Building the Church of San Vitale in Ravenna, Italy

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BUILDING THE CHURCH OF SAN VITALE IN RAVENNA, ITALY

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Arts

in

The School of Art

by
Sally S. Morgan
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B.F.A., Louisiana State University, 2022
May 2024
In memory of my mother, Dotty Stuart, and my husband, Kenny Morgan.
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Abstract

This thesis uses the evidence concerning the design and building of the Church of San Vitale in Ravenna to reconstruct, as far as it is possible, the sequence of decisions, activities, and methods that led to the construction of the church, made of bricks and mortar, and whose interiors are covered by glorious colored mosaics and marbles.

The historiography on the Church of San Vitale begins with the historian Agnellus, who wrote the Liber pontificalis ecclesiae Ravennatis in the 830s to 840s. According to Agnellus and other sources, the Church of San Vitale was founded by Bishop Ecclesius around 525, while Ravenna was still under Ostrogothic rule, and consecrated by Bishop Maximian in 547, under the reign of Emperor Justinian I.

The double-shelled octagonal structure of San Vitale associates it with the new centrally planned domed churches built in Constantinople in the first half of the sixth century. The thesis re-examines scholarship contextualizing the design of the Church of San Vitale with its Byzantine predecessor in Constantinople, Justinian’s Sts. Sergius and Bacchus, possibly seen by Ecclesius in 525. Designs travelling between Constantinople and Ravenna may have included plans, and directly influenced the choice of materials for San Vitale.

The thesis outlines detailed, logical steps for the ground-up construction of San Vitale. Bricks were made in Ravenna of the same style and size as those being used in Constantinople. Workshops of makers, masons, and mosaicists produced materials and performed the necessary labor.
The long-standing influence of Byzantine imperial culture and authority emanating from Constantinople arrived in Ravenna with the peaceful capture of the city by the imperial army in 540, at the end of the first campaigns of the Gothic Wars. The evidence suggests that most of the construction of San Vitale occurred after this date. It is reasonable to assume that, once inaugurated, the building became a synthesis of Byzantine architecture, decoration, and power in Ravenna. One of the main achievements of this thesis is to show – through the reconstruction of the process of design and construction of the building and its decoration – how it happened.
Introduction

I was introduced to San Vitale only in 2022. The luster of the rising surfaces of the tall open shaft which is the presbytery captivated my vision as I continued to recall the image (Figure I.1). The plan view of the eight piers of its inner octagon supporting the dome showed me clearly the geometric stability of the church’s form (Figures I.2, 1.1, 1.2, and 1.3). Fortunately, I found San Vitale at that time. I travelled extensively throughout Europe during the years of my early career—including three visits to Greece and two visits to Italy among my trips—but I have never been to Ravenna. Not yet.

My ability to visualize the details of a three-dimensional whole had placed me in the field of building construction management for several decades. When planning or estimating a construction project in anticipation of managing it, one virtually takes apart the building’s components, establishes the materials of their makeup, and puts them back together in sequence to create the whole. It is from this perspective that I chose to write the thesis that follows. By illustrating a convincing sequence of design and building methods and activities, from procuring materials to finishing touches, I hope to better understand how the sixth-century Church of San Vitale was founded, designed, constructed, and decorated.

How did the Church of San Vitale in Ravenna come into existence? The duration of construction, from 525 to 547, invited my questions. How was it built, and why did it take over twenty years? Addressing these questions reveals how the building could have been designed and built and the degree and nature of contributions of each of the four bishops, one financier, as well as distant and nearby patrons. Issues of progress and delay of the project – political, ecclesiastical, design- and construction-related – are worth taking into consideration.
Among the goals of the proposed reconstruction is to draw a more plausible picture of how the building of San Vitale was connected to historical events and a larger context – trade and the economy, rulership and government, war, and peace. Studying the building process makes it possible to come up with a plausible justification of progress and delays in construction and an understanding of the meanings, in terms of politics, religion and architecture, of building San Vitale in the sixth century. The aim, throughout this thesis, is to strike a reasonable balance between evidence, interpretation, and speculation.

The thesis combines evidence from written sources and the building itself with the logical sequence of the phases of construction. To illustrate the phases of construction, it was critical to connect as much as possible of the evidence with specific dates. This method made it possible to follow the process closely and identify some of the actors involved in it.

Visual and documentary evidence, as well as scholarship, were re-examined to understand how this exceptional monument might have been produced. The starting point was the Book of Pontiffs of the Church of Ravenna (Liber pontificalis ecclesiae Ravennatis, LPR from now on), written by Agnellus in the ninth century and the main source for chronological information about many of the surviving buildings in Ravenna, including San Vitale, as well as about many buildings that are no longer standing. Agnellus provides a biography of each bishop of Ravenna from the time of the conversion to Christianity by Apollinaris, who, according to legend, was a disciple of St. Peter from the late first century, to Agnellus’ own day, that is Georgius, the forty-eighth archbishop of Ravenna, who died in 846. Deborah Mauskopf Deliyannis, who produced the first

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2 Deborah Mauskopf Deliyannis, Ravenna in Late Antiquity (Cambridge: Cambridge University press, 2010), 6.
full English translation of LPR, calls Agnellus “the person who constructed a past for the city on the basis of its splendid monuments.” Thus, the thesis relies heavily on the chronology provided by Agnellus in the ninth century.

According to LPR, it was Bishop Ecclesius (reg 521–32) who founded the Church of San Vitale after returning from a diplomatic mission sent by Ostrogothic King Theoderic to Constantinople in 525. Further dates and deeds listed by Agnellus allow the development of a timeline of patrons from the founding in 525 to the consecration of San Vitale by Bishop Maximian in 547. According to Agnellus and other sources, the building remained unfinished during the Gothic Wars between the Byzantine Empire and the Ostrogothic Kingdom of Italy (535 to 540), and it was consecrated only in 547. Emperor Justinian (b. 482, reg 527 to 565), the greatest builder of the Eastern Roman Empire, was on the throne in Constantinople for most of the time. San Vitale was financed by Julianus Argentarius, who spent 26,000 solidi on its construction, and was built during the succession in Ravenna of four bishops: Ecclesius (reg 521–32), Ursicinus (reg 534–6), Victor (reg 538–45), and Maximian (reg 546-56).

This thesis could not have been written without the groundbreaking contributions to scholarship by Mark Johnson in his book on San Vitale in Ravenna and octagonal churches in Late Antiquity. Elements of Johnson’s work on which I relied include comparisons of measurements between San Vitale and its contemporary double-shelled octagonal church in Constantinople, Sts. Sergius and Bacchus. His adoption of a revised chronology of Justinian’s Sergius and Bacchus, based on archaeological evidence, convinces me. The hypothesis that Ecclesius may have seen the church in Constantinople in 525 and, in founding San Vitale acted to emulate it, is made much

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3 Deliyannis 2010, 6.
stronger by Johnson’s revised chronology. I am indebted to Johnson’s research also in the study of how San Vitale’s foundations might have been constructed. Simply put, Johnson’s in-depth visual descriptions of the church’s brick structure, and of the dimensions of its brick-and-mortar elements, constituted a starting point for my own study. My thesis relies on Johnson’s scholarship, which provides detailed analyses of the exact materials used, and possible methods and sequence of their installation. In fact, I ended up using and crediting many of Johnson’s photographs and graphics in the images that accompany this thesis.

Robert Ousterhout’s scholarship on Byzantine architecture provides a repository of terminology concerning Byzantine design and construction, as well as invaluable insights on Byzantine techniques of construction. His texts evoke mental images of the production of specific building materials, who plied their trades in masonry and plaster for mosaics, and how it all could have happened in Ravenna. My gleaning of Ousterhout’s outstanding research on Byzantine architecture was crucial for this thesis.

Deborah Mauskopf Deliyannis’ translation of Agnellus’ book made his text available to me. Her introduction and interpretation of this document was fundamental for my own understanding of Ravenna and the Church of San Vitale. Moreover, in Ravenna in Late Antiquity, Deliyannis offers detailed descriptions of San Vitale interiors, elevations, and interior decoration. She provided me with a background on Ostrogothic Ravenna and its early Byzantine period, which helped me set the building of San Vitale in its place in time.

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6 Agnellus, LPR, ed. Deliyannis, 4.
7 Deliyannis 2010, 227.
Images, the visual evidence for this thesis, had to take center stage for me to reconstruct how the building was constructed. I found the large volume, edited by Patrizia Angiolini Martinelli, *La Basilica di San Vitale a Ravenna*, to be an invaluable resource when I was deciding where I would find the next unique view of the subject of my research, an interior or exterior element or elevation of the building. The Atlas of the *La Basilica di San Vitale a Ravenna* documents the Church of San Vitale with precision photographs, taken with a camera which allows appropriate adjustments of the visual field. Some of its images provide the reader visual access to areas in San Vitale never seen before. It is from this beautiful documentary volume that I am crediting many photographs in the images that accompany this thesis (Atlas from now on).  

In building on Agnellus’ *LPR* and on the scholarship by Mark Johnson, Robert Ousterhout, and Deborah Mauskopf Deliyannis, as well as on several other scholars that I reference in the footnotes, and on my own experience and interpretation of the architectural evidence, I hope to have reconstructed a reliable sequence of design and building activities, materials, and methods for the construction of the Church of San Vitale.

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Chapter 1. The Founding of the Building of San Vitale

1.1. The Founding Moment and the Roles of the Co-Founders

How did the founding of the Church of San Vitale come about? When Ecclesius was installed as bishop of Ravenna in 522, Theoderic the Ostrogoth (454–526), King of Italy (reg 493-526), had ruled in Ravenna as his capital for about 30 years. His highly Romanized court was in close contact with Constantinople.9 As a child, the Arian barbarian king had spent some ten years in the Great Palace of Constantinople, as a hostage of Emperor Leo I (reg 457–474). Bishop Ecclesius would have witnessed Theoderic’s patronage of the arts, architecture, and building projects, and would have experienced Ravenna, not only as cosmopolitan, but also as Constantinopolitan.10

Bishop Ecclesius founded the church of San Vitale in Ravenna after he returned with Pope John from a delegation sent by King Theoderic to Constantinople in 525 (Fig. 1.1).11 Deliyannis suggests that, while Ecclesius did not attract the ire of Theoderic, the Orthodox Church quickly began regaining its authority after the death of Theoderic in 526.12 According to Agnellus, Ecclesius decided to build a new church on the site of St. Vitalis’ martyrdom and burial, replacing a small fifth-century chapel. Bishop Ecclesius intended to build an impressive church as Ravenna’s most important martyr shrine, reflecting the latest architectural ideas from Constantinople (Fig. 1.2).13

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11 Agnellus, LPR, ed. Deliyannis, 171.
12 Deliyannis 2010, 198.
13 Johnson 2018, 139.
In his history of the bishops of Ravenna, Agnellus begins his chapter about Holy Ecclesius stating that Julianus the Banker “founded” the church of the martyr Vitalis “together with” Bishop Ecclesius. Agnellus writes that Julianus prepared “the beginning of the building of the church.”\textsuperscript{14} I agree with Johnson’s view that Agnellus considers Julianus the Banker the co-founder of the church.\textsuperscript{15} Agnellus further refers to an inscription, then still present in the church, which names the banker as “the founder Julianus of blessed memory.”\textsuperscript{16} San Vitale would not be completed and consecrated until 547, more than twenty years later.

From Agnellus, it seems that Ecclesius, the ecclesiastical and (in modern terminology) conceptual founder, and Julianus Argentarius, the banker and (in modern terminology) co-founder, made all the important decisions to plan the design and initiate construction. It seems Johnson’s reading of Angellus’s record of inscriptions was that from the mid-520s until his death in 532, Ecclesius and his authorized co-founder, Julianus the Banker, implemented pre-construction planning.\textsuperscript{17} In modern terminology, these would be called: financing, architectural programming, design, and selecting and procuring materials; together with laying out the foundations.

Both founders participated financially in the building of San Vitale. According to Agnellus, Bishop Ecclesius donated land, as he did for the church just east of the site of San Vitale, Santa Maria Maggiore, which he built “on his own legal property” (Fig. 1.3).\textsuperscript{18} Julianus, the wealthy banker, put up 26,000 gold \textit{solidi}, to finance the building of the church. Costs for construction of San Vitale would have included building materials, equipment, such as scaffolding, wages for labor of the craftsmen employed in various trades to build the structure and decorate the interior surfaces,

\textsuperscript{14} Agnellus, LPR, ed. Deliyannis, 171.
\textsuperscript{15} Johnson 2018, 130.
\textsuperscript{16} Agnellus, LPR, ed. Deliyannis, 172.
\textsuperscript{17} Johnson 2018, 130.
\textsuperscript{18} Agnellus, LPR, ed. Deliyannis, 171.
and its custom-made marble furnishings. Julianus also donated a marble reliquary now held at the Museo Nazionale in Ravenna (Fig. 1.4). The inscription on the reliquary reads: *Iulianus argent(arius) servus vest(er) praecib(us) vest(ris) basil(licam) a funda(mentis) perfec(it).* It roughly translates to “Julian the Banker, your servant took to completion this basilica from its foundations, with prayers to you.”

From the inscription below reported by Agnellus, it seems that Ecclesius chose Julianus to manage the process of building the church—to “build” it—under his authority as the bishop of the church of Ravenna. Agnellus describes the following inscription carved in marble in the narthex:

> Julian the Banker built the basilica of the blessed martyr Vitalis from the foundations, authorized by the *vir beatissimus* Bishop Ecclesius, and decorated and dedicated it, with the *vir reverendissimus* Bishop Maximian, consecrating it on April 19, in the tenth indiction, the sixth year after the consulship of Basilius. That is in the year 547.

Ecclesius and Julianus were both financial patrons, having put up land or money. We do not know whether Julianus had any experience at this point in completing a building, that would have led Ecclesius to choose Julianus to “build” San Vitale. Or did Ecclesius choose Julianus to manage the process of building the church because of his significant sponsorship of the church building? Deliyannis suggests that Julianus may been seen as a very wealthy, private individual, “whose piety and political sympathies matched those with the Orthodox bishops of Ravenna.”

Regardless of what experience Julianus had, Agnellus reports that Julianus did, in fact, manage the

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21 Deliyannis 2010, 200.
process of building the church from start to finish. Agnellus states that his roles were: beginning the building of the church, building the church from the foundations, decorating, dedicating, and completing it.\(^{22}\)

Ecclesius would have played a part in the process of architectural design in order to authorize Julianus to lay the foundations (Fig. 1.5). Architectural design presents the form and space of the building, in other words, how it would be perceived in its exterior form and interior space (Fig. 1.6). Programming determines functional areas needed in the church and how spaces are connected to one another. Agnellus characterizes San Vitale’s complexity and singularity in Italy, with the phrase *mechanicis operibus*, meaning an “artistically complicated” building.\(^{23}\)

Ousterhout provides the term *ktetores*—founders or patrons—who were given all the credit in the *ekphrases* of Middle and Late Byzantine periods. Those directly responsible for the construction went unnamed in most of the documents. Likewise, sixth-century Procopius glorifies Justinian, attributing to him major decisions of architectural production or solutions to structural problems in building Hagia Sophia. Is it possible that Agnellus glorifies Ecclesius, Julianus, and later, Victor and Maximian in their roles in managing the process of the construction of San Vitale?\(^{24}\)

1.2. Timeline of Patrons from Founding to Consecration

According to Agnellus, the founders of San Vitale, Julianus the Banker, and Bishop Ecclesius, started its construction, perhaps excavating the site and preparing some of the foundations. We do not know the exact progress of construction of the church when Ecclesius died in 532.\(^{25}\)

\(^{22}\) Agnellus, LPR, ed. Deliyannis, 171, 177, 192.
\(^{23}\) Johnson 2018, 129.
\(^{24}\) Ousterhout 2010, 40.
\(^{25}\) Johnson 2018, 131.
Ursicinus served as bishop of Ravenna between 533 and 536, following Ecclesius. Agnellus makes no mention that Ursicinus had anything to do with the building of San Vitale. Meanwhile, Agnellus recorded that Ursicinus started the large basilica of Sant’Apollinare in Classe, whose construction Julianus the Banker also funded.  

When the Byzantine army took Ravenna in 540, Bishop Victor had reigned as bishop (538-545) since the height of the Gothic War. Victor fostered good relationships with the East and was granted tax remissions because of that. Ravenna’s early Byzantine period had begun officially. With the support of the Byzantine governing authority, Victor authorized the resumption of the work begun by Ecclesius at San Vitale. Victor has been associated with completing most of the ground-up construction and decoration. He placed his monograms on the impost blocks above the ground floor capitals (Fig. 1.7). Obviously, Victor’s monograms were installed before the higher apse semi-dome and its mosaic decorations were put in place. The mosaic bears Ecclesius’ image and name, not Victor’s (Fig. 1.5). The lower elevation of the impost blocks and higher elevation of the apse strongly imply their sequence in construction and indicate that Ecclesius could not have been living any longer when his image was installed in the apse mosaic (Fig. 1.8).

Ecclesius was marked as founding bishop of San Vitale, with his image in the apse mosaic. He is depicted holding an architectural model of San Vitale, in the mosaics program of the church, consecrated some 15 years after his death. Who was the party most directly responsible for the final completion of construction and the elaborate mosaic finishes, including Ecclesius’ image? Was it Julianus the Banker, who coaxed his 26,000 gold solidi to last more than 20 years to ensure

27 Deliyannis 2010, 209.
28 Deliyannis 2010, 201.
29 Johnson 2018, 147.
elaborate decorations and furnishings? Was Victor responsible, as successor of Ecclesius, partnering with Julianus to the near end? Or was Bishop Maximian responsible? It is his name that appears above a male figure in bishop’s garb, adjacent to Justinian in the mosaic of the sanctuary. The inscription credits Maximian for the final decorations and it was Maximian who consecrated San Vitale in 547. According to Agnellus, Emperor Justinian—who never visited Ravenna—had ordered the pope to install outsider Maximian as bishop. Later, the pope named Maximian archbishop, elevating Ravenna in the eyes of Constantinople and northern Italy.\(^{30}\) Any one of the patrons living when the apse was completed could have ensured that Ecclesius appeared in the apse mosaic of the church. His holding of the model of the building strongly suggests that it was Ecclesius who conceived of the design of San Vitale in the first place (Fig. 1.5).

\(^{30}\) Agnellus, LPR, ed. Deliyannis, 185.
Chapter 2. Planning and Designing the Building of San Vitale

2.1. Conception and Design

We do not know who the architect was but, for Richard Krautheimer, the architect was intimately knowledgeable of the “new architecture which was being created at that time at the court in Constantinople.” Ecclesius’ name and portrait in the apse mosaic, holding a scale model of the building and offering it to Christ through an angel, mark him as the conceptual and design founder of the new church building, consecrated some 15 years after his death (Figure 2.1). Without a doubt, the mosaic credits Bishop Ecclesius with launching the construction of San Vitale, which is now considered a masterpiece of sixth-century architecture belonging to a new tradition of domed churches, first developed in Constantinople.

Scholars associate the design of San Vitale with that of the Church of Sts. Sergius and Bacchus in Constantinople. Deliyannis acknowledges their close structural and formal similarities, and Krautheimer also observes that San Vitale’s fold capitals “recall the decorative vocabulary” of Sts. Sergius and Bacchus (Fig. 2.2). Both churches are double-shelled octagons. Mark Johnson has identified the correct standard of measurement used in both buildings, San Vitale and Sts. Sergius and Bacchus, as the Byzantine foot (1 foot = 0.32 meters). Johnson’s examination of the planning and design of San Vitale shows the remarkable similarity of measurements in the plans of the double-shell octagon for each of the churches.

34 Johnson 2018, 158.
In both churches, the diameters of the outer octagon and the interior octagon are 120 feet and 60 feet, respectively; that is a ratio of exterior to interior of 2:1. Johnson defines further the meaning and measurement in terms of diameters. The pure “outer octagon” at San Vitale is measured from corner to corner, exclusive of the exterior buttresses. The measurement of the “inner octagon” uses points within the piers immediately beneath the corners of the drum above them (Fig. I.2). The dimensions of these critical measurements for the two octagons are the same at Sts. Sergius and Bacchus and at San Vitale\(^\text{35}\) (Fig. 2.3).

Newer research, proposed by Brian Croke and adopted by Johnson, provides a revised chronology for Sergius and Bacchus, making it likely that Ecclesius was able to see the double-shell octagon church under construction when he visited Constantinople in 525.\(^\text{36}\) Croke presented an earlier completion date of Justinian’s church of Sts. Sergius and Bacchus than previously thought—right around August 527. Given this date, Justinian began building Sts. Sergius and Bacchus in the early 520s while living at Hormidas Palace. Sergius and Bacchus has been seen as Justinian’s response to his political rival, Anicia Juliana’s St. Polyeuctus Church. Bardill’s research on the brick-stamps of St. Polyeuctus provided earlier start dates and completion dates for Anicia Juliana’s church than previously believed. Based on Bardill’s analysis of the brick-stamps on the bricks in the substructure and super-structure of St. Polyeuctus, Croke has dated the construction of its substructure to between 508 and 512, and the completion date of St. Polyeuctus in the early 520s.\(^\text{37}\) The earlier completion dates for the two competing churches in Constantinople would mean that the Church of Sts. Sergius and Bacchus was perhaps nearing completion when Bishop


\(^{36}\) Johnson 2018, 159.

Ecclesius visited the capital in 525 (Fig. 2.4). This possible chronology of the construction of the Church of Sts. Sergius and Bacchus in Constantinople enhances the plausibility that it may have been Ecclesius’ inspiration for San Vitale.

2.2. How Designs Might Have Travelled in the Sixth Century Mediterranean

Architects and Byzantine Architecture in the Sixth Century

Robert Ousterhout differentiates the terminology of Byzantine designers and builders according to academic and technical training.\(^\text{38}\) Into the sixth century, the term *mechanikos* was used for an architect. It is usually translated as engineer. Anthemi of Tralles and Isidoros of Miletus, the architects of the church of Hagia Sophia, were educated and practiced in the *mechanikos* tradition. Anthemi was a mathematician and published technical writings, notably one on conic sections. Isidoros was a scholar of geometry and mechanics and specialized in the principles of Archimedes. In the Early Christian period, the architect in charge could direct a construction project either by theory, if he was a *mechanikos*, or by practical innovation, if he was a technically trained *architekton*. A *mechanikos* likely would have invented new design concepts, based on theory, to create decorative elements and systems of structure. These features once developed and used could have been copied and revised by builders with a technical background.\(^\text{39}\)

Judith Herrin discusses that the architects called engineers or, *mechanikai*, as well as the technicians tapped into shared ideas and plans, which builders passed around among themselves.\(^\text{40}\) She cites that the very original plans and design of the contemporary churches of San Vitale in Ravenna and of Sts. Sergius and Bacchus in Constantinople most likely derived from eastern

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\(^{38}\) Ousterhout, 2008, 44.

\(^{39}\) Ousterhout 2008, 43-44.

building concepts and practices, which circulated in the sixth-century Mediterranean. Emperors and bishops were the patrons of these new church buildings. Justinian launched his building program with the church of Sts. Sergius and Bacchus, the first in Constantinople to use an octagonal base to support the high segmented dome designed to light up its high interior (Fig. 2.2). Justinian may have completed the church around the time he acceded to the throne in 527. In 525, Bishop Ecclesius and other western visitors to the capital may have discussed Justinian’s church plans, as they were interested in church building. In Justinian’s next and vastest building campaign, Hagia Sophia, built between 532 and 537, a staggering 32-meter diameter dome appears to float on a ring of windows, 55 meters above ground. In Buildings, Procopius states that Anthemius, while managing the building process at Hagia Sophia, prepared “in advance, designs of future construction.” Basic architectural drawings could have been prepared in Constantinople and sent to Ravenna.\footnote{For a discussion of this hypothesis, see: Johnson 2018, 159.}

The designs themselves seem to show evidence of having travelled in the sixth-century Byzantine Empire. Bishops that later in life became patrons were traveling between Ravenna and Constantinople at the start of the second quarter of the sixth century. Mechanikai shared plans and ideas among builders. Three major domed churches – Sts. Sergius and Bacchus, San Vitale and Hagia Sophia – show connections in their innovative plans and design components. All three seem to be related to Justinian’s patronage.

Imperial architecture of Constantinople was a powerful cultural and religious standard to be emulated. Ousterhout characterizes the changes in architectural design in the time of Justinian as being driven by symbolic concerns.\footnote{Robert G. Ousterhout, Eastern Medieval Architecture: The Building Traditions of Byzantium and Neighboring Lands (New York, NY: Oxford University Press, 2019), 196.} Justinian’s now lost rebuilding of the Church of the Holy
Apostles in Constantinople (536-550) served significantly as a model and visual testimony, both in the sixth century and, for the late eleventh-century San Marco in Venice. San Vitale itself, compared to Charlemagne’s Palatine Chapel in Aachen, demonstrates a model-copy relationship. Construction began on his chapel in 787; in the same year he visited Ravenna. Charlemagne’s imperial palace chapel was frequently emulated.

**Expression of Form at San Vitale**

Design anticipates how the building will be constructed. The interior of San Vitale expresses one of the most cultivated and intriguing architectural designs of Late Antiquity. The octagonal form was joined with new ways of bringing forth space that we first notice in Constantinople. It is found similarly in the central dome plans developed under Justinian – Sts. Sergius and Bacchus and Hagia Sophia. In the central space of San Vitale, a drum supported by arches bearing on piers elevates the height of the interior and the level from which the dome “springs.” At San Vitale, squinches took care of the transition between octagonal shape and the circular shaped plan of drum and dome (Fig. 2.5). Each window, of which there are eight, is arched slightly, starts in the drum, and has its upper part contained in the rising dome (Fig. 2.6). The window-in-the-dome concept existed in the two magnificent Justinian churches in Constantinople. The dome design at San Vitale lights up the interior space in a similar way.

At San Vitale, the central domed octagonal core is encircled by an ambulatory with a second-story gallery above on seven sides of the exterior octagon. The eastern space is filled with

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43 For a discussion on Justinian’s now-lost rebuilding of the Church of the Holy Apostles in Constantinople (536-550) with its cruciform plan and five domes, serving as a model for the rebuilding of St. John’s Basilica in Ephesus, completed before 565, and for the late eleventh-century San Marco in Venice, see Ousterhout 2019, 193-194, 514.

44 For a further discussion on San Vitale serving as a model for Charlemagne’s Palatine Chapel in Aachen in the late eighth century, and its copies, see W. Eugene Kleinbauer, “Charlemagne’s Palace Chapel at Aachen and Its Copies,” *Gesta* 4 (1965): 2-11.

45 Johnson 2018, 138-139.
the lofty, vaulted presbytery with an apse, polygonal on the exterior, which projects out of the
eighth side of the exterior octagon. Round chapels flank the apse, along with rectangular
protrusions and infills, to connect them to the ambulatory.⁴⁶ There were doors on the seven walls
of the exterior octagon of the church. A colonnaded atrium to the west of the narthex was partially
evacuated in 1902. The elongated narthex is perpendicular to the south-southwest corner of the
octagon; thus, it is not in alignment with the apse. However, two triangular spaces connect it with
two doors leading into the church. The northmost door is on the western wall of the exterior
octagon and opposite the apse. Among numerous explanations for the asymmetry of the narthex to
the apse, F. W. Deichmann pointed out a structural one. The off-axis narthex was configured to
help support three of the buttresses on the exterior corners of the octagon, which were primary
supports for the dome. An orientation against the west wall would have only helped support two
corners (Fig. I.2).⁴⁷ The building exterior expresses itself as a complex arrangement of juxtaposed
solid shapes (Fig. 2.7).⁴⁸ A graded arrangement of volumes ascends from the polygonal apse to the
central octagonal core and roof over the dome (Fig. 1.6).⁴⁹

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⁴⁶ Deliyannis 2010, 227.
⁴⁷ Friedrich Wilhelm Dehmann, Rom, Ravenna, Konstantinopol, Naher Osten : Gesammelte Studien Zur Spätantiken
Architektur, Kunst Und Geschichte (Wiesbaden: Steiner, 1982); Deliyannis 2010, 228-229.
⁴⁸ Deliyannis 2010, 230.
⁴⁹ Krautheimer 1989, 236.
Chapter 3. The Building Process

Based on the extant evidence, the following analysis outlines the stages of construction of San Vitale. The standing edifice itself attests to the trade activities necessary to build it, and a periodization of construction activity seems warranted. There is much we do not know about exact dates or the schedule of building the church, but we can envision a chain of construction campaigns based on physical evidence and written sources. The stages of construction operations would have been foundations (or substructure), ground-up construction (or superstructure), and finishing trades.  

3.1. Foundations

Design and building of churches in Late Antiquity used earlier Roman practices. Roman surveying tools were used, such as marking a circle on the ground with a thick hemp rope (Fig. 3.1).  

Johnson provides a detailed picture of how the building’s foundations may have been constructed. In one small dig, in 1983, run by Giuseppe Ricceri, material samples were taken from bore holes drilled through foundations under one pier, two columns, and an exterior wall. Mazzucato reported separately on the findings.  

Apparently, the ground under the building is unstable, made of layers of fine sand and silty clay. It furthermore has a high water-table, as does the rest of Ravenna. The foundation that was revealed

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under the brick pier (of the twelfth century flying buttress) consisted of trachyte and limestone rubble, about 1.5 meters wide and 3 meters deep. Under the stone foundation, oak poles or palafitti had been driven about 3 meters into the soil to serve as piles, to fortify the swampy soil (Fig. 3.2). Material extracted from bore holes under a column of the exedra revealed a similar stone foundation, 1.6 meters wide, supported by the oak palafitti below. The foundation examined underneath the exterior wall was made of trachyte and limestone rubble, laid in a limestone mortar, and was 3 meters deep. Johnson attributes local expertise for understanding the unstable ground conditions and using oak palafitti under the foundations. Most likely, a local master builder supervised the actual construction of the church building.


Brick Production

As the design of the church progressed, some material choices were made concerning function and aesthetics. Piers, walls, and vaults in San Vitale would be constructed of long, thin bricks, of a size and technique used in Constantinople, different from those used before in northern Italy. Julianus used these flatter, broader bricks, manufactured in Ravenna, in all buildings he financed, including Sant’Apollinare in Classe and San Michele in Africisco in Ravenna. Found only in Julianus’ churches, they have become known as Julian bricks.

In a recent article, Enrico Cirelli states that new bricks were produced in Ravenna for the main churches built by Julianus Argentarius under Ostrogothic rule in the second quarter of the sixth century, that is—San Vitale, Sant’Apollinare in Classe, and San Michele in Africisco. Their

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55 Johnson 2018, 159.
56 Johnson 2018, 135.
petrographic qualities are identified as located within the Po River Delta. Another peak of new and different brick fabrication in Ravenna had occurred in the early fifth century. The *figlina* (literally potter’s workshop) importantly produced new signature red bricks for the construction of the small Mausoleum of Galla Placidia during the second quarter of the fifth century. Cirelli contrasts the evidence of production of new bricks in Ravenna in the early fifth and sixth centuries, with the earlier practice of massive reuse of bricks in building defensive walls in Classe and Ravenna.

The production site in Ravenna for new and unique bricks identified from the early sixth century is often termed ‘Giulianea’ for bricks used in church buildings funded by Julianus Argentarius, to construct San Vitale, Sant’Apollinare in Classe, and a small church, San Michele in *Africisco*. The bricks used for these three monumental church buildings were produced in Ravenna’s territory. These bricks do not have stamps, yet some have impressed lines (somewhat like mid-Roman *bolli anepigrafi*), possibly a result of the production and trade process for the materials (Fig. 3.3). ‘Giuliani’ bricks are approximately 50 x 33 x 4 cm in dimensions, light red in color, and have an elongated slot for a ‘hand grip’ for a handle (*manubriati*). Ravenna was a unique city in Italy during this period in its furnishing evidence of brick production. Cirelli affirms that in Late Antiquity dimensions and quantities of bricks changed completely, but that Ravenna’s building materials and methods are of the same tradition as a Roman city. In Ravenna, the fabrication of bricks with new dimensions, long and thin, of a size and technique used elsewhere

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57 Enrico Cirelli, “Bricks for Ravenna: Materials and the Construction of a Late Antique Imperial Residence,” in *Bricks for Ravenna: Materials and the Construction of a Late Antique Imperial Residence* (De Gruyter, 2020), 185, [https://doi.org/10.1515/9783110684346-007](https://doi.org/10.1515/9783110684346-007).
58 Cirelli 2020, 166.
59 Cirelli 2020, 153.
60 Cirelli 2020, 169.
61 Cirelli 2020, 185.
only in Constantinople, signals a deliberate choice of imitating what was happening in the capital of the Byzantine Empire.\textsuperscript{62}

Availability of building materials conditioned the look and character of Byzantine architecture. As Cirelli discusses, the bricks used in San Vitale and in the other churches built by Julianus must have been produced locally, in Ravenna. I believe that the process of brick production in Ravenna was the same one used in Constantinople as outlined by Ousterhout, given that the new bricks for San Vitale follow the size and technique used in the eastern capital.\textsuperscript{63}

The manufacture of bricks in Constantinople, and likewise in Ravenna, followed Roman tradition. The clay was quarried locally and was puddled in a shallow trench by mixing it with water using one’s feet. Sand was added to the clay used to make fired bricks to prevent shrinkage and cracking during drying and firing. Several men worked together in this hard labor. Laborers brought the wet clay in baskets and formed it into specially sized molds. The men carried the freshly placed, clay bricks in their molds to the sand-covered drying area and laid them flat. The bricks dried for several days before being loaded into a kiln at temperature of 800 to 950 degrees Celsius, required to achieve structural hardness. The entire process of kiln firing could take two to three weeks for loading, firing, cooling, and unloading.\textsuperscript{64}

The brickmaking operation was an essential part of the construction process. The master builder relied on the brickmaker’s workshop to meet specifications of quality and quantity. The brick manufacturer built the molds precisely large enough to allow for roughly ten percent shrinkage, to achieve the exact size of brick needed for the building projects. Ousterhout describes

\textsuperscript{62} Johnson 2018, 135.
\textsuperscript{63} Ousterhout 2008, 129.
\textsuperscript{64} Ousterhout 2008, 130.
a Byzantine case study on brick quantities of two twelfth-century kilns from Smolensk. About 1,200 bricks were fired for every 1,000 bricks needed to account for breakage and irregular firing.65

**Mortar**

Mortar was the next component in Byzantine masonry construction. Limestone was calcinated by firing it in a kiln at about 1000 degrees Celsius, to produce quicklime. Quicklime was slaked, or hydrated underwater, to give off heat. The slaking of the lime occurred in a trench on site using a hoe.66 Here aggregates were added to the lime to make mortar for use in construction. The aggregates stabilized the lime and prevented cracking of the mortar as it cured and shrank.

Tests of fully cured early Byzantine mortar revealed their strength. Mortar tested recently from the dome of Hagia Sophia showed a tensile strength two to three times greater than that recorded for mortar in Western medieval structures. A slow chemical reaction between the hydrated lime mortar and the added crushed brick made the material “pozzolanic,” or stiff and strong, as with Roman concrete.67 Byzantine builders appreciated the performance of the *cocciopesto*, or crushed brick chunks, as they frequently used them in their mortar, as they did at San Vitale.

**Tubi Fittili Production**

Up to the sixth century, brick workshops in the Ravenna territory made cylindrical ceramic interlocking pipes or tubes (*tubi fittili* or *tubuli fictiles*) used to allow the building of vaults and domes without formwork68 (Fig. 3.4). These components were always new, never reused, as the
placement of the terracotta vaulting tube is its first and last. Roman imperial builders used *tubi fittili* in Italy and, as early as the second century, in North Africa.

**Roofing Material**

The same workshops making bricks in Ravenna in the sixth century must have produced ceramic roofing tiles. Ousterhout describes ceramic tiles, the type of roofing materials used at San Vitale, as the easiest and cheapest type of roofing system used in Byzantine architecture. Most commonly for this system of roof covering, Byzantines used a single-tile shape, semi-cylindrical and slightly cone-shaped, to interlock each component with the next (Fig. 3.5). Ceramic or red terracotta roof tiles would have been produced in the same workshops with similar steps, as were bricks. The special shape of the thin roof tile required first making each as a trapezoidal clay slab, then laying each over a curved wooden mold to harden the tile before firing.

**Proconnesian Marble: Bases, Columns, Capitals, Impost Blocks, and Revetments**

San Vitale used specially designed Proconnesian marble, not mass-produced slabs that were often used in ordinary basilicas in the sixth century. Inscribed masons’ marks survive as evidence that the marble columns, capitals, and bases were quarried and shaped in Proconnesus in the Sea of Marmara—and imported into Ravenna by the shipload. When San Vitale’s builders resumed in 540 to build up walls and piers, they would have needed the fourteen marble columns for the triple arcades at ground level, among other elements.

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69 Cirelli 2020, 173.
70 Cirelli 2020, 176.
71 Ousterhout 2008, 129.
72 Ousterhout 2008, 147.
74 Deliyannis 2010, 231.
The patron of San Vitale imported Proconnesian marble for the building and decoration of the church. In the church, the visual presence of Proconnesian marble is conspicuous. It is used for two components and two different purposes; one is structural, and one is an interior finish material. The building has turned marble columns and marble revetments. They have different functions in different locations, and they would have been installed in different orders of sequence.

Marble from the island of Proconnesus in the Sea of Marmara, east of Constantinople, came pouring into Ravenna around 540 and afterward. Innovative ideas in architecture and artistry spurred elaborate use in San Vitale, Sant’Apollinare in Classe, and other churches sponsored by Julianus. Proconnesian marble had been used in ecclesiastical buildings in Ravenna since the mid-fifth century, including the Arian church, Sant’Apollinare Nuovo, attributed by Agnellus to Theoderic.75

The quarries, under imperial control, shipped their esteemed marble, white with blue-grey veins, throughout the Mediterranean (Fig. 3.6). Craftsmen used this veined marble for striking effects in carving columns or slicing wall revetments with a book-matched grain. Excavated shipwrecks uncovered complete sets from Proconnesus, carved or partially carved. A church builder would have been knowledgeable of the designs to order the chosen material, custom-made or from the quarry’s stock.76 Deliyannis states that stone-carving workshops flourished at this time in Ravenna. Quarries in Proconnesus supplied marble church furnishings for San Vitale in addition to the myriad of marble building materials.77

75 Deliyannis 2010, 219.
76 Deliyannis 2010, 219.
77 Deliyannis 2010, 220.
Johnson highlights a direct connection between Ravenna and Constantinople concerning Proconnesian marble. Ostrogothic ruler Amalasuintha, the daughter of King Theoderic, wrote a letter to Emperor Justinian about her agent who had died on the way to the capital to buy marble building materials.\textsuperscript{78}

The columns, bases, capitals, and impost blocks at the Church of San Vitale are all made of imported Proconnesian marble. Pieces bearing masons’ marks with Greek letters suggest they were cut and mostly finished in the Proconnesian workshops. Some of the column capitals at San Vitale may have been sent early and waited on site until the building of the church took off (Fig. 3.7). The north gallery capitals in San Vitale of the folded type (Fig. 3.8) are of a similar style to some folded capitals in the Church of Sts. Sergius and Bacchus (Fig. 3.9). These capitals could date therefore to the 520s, when the church in Constantinople was well along its way.\textsuperscript{79}

San Vitale was built with the largest quantity of manufactured marble building material in Ravenna, thereby making it the most expensive. Isabella Baldini asserts that the interior of the church required an astounding 188 tons of imported marble, not including screens and liturgical furniture. By comparison, its approximate contemporary, Sant’Apollinare in Classe, also lavish, required 150 tons of imported Proconnesian marble architectural elements (Fig. 3.10). Private benefactor Julianus Argentarius paid for the completion of both churches. Baldini evaluates the 26,000 gold \textit{solidi} as a “high sum paid” by Julianus for the completion of San Vitale, reflecting its complex construction process, building materials, and expensive decorative elements.\textsuperscript{80}

\textsuperscript{78} Johnson 2018, 143.
\textsuperscript{79} Johnson 2018, 142, 143.
The impressive commissions of architectural material of Proconnesian marble by the Church of Ravenna, starting with San Vitale, show its wish to follow models of Constantinople and to showcase the new construction and the episcopacy that built it. Both the churches of San Vitale and Sant’Apollinare in Classe were consecrated under Maximian, in 547 and 549, respectively. Agnellus credits Maximian for acquiring marble for the later churches of St. Stephen (550) and St. Andrew (560). Maximian, at the end of the building of San Vitale and moving forward, promoted the practice of bishops importing Proconnesian marble into Ravenna for their building projects, supported by private benefactors.\(^{81}\)

3.3. **Ground-up Construction: Walls, Arches, Dome, and Roof**

We do not know the exact date, but one day in Late Antique Ravenna, the walls of the Church of San Vitale started going up. Ground-up construction was beginning. Deliyannis cites that Deichmann had argued that both design and construction began after 540, under the reign of Bishop Victor. The Byzantine army had taken Ravenna peacefully in 540.\(^{82}\)

What physical and conceptual requirements would have been necessary to start building the walls of San Vitale from the ground up? The double-shelled octagonal church was complicated by a revolutionary new design for Ravenna. For a church to be built, the design of the building needed to be complete. The church required two essential, structural building materials, and their subcomponents. The first materials needed for construction were the new style and size of bricks, imitating the ones from the capital, but produced in Ravenna. Second, the builders would have erected on the ground floor the marble columns and capitals, custom crafted and imported from

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\(^{81}\) Baldini 2020, 103, 107.

\(^{82}\) Deichmann 1982; Deliyannis 2010, 226.
Proconnesus and imperially inspired, to support brick arches and semi-domes of the seven double-leveled exedrae.

The foundations would have been in place to start building walls from the ground up. Foundations structurally undergirded the exterior walls and the massive piers which supported the arches of the inner octagon, constructed of bricks. Foundations supported the ground floor marble columns and their loads.

**Masons and Workshops**

The load-bearing brick edifice of the Church of San Vitale rose largely at the hands of a group of workers with complementary skills in masonry. Ousterhout maintains that little is known about the organization or activities of a workshop of builders in the Middle or Late Byzantine periods—one can conclude even less is known for Early Byzantium.\(^8\) In his sixth-century panegyric to Justinian, *Buildings*, Procopius declared—and perhaps exaggerated—that for reconstructing Hagia Sophia, “Justinian began to gather artisans (*technitai*) from the whole world.”\(^8\) Could a group of masons have moved from Constantinople to Ravenna to build San Vitale?

Perhaps a master mason with an assistant took charge of the construction of San Vitale, a medium-sized church, supervising a team of unskilled workers. Trained artisans with specialized skills were needed later for the interior decoration with marble and mosaic. As in a western European workshop, a Byzantine building team would have spanned several generations to ensure continuity with the mature workers teaching the trade to youths who worked as their assistants.\(^8\)

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\(^8\) Ousterhout 2008, 49.
\(^8\) Ousterhout 2008, 56.
\(^8\) Ousterhout 2008, 52.
The *Book of the Eparch* from the tenth century is the best source on workshops or guilds at that time and outlined regulations governing craftsmen. The *maistor* or *protomaistor*, which usually translates to “master mason” or “master builder,” was the head of a workshop. For the building of San Vitale, we can see that special skills were demanded of builders. Requirements for skill and responsibility were codified in the *Book of the Eparch* four centuries later and stated: “Those who build walls and domes or vaults of brick must possess great exactitude and experience lest the foundation prove unsound and the building crooked or uneven.”

**Building Brick Walls and Scaffolding**

Masons built walls and piers of brick and mortar, supported on the foundations of San Vitale. Eight piers rise for the inner octagon, to form high brick arches connecting them together, all supporting a drum wall, elevated to the springing point of the dome (Fig. 3.11). The exterior wall, or outer octagon, rises two stories and has brick buttresses at each corner which protrude outside of the building, and extend to the inside of the wall. The interior buttress sections of the outer octagon support brick arches which join to the piers of the inner octagon, at both levels (Fig. 3.12). Therefore, these brick buttresses and their structural arches support the inner octagon core and the load of its rising drum and dome.

The exterior brick walls of the church are 0.97 meters thick. The walls were built of thin faced, long “Giuliani” bricks, laid in a thick bed of mortar of lime and *cocciopesto*, or crushed brick chunks (Fig. 3.13). Julian bricks, named after the benefactor of San Vitale, Sant’Apollinare in Classe, and San Michele in Africisco, were only used in his churches. Importantly, Johnson

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86 Ousterhout 2008, 49.
87 Ousterhout 2008, 50.
88 Johnson 2018, 135.
89 Johnson 2018, 134.
emphasizes that the size of this brick and the technique of building the walls closely resemble those used in Constantinople, leaving behind those used immediately before in northern Italy.90

Johnson emphasizes the simplicity of the flat face of brick wall in the exterior elevation of each side of the lower, outer octagon. Masons laid a protruding string course of several courses of brick, at about 9 meters above ground floor level, which divides the wall horizontally. Vertically between the large corner brick buttresses, 1.25 meters deep and 1.59 meters across, are two evenly spaced pilaster strips, 0.32 meters deep and 0.94 meters wide, for three equal, vertical wall elevations. The lower level contains three round arched windows, 2.0 meters wide and 3.5 meters high, set back in the openings of brick arches made with long slender brick voussoirs and thick mortar joints. The central window sits just above a door. Above the window, a “relieving arch,” which looks like an inverted “V,” is built into the masonry, with bricks standing in a vertical orientation, and spans between the smaller pilaster strips. The upper level contains three similarly arched windows, slightly narrower than their counterparts below, the center one measuring 1.7 meters wide by 3.4 meters high, and the side windows of the same height are 1.6 meters wide (Fig. 3.14).

The wall of the outer octagon rises to a total of 16.1 meters. In this exterior wall masons laid a simple, yet decorative cornice of a projecting stringer course of bricks, topped by a course of bricks whose corners point out at 45 degrees. Those two courses of stringers and points repeat, and then are topped by another course of bricks. This cornice arrangement whose points are known as a “dog-tooth frieze” can be seen at the top of most varieties of exterior walls at San Vitale, with a particularly good view of it above the apsidal area, and the gable end of the upper end wall of

90 Johnson 2018, 135.
the sanctuary (Fig. 3.15). 91 Not surprisingly, a quite similar cornice detail may be seen at the top of the masonry walls at Sts. Sergius and Bacchus (Fig. 3.16).

The treatment of mortar beds significantly impacted the outward appearance of a Byzantine building, especially when the brick materials were irregular. The church building of San Vitale may have some irregularities in the size of its bricks. Johnson commented that oddly the size of the ‘Giuliani’ bricks is contested. There are slight differences in measurements provided by the six scholars. As stated earlier in this thesis, Cirelli’s dimensions of the bricks are 33 x 50 x 4 cm. Among his references, Johnson affirms that “Deichmann said he saw bricks in the church measuring from 32 x 48 cm to 33 x 51 cm, with a thickness from 4.3 to 4.5 cm.”92 Interestingly, there seems to be agreement that the thickness of the mortar beds between the courses was about equal to the thickness of the bricks themselves.93

Builders at San Vitale used techniques with relatively thick mortar joints (for example, 4.3 cm = 1.7 inches) to create a uniform wall plane, especially with the possibility of irregular bricks. One can see an example of the mortar detail in a close-up photograph of the second side of the octagon of the basilica to the south of the apsidal area, particularly at the exterior buttress at the right (Fig. 3.17). I believe the mortar bed is as thick as the brick is, although the mortar looks thinner due to what I would say is an optical illusion. Ousterhout describes a technique used for finishing mortar beds in Constantinople and in areas it influenced, which I think explains this illusion of a thinner mortar bed. The edges of the mortar bed (top and bottom) were either scored with a sharp tool along with a straightedge, or the masons impressed a cord along both edges of the joint. The builders produced a horizontal line above and below the middle length of the mortar,

91 Johnson 2018, 137.
93 Johnson 2018, 135.
making it look clean and pronounced. This use of the cord may have derived from the masons’ practice of stretching it to establish the elevation horizontally along which the brick course was to be laid.\textsuperscript{94}

We can imagine that the building of San Vitale, which may have resumed in 540, benefited from masonry design and construction techniques from its immediate predecessors in Constantinople. Anthemius chose a laminated brick construction at Hagia Sophia (532-537) in Constantinople, of large, thin bricks embedded in wide mortar joints, for its vaults and walls. The thick lime mortar took a long time to cure, until it matched the hardness of the brick.\textsuperscript{95} Gigantic wooden supports or scaffolding would have been built to bear the enormous loads of the masonry arches, vaults, and domes during construction. After the mortar cured fully, the brick-and-mortar medium was bonded into a monolithic structure.

Used on a much smaller scale than at Hagia Sophia, scaffolding was necessary at San Vitale to serve as elevated platforms for the workers at different levels to build its high walls, arches, vaults, half domes, and dome. Ousterhout informs that later texts, such as ninth century \textit{vita} of Euthemios, identify three different types of scaffolding: hung, freestanding, and built in. Common words are \textit{ta xyla} (the wood) and \textit{klimax} (the ladder.) Since there appears to be no evidence of put-log holes, it is doubtful that the builder built in— to the rising courses of masonry— protruding beams as supports for platforms (Fig. 3.18). Since only built in scaffolding would have left this type of mark, exactly what system of scaffolding was used at San Vitale is not known.\textsuperscript{96}

\textsuperscript{94} Ousterhout 2008, 181.
\textsuperscript{95} Ousterhout 2019, 207.
\textsuperscript{96} Ousterhout 2008, 184-186.
Building Arches

Eight tall “multilobed piers” of the inner octagon—as Deliyannis describes their plan section view—rose to the eight high arches, surely built completely of brick voussoirs, as can be seen in other arches, interior and at windows, in images where brick facing is the current surface.\(^97\) A semicircular work of carpentry, called centering, was constructed. A brick arch was built above it to its form. Centering carried the load of the arch and allowed brickwork to continue while the mortar cured to bond permanently, together with the brick. Centering was supported underneath by scaffolding, ledges, or otherwise.\(^98\) Between piers and beneath seven of the arches is a two-story triple-arched exedra, semicircular in plan, topped with a brick semi-dome. The east side arch opens to the presbytery, and rises to a groin vault which, at 17.7 meters above floor level, would have required its own centering and scaffolding. The presbytery’s eastern apse rises to a semi-dome which peaks at 11.7 meters above the floor.\(^99\)

Erecting Marble Columns

Two Proconnesian marble columns were set in the support of three arches at each level of each exedra, with the columns at the lower level slightly taller than the columns at the gallery level above, which emphasizes verticality (Fig. 2.5).\(^100\) As mentioned above, the specific design of the columns in the exedrae required specific columns made for that very purpose. They were quarried at Proconnesus and finished in workshops there or, possibly, in Ravenna. The columns were designed specifically for the construction of the Church of San Vitale.

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97 Deliyannis 2010, 229.
100 Deliyannis 2010, 229.
Each column was erected by raising it with a strong hoisting mechanism with a pulley and ropes. Before the hoisting, the preparation would have included joining the base, the column shaft, the capital, and the impost block together with bronze pins set in molten lead, a practice in Greek and Roman architecture, which carried over into Early Christian architecture. A Middle Byzantine (843-1204) illuminated manuscript, for example, depicts workers hoisting a marble column with a pulley to set it in place. The psalter illustrated Psalm 95 and is collected in the Psautier fragmentaire (Fig. 3.19). A fragment is missing but there appear to be six men involved with one column; two holding the column, two tugging the rope as they plant their feet against the pulley stand, and two waiting near the mounting for the pulley. This image provides insight into the toilsome process of rigging pulleys for setting columns at each exedra, the number of workers involved, and how many internal architectural elements there were to be handled carefully for each luxurious column assembly. I agree with Baldini’s analysis that the complexity of the construction process, along with the purchase of the enormous tonnage of manufactured marble for San Vitale, contributed to the high sum Julianus the Banker paid to build San Vitale.

**Building the Dome using *tubi fittili***

The Church of San Vitale, and several other Late Antique and Early Medieval buildings in Ravenna, used a construction technique for its dome, in which terracotta vaulting tubes (*tubi fittili*) were nested one inside the other, which benefitted both the structure and its technology (Fig. 3.20). Many small and interlocking tubes provided a structural system, lightweight and self-supporting, so they could be laid without wooden formwork. Centering is a type of formwork, or temporary

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103 Baldini 2020, 96.
104 Ousterhout 2019, 98.
structure, over which bricks of an arch, vault, or dome are laid to provide support for the system during construction. Constructing with *tubi fittili*, without centering, was also quicker and cheaper, having no need to supply and erect the temporary wood system. However, piecing together the small components of the interconnected system for the dome of San Vitale could have been intricate work. Surely scaffolding was required for workers to install the arrangement of vaulting tubes, not only underneath the dome, but also from above, perhaps a sort of platform cantilevered off the top of the brick drum wall. Among the many buildings of Ravenna which contain ceramic vaulting tubes are the Orthodox Baptistery (dome, second half of fifth century), Sant’Apollinare Nuovo (apse, start of sixth century), and in the dome of San Vitale. The practice of using *tubi fittili* in the dome of San Vitale, specific to Ravenna and not Constantinople, supports the idea that the master builder of San Vitale was local.

**Building the Roof**

Above the dome, an eight-sided pyramidal roof structure was framed of wood and supported on the top of the brick drum wall. Wood roof framing timbers were locally sourced, and cut to size and length, just as were the oak *palafitti*, wooden scaffolding, and centering formwork. Earlier in the sequence, the lower shed roofs were framed spanning between the inner octagon to the outer octagon wall at the same slope as the roof over the dome. These and other smaller roofs were covered with terracotta roof tiles (Fig. 3.21).

105 Cirelli 2020, 174.
106 Cirelli 2020, 177, 181.
108 Johnson 2018, 137.
Chapter 4. Interior Finishes and Completion of San Vitale

This chapter reconstructs how the interior finishes, largely mosaics and marble revetments, may have been installed at San Vitale (Fig. 4.1). We do not know exactly who designed the interior decorations. We might want to start by imagining the surfaces before their luxurious interior finishes were applied. Before the vaults, arches, apses, and the dome received their veneers of mosaic decoration, the surfaces of the masonry and ceramic (the dome) forms would have been blank slates. Likewise, lower portions of walls and piers awaited their ultimate revetments of marble.

Judith Herrin has established that mosaics at San Vitale were installed from the highest point down.\(^\text{109}\) Presumably, as soon as the construction of the dome built with ceramic vaulting tubes was completed, mosaicists may have started plying their trade on the inside of the dome, using the same high scaffolding as the dome builders had used (Fig. 2.6). If sharing of scaffolding were the case, we see that building and embellishment were coordinated. In the interest of advancing the completion of interior decorations, conceivably the master builder looked for ways to do the work on the mosaics and marble revetments, simultaneously in different areas. For example, while the work of installing mosaics on the dome ceiling monopolized the full volume of space underneath it to the ground, revetments could have been installed elsewhere at ground level, on the lower walls of the presbytery, outer walls of the ambulatory, and the ambulatory side of the central piers. These two main decorations of the church’s interior surfaces could have been carried out concurrently. We will now turn to how the lower walls were paneled with marble revetments.

\(^{109}\) Herrin 2020, 165.
4.1. Marble Revetments

Byzantine Practices

Ousterhout maintains that a Byzantine church was considered complete only when its interior surfaces were fully decorated.\textsuperscript{110} The crafting of the Proconnesian marble revetments, part of the astounding total quantity of marble imported for the Church of San Vitale discussed earlier, reflected skill of manufacture in stone, or \textit{mechanica}, as described by Agnellus in the ninth century.\textsuperscript{111} This indulgence in luxury materials for the building of San Vitale was determined by its patrons and, for San Vitale, was communicated to its builders in advance.\textsuperscript{112} For example, it appears that the masons building the church knew that interior walls and piers would receive revetments, as evidenced by the cornices projecting above the panels (Fig. 4.2). Cornices were run around the walls and piers of throughout the building, some very ornate, such as those beneath the apse mosaics. Their purpose was to delineate between two different, adjacent materials. Deliyannis concludes that these elaborate cornices were also imported, as they are very similar to examples from the East.\textsuperscript{113}

Marble revetments were installed on the lower portions of the walls of the church, even including walls in the chapels on either side of the apse. The slabs were most likely shaped in Ravenna for their installation onsite. Surviving evidence of original marble revetments shows two types of marble used in the church: the grey veined and white Proconnesian marble, and the deep reddish \textit{cipollino rosso} from Iasos in Caria, on the west coast of present-day Turkey (Fig. 4.3).\textsuperscript{114}

\textsuperscript{110} Ousterhout 2008, 234.
\textsuperscript{111} Agnellus, LPR, ed. Deliyannis, 129.
\textsuperscript{112} Ousterhout 2008, 235.
\textsuperscript{113} Deliyannis 2010, 234.
\textsuperscript{114} Deliyannis 2010, 234.
Book-matched panels of patterned marbles sliced from the same block created a sumptuous system of wall decoration. Two panels of these placed side by side presented mirrored veining patterns. More spectacular panels were flanked by the grey and white Proconnesian slabs. A reconstruction of the original marble revetment at San Vitale on the outer walls of the ambulatory captures this dramatic effect (Fig. 4.4).

The installation of the precious and fragile marbles usually followed Byzantine standards of practice. Marble revetments were never set flush against the masonry surface which was subject to irregularities. A system of metal cramps, spaced out and embedded into the walls with mortar, secured the revetment panels in place.

4.2. Mosaics Production and Artisanship

Mosaics decorated vaulting, upper walls, and domes of Byzantine churches, in the same way as marble revetments covered the lower surfaces of walls. Ousterhout relates that the system of mosaics descended from Roman times and was practical for curved surfaces of walls. Deliyannis observes that, in the early fourth century, wealthy members of the Roman elite commonly owned large villas, or country houses, and decorated their interior surfaces lavishly with mosaics and marble.

Mosaic could cover any irregular surface, as its small cubes of tesserae were set into a bed of plaster. With no special cutting, the mosaic technique was suited for detailed figural decoration.

116 Deliyannis 2010, 234.
117 Ousterhout 2008, 236.
118 Ousterhout 2008, 239.
installed in the upper reaches of the building. Tesserae made up the mosaics. The tiny blocks of glass or stone, laid into the plaster bed, were arranged to form ornate patterns or imagery. Tesserae could be set at angles to act as miniature mirrors, catching the natural light. Mosaicists could use the tiniest of various sized tesserae to create delicate details of faces. Mosaic decoration required significant investment and a production system, tied to the glass industry and its technology.

Ousterhout outlined that the usual Byzantine preparation for embedding mosaics involved three coats of plaster spread onto the wall. The first application was the thickest, to smooth out any irregularities in the masonry surface. The lower two layers of lime plaster often contained chopped straw and were scored to create a strong bond with the next layer. The first layer usually was applied over all surfaces scheduled to receive mosaic, before the second thinner layer of plaster was rendered. Conceivably, the second layer, and the third coating of plaster, which received the tesserae, were applied quickly to a small area at a time. This way, the tesserae would be placed into fresh plaster for a properly bonded mosaic surface.

4.3. Phases and Chronology of Mosaic Panels

At San Vitale, brilliant mosaics adorn the apse, the vaults, and the arch leading into presbytery, as well as its walls on all sides. Subtly colored and showered with changing patterns, the mosaics are some of Ravenna’s finest, and display one of the most complex iconographic programs devised in the sixth century (Fig. 4.5).

We do not know whether originally there were even more mosaics at San Vitale, that is if any of the mosaics have been lost over the centuries. While we do not know for certain whether

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120 Ousterhout 2008, 239.
121 Ousterhout 2008, 240.
122 Ousterhout 2008, 240.
the drum and dome were covered in mosaics, it would seem unusual if they were not, given the overall sumptuousness of the interior decoration. Deliyannis states that mosaicists were present in Ravenna during this period. As seen in the baptisteries of Ravenna—the Orthodox, and the later Arian Baptistery, built between 500 and 520—local mosaicists were available and able to produce a mosaic design for a dome (Fig. 4.6).\textsuperscript{123} However, no evidence of mosaic materials has ever been found in or around the dome of San Vitale.\textsuperscript{124}

**Vault of the Lamb, West Arch, Walls of the Sanctuary, and the Apse**

The vault of the Lamb springs from three blind arches and the west arch leading into the sanctuary. Shimmering *tesserae* blanket the vault, walls, and apse which is flanked by the pair of imperial mosaics panels. Mosaicists would have worked from the vault down. Daylight, which showcases the completed mosaics, would have assisted the mosaicists in seeing their artistry while they installed it.

Between 1988 and 1997, Irina Andreescu-Treadgold and Warren Treadgold were granted access to scaffolding erected along the sanctuary walls of San Vitale to examine the mosaics during restoration. They accessed parts of the vault of the Lamb via other scaffolding during this time (Fig. 4.5).\textsuperscript{125} Andreescu-Treadgold and Treadgold determined from observed techniques which areas could be placed in chronologically earlier stages of decoration. In the first phase, glass *tesserae* were used almost exclusively to depict hands, feet, and features in the entire apse, the vault of the Lamb, upper walls of the sanctuary, and the top medallions of the west arch. In a

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\textsuperscript{124} Deliyannis 2010, 236.

second phase, white marble and limestone were used instead of silver and white glass. Differences in materials corresponding to certain areas of walls which underwent repairs or indicate “workloads” (parts of mosaic set on a single plaster surface when the plaster is still fresh) can suggest different phases in the decoration campaign.

While uniformity of style projects the workshop’s professionalism, some differences in detail in the west arch likely reveal that different artisans were working on the same scaffolding (Fig. 4.7). The standard practice documented for setting mosaics, of back-to-back and top-to-bottom, is illustrated in the following instance: the repetitious elements of ornamental framing of the medallions started in the middle of the top of the arch but grew out of synchronization as the decoration advanced downward. This was the result of the mosaic being set by two artisans at the same time. Some elements of ornamental framing were lowered on one side of the arch to correct the irregularity.

After years of study from scaffolds at one wall to another, Andreescu-Treadgold and Treadgold determined a horizontal division between two phases above and below this boundary, on all walls of the sanctuary and in the west arch. Other than the apsidal mosaics below it, the boundary runs horizontally around the sanctuary walls at the level of the springing of the vault and demarcates the two original phases. After the mosaics of the apse had been finished, and the adjacent imperial panels were completed in their original state, all the work on mosaics in San Vitale was suspended. Work resumed later with somewhat different materials.

126 Andreescu-Treadgold and Treadgold 1997, 714.
127 Andreescu-Treadgold and Treadgold 1997, 715.
128 Andreescu-Treadgold and Treadgold 1997, 715.
129 Andreescu-Treadgold and Treadgold 1997, 716.
The Set of Imperial Panels

Scholars have identified at least two different phases or styles for the sixth-century mosaics at San Vitale. Andreescu-Treadgold and Treadgold have reconsidered the internal chronology of the Justinian mosaics panel, which includes the figure of Bishop Maximian. He is identified in this panel with his name inscribed in mosaic above his head. His predecessor, Bishop Victor is named by his carved monogram on several impost blocks above capitals. His monograms mark his participation in the construction of the church. The chronology and dates of the four bishops is well known from several sources, starting with Agnellus:

<table>
<thead>
<tr>
<th>Bishop</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecclesius</td>
<td>February 20, 522-July 27, 532</td>
</tr>
<tr>
<td>Ursicinus</td>
<td>February 25, 533-September 5, 536</td>
</tr>
<tr>
<td>Victor</td>
<td>April 4, 538-February 15, 545</td>
</tr>
<tr>
<td>Maximian</td>
<td>October 14, 546-February 22, 556</td>
</tr>
</tbody>
</table>

The first phase or style of the Justinian mosaics panel did not include Maximian. At close observation, it becomes clear that technically the materials for his head and inscription were added later. The bishop’s garb and the figure of Justinian were both part of the original mosaic. Since no Ostrogothic king is present in San Vitale and in the mosaics, the panel must date from after Imperial forces took Ravenna in 540. The original figure of a bishop of Ravenna must have been that of Victor. Furthermore, Andreescu-Treadgold and Treadgold date the original, first phase of the Justinian panel, more precisely and with a higher probability, to between autumn 544—when Belisarius and his wife returned to Ravenna for a few months—and February 15, 545, when Victor died.\(^{131}\)

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\(^{130}\) Andreescu-Treadgold and Treadgold 1997, 712.

\(^{131}\) Andreescu-Treadgold and Treadgold 1997, 719.
Different selections of materials usually indicate phases of work by a different workshop, since materials usually align with a given workshop which probably procured its materials in bulk.132

In the emperor’s panel, glass *tesserae* were used for Justinian’s face and hands, the faces, and hands of other characters, and only for the hand of the bishop (Fig. 4.8, details 5, 8, and 9).133 After the original first phase of the Justinian mosaic was completed, the head of the bishop (detail 6, Fig. 4.8) and the head of a man behind and between him and the emperor (detail 7, Figure 4.8) were added, made of stone *tesserae*. The same mosaicist made the two heads as real portraits, at the same time and with the same stone palette used for flesh.134

The bishop’s new head is smaller than those of the adjacent figures, likely designed to allow the inscription to fit above his head. The bishop’s head and the head of the man, an official, prominently squeezed between the emperor and the bishop, were most likely a frenzied alteration to the original mosaic. Maximian, an outsider and newcomer, needed to ensure that his identification with his name be inscribed above his portrait.135 The official has only a head and face of stone, since the original composition left no space for a body. The archeological evidence convinces me that these two heads and the inscription “Maximianus” would have been part of a second phase of reworking of the original Justinian mosaic panel.

4.4. How the Mosaics Interpret and Transform the Architecture
Mosaics transform the entire structure by creating a unified focus on the tall and gloriously vaulted sanctuary and its walls, the apse and imperial panels, and the west arch (Fig. 4.1). When one enters

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132 Andreescu-Treadgold and Treadgold 1997, 715.
133 Andreescu-Treadgold and Treadgold 1997, 717.
134 Andreescu-Treadgold and Treadgold 1997, 716.
135 Andreescu-Treadgold and Treadgold 1997, 716.
San Vitale, the space directs the eyes to the glowing, gold, and green visions of heaven on earth, amidst the presence of the imperial panels. The huge expanse of stunning mosaics light the whole basilica, symbolically and ideologically (Fig. 4.5).

The imperial mosaic panels display Emperor Justinian, dressed in official imperial regalia, and Empress Theodora, crowned, bejeweled, and cloaked in purple. A golden halo encircles each of their heads. Their gestures embrace the theme of offering, with Justinian presenting the paten to the church, and Theodora presenting the gift of a chalice (Figs. 4.9 and 4.10). While Justinian and Theodora never went to Ravenna, the panels surely symbolize imperial power and intertwine the Byzantine court and the Church of Ravenna. The second phase with panel revisions affirmed the power of Bishop Maximian at the time.

The mosaics in San Vitale enhance the architecture with individual planes of thematic figuration, united through articulation of the parts at the intersections of its surfaces. For example, the rising presbytery walls on the north side are rich with scenes and intersect with the side of the apse mosaic in the semi-dome (Fig. 4.11). The panel with Justinian is below it and the window-lit wall above the apse brings light into the space. The intersecting surfaces are crowned by the springing of the vault at each corner over the soaring space of the presbytery (Fig. 4.12).

There are three different representations of Christ in San Vitale. In the center of the vault, over the sanctuary, is a wreath encircling the Lamb of God, which represents Christ as sacrificing himself for mankind (Fig. 4.13). The second depiction is an older Christ, bearded, and in the upper middle of the west arch of the sanctuary (Fig. 4.14).

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136 Herrin 2020, 166.
137 Herrin 2020, 167.
In the third depiction of Christ, He is beardless, and seated on a blue globe, in the center of the mosaic on the semi-dome of the apse (Fig. 4.15). The depiction reads as the triumph of His reign. Christ holds the book of the seven seals of the Apocalypse. Two angels flank Christ. Immediately below the blue globe are stylized cliffs from which flow the Four Rivers of Paradise. The whole composition is laid into a gold background with horizontally wafting blue and red clouds. St. Vitalis (labeled SCS VITALIS) stands to the right of Christ and extends his covered hands to receive the martyr’s crown offered by Christ. A symmetrical pairing places a bishop labeled ECLESIVS EPIS at Christ’s left, wearing a purple chasuble. He holds a model of a centrally planned church, San Vitale, and offers it toward Christ with both hands covered. Deliyannis cites this mosaic as one of the earliest images of a patron offering a model of a church. I strongly agree with Deliyannis that the image shows the perceived importance of the role of Bishop Ecclesius as founder of San Vitale.138

The three different depictions of Christ emphasize the Trinity, an anti-Arian doctrine of the Orthodox church of which Justinian is the earthly head.139 I concur with Johnson that the imperial mosaics sent the message that Ravenna and Italy had returned to direct imperial rule and to Orthodox control under Justinian with the victory in 540 over the Ostrogoths whose faith, Arianism, was a “heresy.”140

There is no direct evidence of who designed the mosaics program which produced the deftly synthesized expression of Byzantine architecture and decoration at San Vitale. Its overall complexity and coherence suggest a high degree of coordination of concept and artistry. Johnson

138 Deliyannis 2010, 238.
139 Deliyannis 2020, 249.
140 Johnson 2018, 140.
believes that it is likely that some types of drawings were sent from Constantinople of the processions and the individuals depicted in the imperial mosaics.  

The program is extensive in its design, imagery, and artistic workmanship. Because of the quantity of surfaces decorated and the richness of detail in the work, the large mosaics program for San Vitale could neither have been executed quickly, nor in a short period of time. Based also on dates provided by Agnellus and others, and the convincing archaeological evidence for the mosaic panel phases at San Vitale, most of the original mosaics were executed under the reign of Bishop Victor. The same holds true for all the ground-up construction before his death in 545.

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141 Johnson 2018, 140.
Chapter 5. Conclusion

Various events and conditions may have caused delays in the construction of San Vitale between its founding in 525 and the consecration in 547; others drove the resumption of most of the building activities after 540, under Bishop Victor (reg 538–45). The examination of the architectural evidence suggests a compelling sequence of the construction and decoration campaigns of the building. The main questions remain: How was it built? Who was responsible for the progress of the building at various stages? And, who oversaw its completion?

5.1. Possible Reasons of Delays

Why did the church of San Vitale in Ravenna take some twenty years to build? We may never know for sure, but material and documentary evidence suggest gaps in the progress of construction. This chapter re-examines the evidence focusing on the delays and their possible causes, architecturally, in the construction, financially, in the budget, and politically, in the changes in power that occurred at the time.

What reasons may have contributed to the delays or interruptions in the construction? The death of Bishop Ecclesius in 532 may have caused a delay in the building of San Vitale. The project would have lost its original impetus. Ecclesius’ authorization of San Vitale in 525 began a building boom in Ravenna and in the nearby port of Classe. Most construction activities at San Vitale likely took place under Victor, after the Byzantine army retook Ravenna in 540.142 Julianus the Banker may have selected and ordered special materials proactively, during presumed delays between 532

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142 Deliyannis 2010, 219.
and 540, to have them available as soon as construction resumed. Ecclesius might have chosen some of the building materials in his lifetime.

What may have contributed to the delay in the building of San Vitale in the 530s, besides the death of its founder, Ecclesius? The Gothic Wars carried on from the mid-530s as part of Justinian’s quest to reclaim the western empire and especially Italy. Meanwhile Julianus the Banker began bankrolling construction of the large, grand basilica of Sant’Apollinare in Classe, which Bishop Ursicinus started, between 533 and 536. S. J. B. Barnish speculates that Julianus’ income from a commercial business funded the church buildings. Lack of funds, therefore, may have stopped work on both San Vitale and Sant’Apollinare in Classe. Barnish surmises that Julianus may have earned large profits lending money for cash and food to supply Justinian’s forces. Julianus would have had a large degree of control over spending on the churches since he sponsored them. In 540, Belisarius captured Ravenna and entered the city peacefully.

Could the mysterious Julianus have had the financial wherewithal and savvy to delay and pivot as he saw fit for this “once in a millennium” project he believed would bear his and Ecclesius’ marks? Perhaps the ebbs and flows of economy and war provided delays worth the wait. Finally, after 540, progress resumed with great vigor.

5.2. Final Progress and Responsibilities for Completing San Vitale

The monograms of Bishop Victor on the impost blocks of the column capitals on the ground floor indicate that he had a significant role in the ground-up construction. The crux of the final progress

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143 Deliyannis 2010, 137.  
145 Barnish 1985, 27.
of San Vitale can be solved by examining the evidence concerning the completion in phases of the imperial mosaics.

Andreeescu-Treadgold and Treadgold maintain that Victor completed all the ground-up construction of the church building, and most of the decoration of its interior. Based on the evidence presented by Andreeescu-Treadgold and Treadgold, it was Victor’s likeness in bishop’s garb that was inlaid in the original Justinian mosaic, likely completed sometime before Victor’s death in 545. Possibly all the tesserae of the mosaics program in the church were installed under Bishop Victor’s reign, including a second phase on the walls of the presbytery, except for the final revisions with two figures and an inscription in the panel with Justinian. In my opinion, the only evidence for Maximian’s contribution to the physical completion of San Vitale was his eleventh-hour replacement of Bishop Victor’s head with his own, inscribing his name in the mosaics above it, and adding the head of another official.

Archbishop Maximian (reg 546-56), who consecrated San Vitale in 547, later significantly increased the importance of the Church of Ravenna, for instance through continued importation of marble from Proconnesus for its churches. It is possible that Maximian was responsible for importing and installing marble revetments following the model of Constantinople on lower-level walls throughout San Vitale. We do know neither if he ordered the installation of the revetments, nor if it was possible to do this in the short period of time between his seating as bishop in 546, and the consecration. However, placement of revetments was a stand-alone activity. Marble revetments could have been installed at any time on the walls in the completed building, based on when they were delivered.

146 Andreeescu-Treadgold and Treadgold 1997, 719.
147 Baldini 2020, 103, 107.
Responsibilities for conception, initiating, building, and decorating the Church of San Vitale depend on reconstructing convincing sequences of construction campaigns based on evidence and scholarship. Ecclesius (reg 521–32) conceived of, founded, and launched the church of San Vitale. He very possibly imagined and planned to have his image set in mosaics in the apse, handing the model of the church to Christ. But he could not have seen it installed. Victor (reg 538–45) most likely completed the construction of the building, and most of the interior decorations. Agnellus attests that Julianus the Banker built and paid for the building of San Vitale, as well as for its near contemporary, Sant’Apollinare in Classe (construction started in 534; consecrated on May 9, 549).

By placing himself into the mosaic panel next to Justinian, Bishop Maximian (who was an outsider in Ravenna) committed a self-serving act. It was no doubt influential. Perhaps he replaced Bishop Victor’s image with his own image and name furtively, before the church was finished, or perhaps he did it ostentatiously. In any case, he forced his presence onto the imperial panel, either for the benefit of his own day, or for posterity. Nonetheless, Maximian’s signature links his physical contribution to San Vitale with the Church of Ravenna, and hence the authority of Justinian’s empire.

By laying out a convincing sequence of design and building methods and activities, I hope this thesis has demonstrated not only how the sixth-century Church of San Vitale was founded, designed, constructed, and decorated, but also who was responsible for the progress of the building at various stages, including the oversight of its completion.
Appendix. Figures

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Sequence of Victor’s monograms and apse mosaic in which Ecclesius appears.

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Vita

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