Before 'Paix de l'Eglise'." *Limbaș și Context. Revista Internațională de Lingvistică, Semiotică și Știință Literară*. 2 (1): 75–81.

- Olivanti, Paola, and Marcello Spanu. 2018. "Necropoli Dell'Isola Sacra, Scavo 1988-1989: Alcune Riflessioni Su Occupazione Degli Spazi, Cronologia Delle Sepolture, Corredi." In *Ricerche Su Ostia e Il Suo Territorio: Atti Del Terzo Seminario Ostiense (Roma, École Française de Rome, 21-22 Ottobre 2015)*, edited by Nicolas Laubry, Fausto Zevi, and Mireille Cébeillac-Gervasoni. Rome: l'École Française de Rome. <http://books.openedition.org/efr/3683>.
- Oyen, Astrid van. 2016. *How Things Make History: The Roman Empire and Its Terra Sigillata Pottery*. Amsterdam Archaeological Studies 23. Amsterdam: Amsterdam University Press. <https://doi.org/10.5117/9789462980549>.
- Platschek, Johannes. 2012. "Una Iscrizione Funeraria Emendata Nella Necropoli Sottostante La Basilica Di S. Pietro." *Minima Epigraphica et Papyrologica* XII–XV (14–17): 289–92.
- Platt, Verity. 2012. "Framing the Dead on Roman Sarcophagi." *RES: Anthropology and Aesthetics*, no. 61/62: 213–27.
- Revell, Louise. 2008. *Roman Imperialism and Local Identities*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511499692>.
- Roberts, Paul, and Marialaura Iadanza. 2019. *Last Supper in Pompeii*. Oxford: Ashmolean Museum.
- Roller, Matthew B. 2006. *Dining Posture in Ancient Rome: Bodies, Values, and Status*. Princeton: Princeton University Press.
- Salazar-García, Domingo C., Lidia Colominas, and Xabier Jordana. 2022. "Food for the Soul and Food for the Body. Studying Dietary Patterns and Funerary Meals in the Western Roman Empire: An Anthropological and Archaeozoological Approach." *PLOS ONE* 17 (8): 1–21. <https://doi.org/10.1371/journal.pone.0271296>.
- Stevens, Saskia. 2017. "Visiting the Ancestors: Ritual Movement in Rome's Urban Borderland." In *Excavating Pilgrimage: Archaeological Approaches to Sacred Travel and Movement in the Ancient World*, edited by Troels Kristensen and Wiebke Friese, 152–65. London: Routledge.
- Taylor, Lily. 1961. "Freedmen and Freeborn in the Epitaphs of Imperial Rome." *The American Journal of Philology* 82 (2): 113–32. <https://doi.org/10.2307/292401>.
- Toynbee, Jocelyn. 1971. *Death and Burial in the Roman World*. Aspects of Greek and Roman Life. Ithaca: Cornell University Press.

Toynbee, Jocelyn, and John Ward Perkins. 1957. *The Shrine of St. Peter and the Vatican Excavations*. New York: Pantheon Books.

Wallace-Hadrill, Andrew. 2008. "Housing the Dead: The Tomb as House in Roman Italy." In *Commemorating the Dead: Texts and Artifacts in Context - Studies of Roman, Jewish, and Christian Burials*, edited by Laurie Brink and Deborah Green, 39–79. Berlin: Walter de Gruyter.

Zanker, Paul, and Bjorn C. Eward. 2013. *Living with Myths: The Imagery of Roman Sarcophagi*. Translated by Julia Slater. Oxford Studies in Ancient Culture & Representation. Oxford: Oxford University Press.