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JULIA SMYTH-PINNEY AND DAVID SMYTH

Borromini and Benevoli:
Architectural and Musical Designs
in a Seventeenth-Century
Roman Church

-

IN BAROQUE ROME, music and architecture were made for each other. A special ceremony featuring just such an alliance was held on May 19, 1661, in the new church inside the palace complex of the Roman university, the Sapienza (FIG. 1, pgs. 20-21). The event brought together two great talents of that era: Francesco Borromini, architect of the Sapienza, and Orazio Benevoli, composer and choirmaster of the Capella Giulia at the Vatican.¹ The ceremonies honored Saint Ives of Brittany, patron saint of lawyers. This was the first time that Saint Ives's feast day mass was sung in the university's new church, now known as Sant'Ivo alla Sapienza.² Borromini's building had finally been finished after two decades of design and construction; only the marble floor and the altar niche, with its painting by Pietro da Cortona, were still incomplete.³

In attendance that morning were the university's most important leaders, including the twelve Consistorial Advocates (lawyers who acted as the university's trustees). The audience heard Benevoli's mass and a student oration praising the saint.⁴ Benevoli's music was scored for three choirs with fourteen singers, and accompanists playing stringed instruments and three portable organs; all of these would have been positioned on the three upper-level balconies situated symmetrically around the church.⁵ Two of those balconies (with gilded railings added later) can be seen in Figure two (p. 22).

Six months earlier, on November 14, 1660, the church's very first mass had been sung before an even more august audience of "cardinals and princes."⁶ The pope himself, Alexander VII, officiated. The music that morning was also for three choirs, but it was the work of a different chapel master, Giovanni Bicilli of the Chiesa Nuova, the church of Filippo Neri and his Oratorians.⁷ These two historic events made "music for three choirs" the standard arrangement at feast-day ceremonies in S. Ivo for years to come.⁸ Yet the triple balconies were not part of Borromini's original church design, which he had created at least twenty years before. In fact, the three-balcony scheme was a decidedly late change, pushed to completion in the two years just prior to the dedicatory ceremonies. Analyzing

the differences between Borromini's earlier and later designs demonstrates how music and architecture influenced each other in mid-seventeenth-century Rome.

♦♦♦

Since its founding by Pope Boniface VIII in 1303, the University of Rome was an institution blessed with papal support but hindered by political interference. Vicissitudes in the university's history are particularly evident during the high baroque period (FIG. 3, p. 23), when the church project was supported by three successive popes: Urban VIII (Barberini), Innocent (Pamphili), and Alexander VII (Chigi). Fortunately, continuity was provided by Borromini, who became "Architect of the Sapienza" in 1632 and held that post until his death in 1667. He was intermittently supported by each pope and by powerful trustees, friends, and admirers including the Consistorial Advocate Carlo Cartari and the Oratorian Preposito Virgilio Spada.

In 1644, when Urban VIII died, the Sapienza church was structurally complete but still unusable; the building lacked windows, and its raw brick interior was unfinished, so the church interior which we experience today dates, in large part, after 1658. Nevertheless, the partly built first design can be reconstructed from Borromini's only extant early drawing (FIG. 4, p. 24) and from detailed construction records.⁹

From the beginning stages of design, Borromini surely had the needs of performers and audiences in mind. The university church was unusual because it combined the religious with the academic; audiences and events could range widely in size and type. For example, the university's charter required that daily mass be said in its chapel, while special annual ceremonies were held on specific religious holidays. Primarily secular events occurred on opening day and at graduation. However, the church's boundaries, predetermined by the palace's footprint, were decidedly too small to handle these occupancy loads. Therefore, Borromini's first design included large openings





that united the central church volume with surrounding spaces on two levels. At grade, wide passageways led into the north and south corridors (FIG. 4, p. 24). On the piano nobile, large windows opened in the same locations. And above the church's main west door, opposite the altar, a balcony at the huge *finestrone* created a space intended as a "dignitaries loft."¹⁰ In the altar lobe, multiple openings on three levels would have created a complex series of performance or viewing posts and connecting passageways in and around the altar. The details of that design, partly built by 1645, are reconstructed in Figure five (p. 25).¹¹ The altar itself would have been set in front of a raised mezzanine level ornamented with a screen of seven columns. The columns would have supported the main choirloft above.¹² On the flanks of the main altar lobe, tiers of doors, *coretti* (musicians' balconies), and *romitori* (small private rooms) opened towards the church and the altar.¹³ These flanking spaces were linked to each other and to the adjacent pairs of hexagonal "backstage" rooms, on the ground and piano nobile levels. With this design, Borromini effectively increased the church's constricted ground floor area and offered opportunities for various audience members and performers to arrange themselves in a variety of spaces ringing the church's core. This created a flexible, multipurpose building, which could function as a religious chapel offering liturgical music, or as a secular academic hall with theatrical overtones.

It is not surprising that Borromini's initial Sapienza design had striking similarities with his recently completed Oratory of the Filippini (FIG. 6, p. 25).¹⁴ The two projects had common functions, patrons, and musical advisors. Oratorian services included music with devotional readings and sermons for audiences ranging from laymen to theologians to cardinals. At the Oratory, musicians were distributed around the altar, and they were provided with permanent storage and practice areas in adjacent backstage rooms. Instrumentalists were positioned in two *coretti* on the mezzanine level, while the singers performed from the higher balcony above the altar. Opposite the Oratory's choir, above the main entry door, was the "cardinals' loft," where those special personages could enjoy the best view and sound. Additional windows along the sidewall upstairs offered less ideal, oblique views from a covered portico. Borromini even designed holes in the floor so that overflow crowds could hear the sermons and music from the basement room directly below.

But Roman culture and the university's situation had changed significantly by 1655, and so did Borromini's Sapienza design. Musical trends were supporting increasingly elaborate events featuring multiple performing groups distributed around the available space.¹⁵ A countervailing trend, led by the more conservative tastes of the new pontiff, Alexander VII, was also in place: music and pomp should not distract worshippers from rites, and so choirs and *coretti* were unwelcome in positions close to any altar.¹⁶



FIG. 2: Interior of S. Ivo alla Sapienza, Rome, by Francesco Borromini. Photo by Sailko.

In 1658, when Alexander VII was persuaded to turn his attention to the university church, Borromini responded to the changes in music and liturgical values with a new design (FIG. 7, p. 26). The three-level project that had concentrated the musicians around the main altar was jettisoned. The previous mezzanine level was entirely eliminated, and so was the choirloft above it. The flanking *coretti* and *romitori* were filled in, as were most of the linking passageways, leaving only two tiny *stanzini* on the piano nobile. All around the church's core, niches were eliminated, and the windows and doors that had opened into the church from the surrounding corridors were plugged up. A more orthodox religious design with a more tightly delimited interior sanctuary emerged. But since musicians (and elite audience members) still needed elevated, designated spaces above the church floor, Borromini retained the original "dignitaries loft" over the entry door (the west *finestrone* balcony). At the other two matching, inward-curving segments of the hexagonal plan, he cut open the walls on the second level and enlarged the spiral stair holes there to create the north and south *coretti*, which exactly matched the west balcony, providing three symmetrical lofts (FIGS. 8A–8C, p. 27).¹⁷

The new design had several advantages. Filling many of the voids near the altar may have alleviated some of the serious structural problems revealed by cracks in the apse area, as contemporaneous documents allege.¹⁸ The changes also de-emphasized Borromini's original design matrix, which was based on a hexagon (FIG. 4, p. 24) and had been meant as an encomium to Urban VIII and his family: the Barberini's heraldic bees—insects which have six legs and build six-sided honeycombs—symbolized Urban's patronage of the Sapienza's House of Wisdom and signaled that his nephews, Cardinals Francesco and Antonio Barberini, were to be patrons of record.¹⁹ The new form of the 1661 church—and especially the three matching balconies—emphasized that the interior should be read in a new way: as a triangle with three lobes added and

its three corners cut off, just as Borromini's own plan drawing from this later period clearly illustrates (FIG. 9, p. 27).²⁰ The newly predominant triangle and the new sculpted ornaments certainly reinforced Alexander VII's significant role as patron. The triangle also emphasized knowledge and wisdom given by the one God who, through the Trinity (the three *coretti* and three lobes), had sent the Holy Spirit to bring Divine Wisdom received on Pentecost by the twelve apostles (whose statues would now occupy the twelve niches on the lower level).²¹

Borromini's original hexagonal plan was a novelty in Rome at the time, a daring departure from the city's traditional and ubiquitous Latin cross basilicas. But the executed triangular design with its triple-raised lofts was also unique and startling in that it offered the rare musical opportunity for perfectly symmetrical, three-way "surround sound." The church as built, with its three lofts with curved rear walls and oval-domed ceilings positioned high above the floor, produced a setting where the music, the acoustics, and the audience's experiences were unparalleled.

♦♦♦

As noted above, music for the first mass performed at S. Ivo was composed by Giovanni Bicilli (1623–ca.1705). Unfortunately, few of Bicilli's works survive, and we cannot determine with certainty which of his settings may have been performed. In this second part of our presentation, we explain why we believe Benevoli's *Missa Ecce sacerdos magnus* was the work performed at the dedicatory feast-day ceremony on May 19, 1661, and briefly consider how Benevoli's music exploited the architectural advantages provided by Borromini's redesigned space.

The name of Orazio Benevoli (1605–1672) is not as familiar to musicians as that of Borromini is to architects. Benevoli was active principally in Rome. At the age of eighteen he became director of music at Santa Maria in Trastevere, and from 1646 to his death he held the prestigious position of director of the Cappella Giulia at Saint Peter's. For many years, his posthumous reputation rested in large part on his purported authorship of a gigantic, fifty-three-part mass composed for

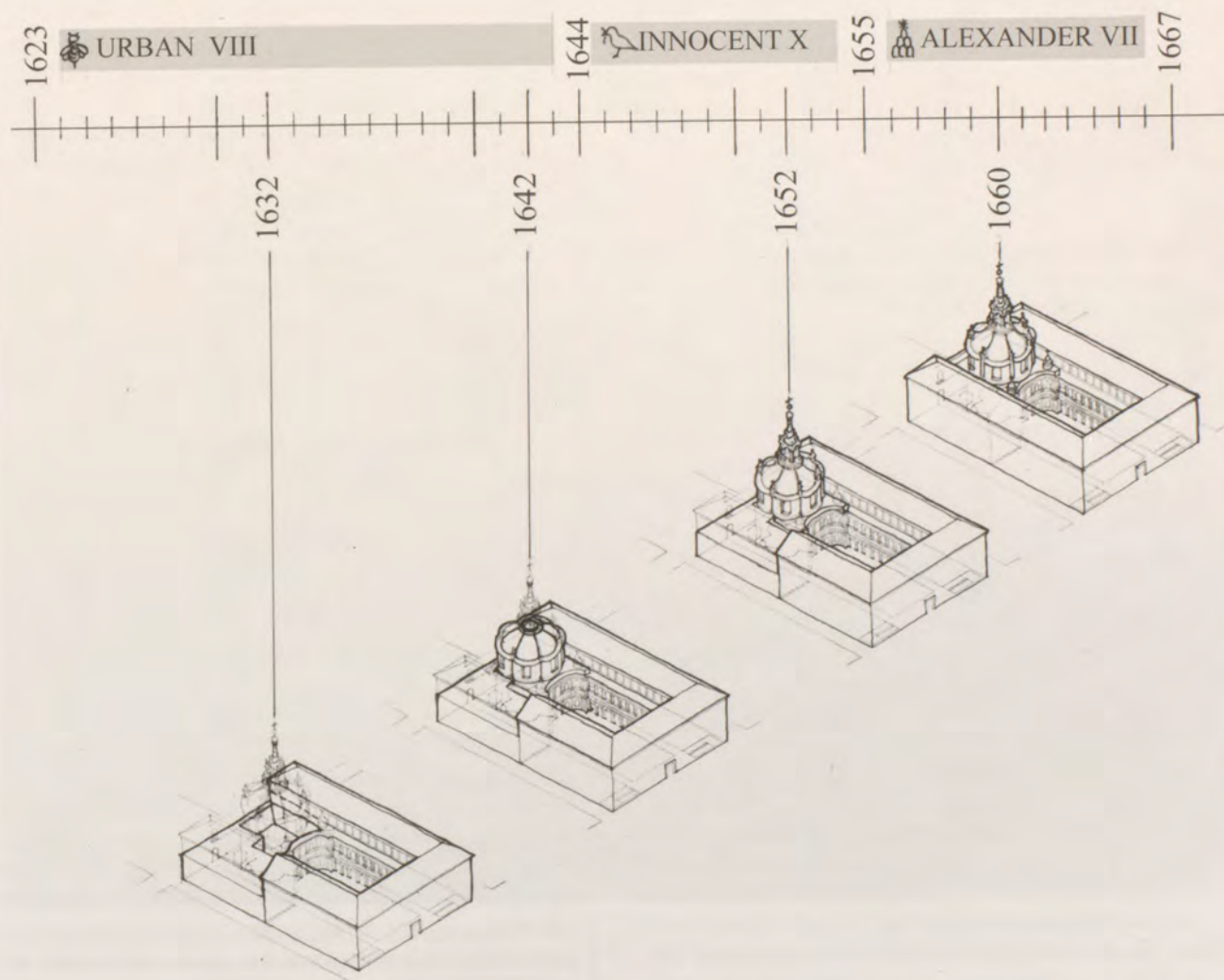


FIG. 3: Design and construction periods and patrons of the Palazzo della Sapienza during Borromini's tenure, 1632-1667. © Julia Smyth-Pinney.

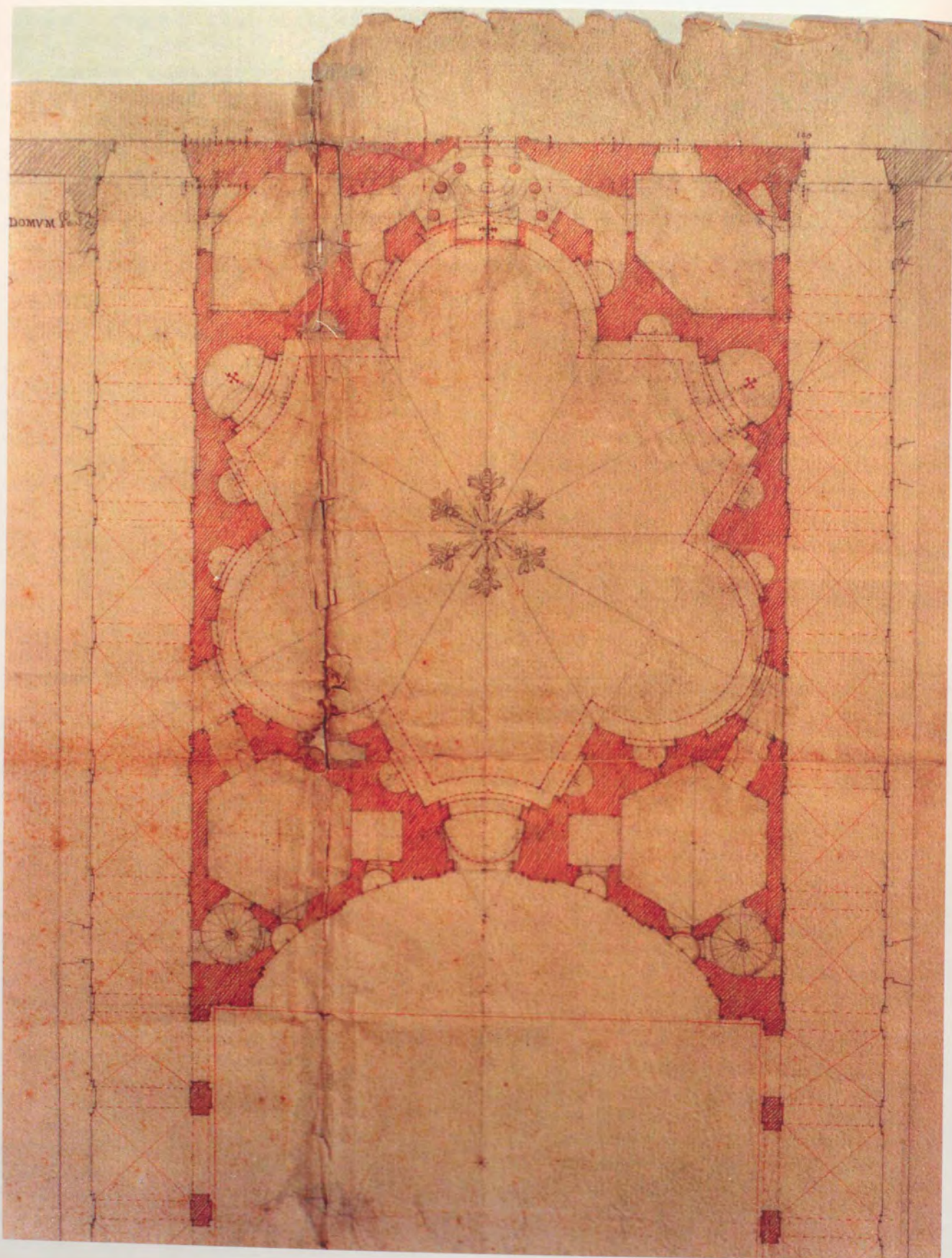


FIG. 4: Francesco Borromini. Presentation drawing, ground level Sapienza church plan in pencil and red chalk (detail), 1636-42 (ASR U. 198, n. 122). By permission of the Ministero del Beni e le Attività Culturali, ASR 18/2013.

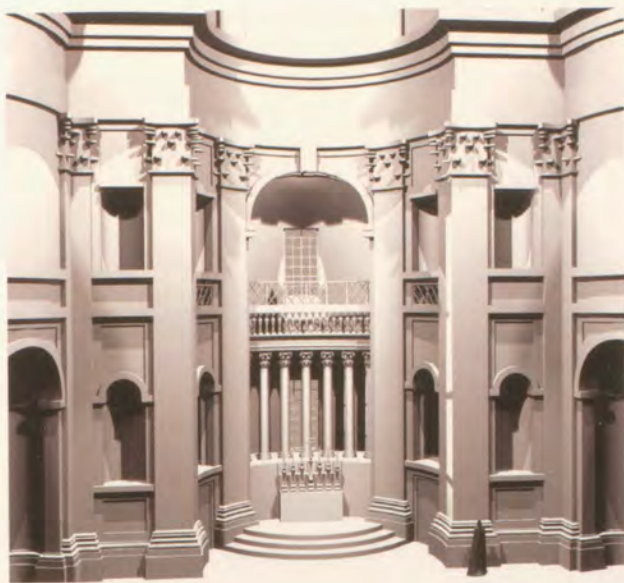


FIG. 5: Francesco Borromini. Sapienza church altar area, as designed and partly built, 1640-1645 (Smyth-Pinney with Oleg Siljuk). © Julia Smyth-Pinney.

the dedication of the Salzburg Cathedral in 1628.²² However, recent scholarship suggests that this remarkable work was not written by Benevoli and may not have been performed until a decade after his death.²³ Other sources say that a different forty-eight-part mass, which he may have composed for Salzburg (and which is now lost), was performed in Rome in 1650.²⁴ In any case, Benevoli was among the first Roman composers to embrace the style that came to be known as the *colossal baroque*, which had its roots in the polychoral works by the Gabriellis and other composers active in Venice in the latter half of the previous century. Colossal baroque is marked by the use of extensive musical forces, both instrumental and vocal, and the division of these forces into spatially separated groups (“divided choirs” or *cori spezzati*).²⁵ Benevoli’s Roman contemporary, Giacomo Carissimi (1605-1674), also experimented with polychoral composition (although his only oratorio for multiple choirs has vanished, and a *L’homme armé* mass for three choirs once attributed to him is now thought to be the work of a different composer).²⁶ Another Roman contemporary of Benevoli’s was Antonio Abbatini (ca.1600-1679). He published numerous sacred compositions, including a sixteen-part setting of the mass (1627) and a partial setting of the requiem for the same forces (1672, now lost).²⁷

Borromini’s modifications to S. Ivo might thus be understood as a timely response to a stylistic trend toward the use of increasingly large and complex musical ensembles for special celebrations in the churches and oratories, as well as a practical concession to papal edicts concerning the placement of musicians within worship spaces. We don’t know whether any composer may have advised him or suggested to him that a design involving symmetrical, elevated performance spaces would be particularly welcome, but this is not beyond imagining. Borromini’s earlier work designing spaces for musicians at San Carlino and at the Oratory (both designed 1636-1638) probably entailed

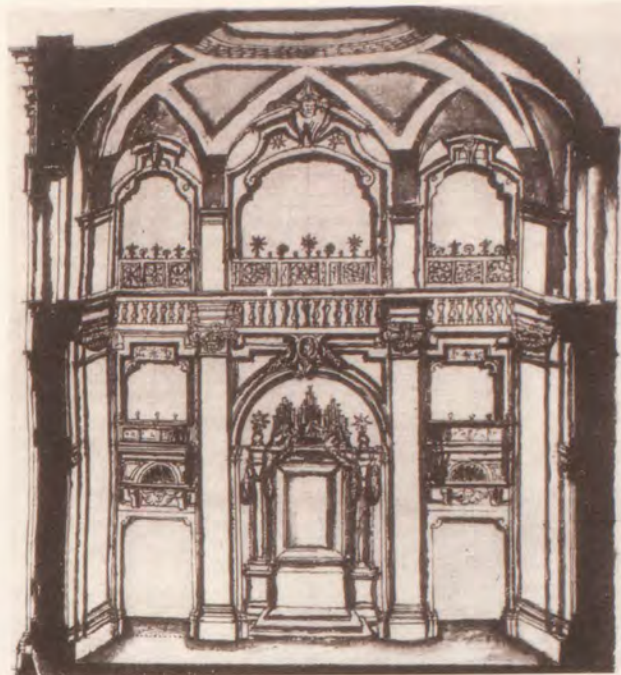


FIG. 6: Francesco Borromini. Oratory of the Filippini altar design, as drawn by unknown draftsman for Virgilio Spada’s unpublished manuscript, *Opus Architectonicum*, 1646-47 (Opus MS Pl. XXI, 29bis). Archivio della Congregazione dell’Oratorio di S. Filippo Neri, Rome. The Opus manuscript call number: ACOR, C II 6, 29bis.

discussions with musicians, but we have discovered no direct communications concerning the redesign of S. Ivo’s lofts.

As noted above, Della Libera surmises that Oratio Benevoli’s *Missa Ecce sacerdos magnus* could have been the work referred to in a receipt dated May 30, 1661, and may have been performed at the name-day event in that year.²⁸ A modern edition of this mass by Laurence Feininger lists the work as a “dubious opus” and, in a Latin footnote, adds, “Most certainly, this mass is not by Orazio Benevoli. However, lest I seem by my judgment to reject it, against the testimony of the sources, I propose public discussion of it here.”²⁹ Feininger’s assessment must be reconsidered in light of Della Libera’s evidence, which clearly shows that Benevoli was paid to produce a mass for three choirs for the event in 1661. Since this date exactly matches that of Feininger’s principal manuscript source, it seems likely this mass is indeed by Benevoli and that it was performed at S. Ivo in that year.

Detailed musical analyses of works like this one are relatively rare. The literature about polychoral composition generally addresses varying degrees of independence among the component choirs and describes the tendency of most composers to divide musical forces into groups that could, in principle, each stand alone.³⁰ At stake here is the question of just how many actual “voices” or lines a given composition has. Two four-part choirs simply answering each other, echo-like, create quite a different effect than two choirs performing distinctly different music, or participating in a polyphonic interweaving of coequal lines. The human ear is limited in its ability to



FIG. 7: Domenico Barriero. S. Ivo, interior perspective section, engraving proof, as planned and partly built in spring 1660 (*Popish Ceremonies*, v. 2, King's Library, 134 g. 11, fol. 15; British Library, London).

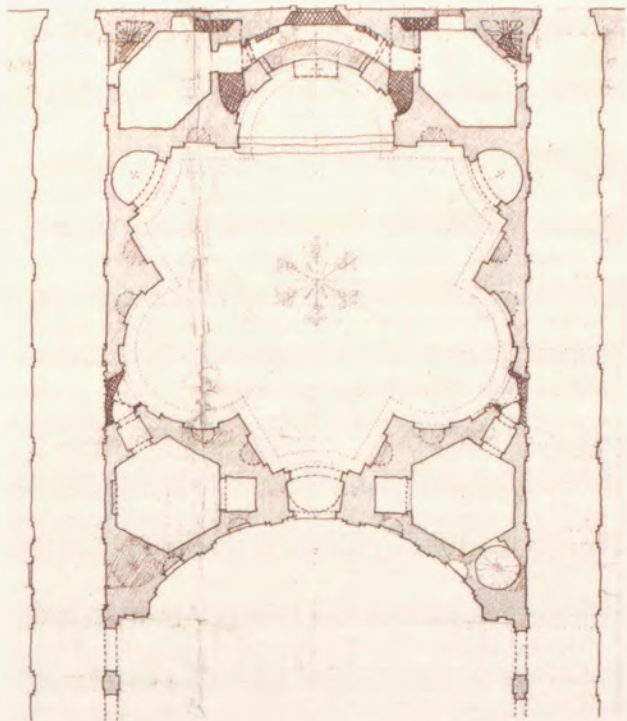


FIG. 8A: S. Ivo in 1660: ground plan, with design changes after 1658 shown hatched. © Julia Smyth-Pinney.

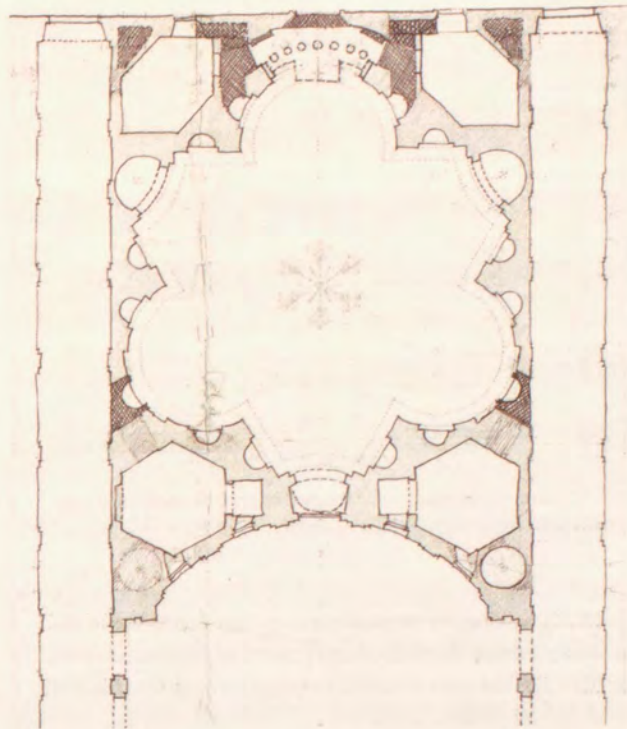


FIG. 8B: S. Ivo in 1660: mezzanine plan, with design changes after 1658 shown hatched. © Julia Smyth-Pinney.

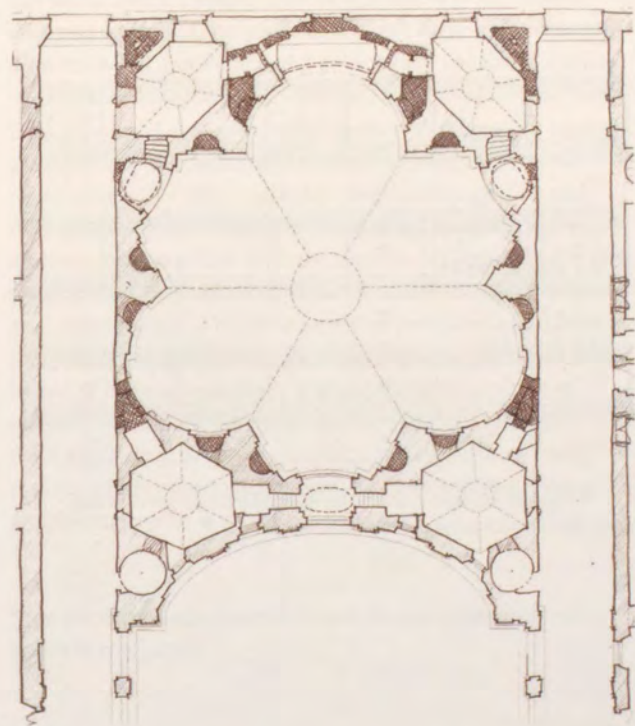


FIG. 8C: S. Ivo in 1660: piano nobile plan, with design changes after 1658 shown hatched. © Julia Smyth-Pinney.

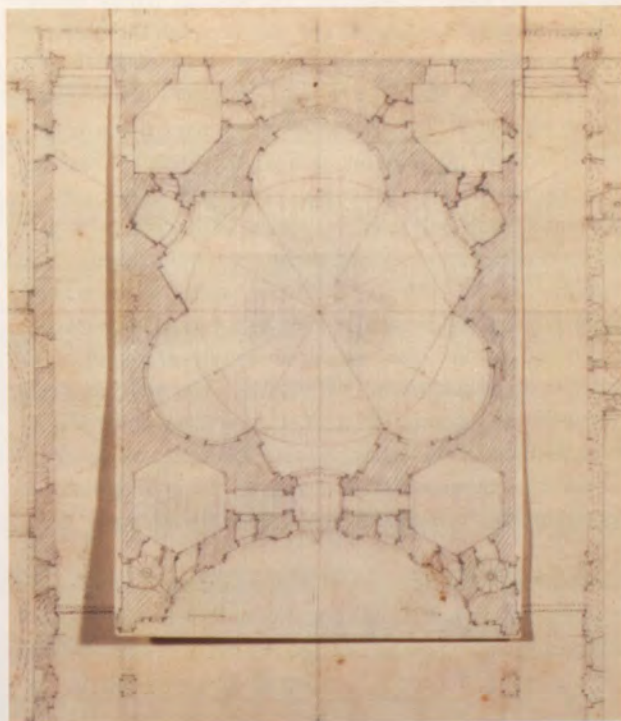


FIG. 9: Francesco Borromini. S. Ivo, piano nobile plan drawing in pencil (detail), 1658-1660 (Azr 500k; Albertina, Vienna).

FIG. 10: Musical Example 1: Orazio Benevoli, *Missa Ecce sacerdos magnus*, *Kyrie* (beginning). © David H. Smyth.

disentangle complex musical textures, but that is not to say we cannot enjoy the rich effects created by “surround sound” devices like the ones Benevoli employs throughout this work.

Benevoli’s mass opens with the daring display shown in Music Example One (FIG. 10, sound sample 1). In the first short phrase, each choir presents three G triads, entering in a rhythmically staggered sequence. The voicings of these initial triads are identical in Choirs One and Three, but the intervening contribution of Choir Two is different both in melody and rhythm. The echo effect here is thus subtly contradicted. After a short silence, all three choirs perform C major triads using identical dotted rhythms, but each project a different voicing: the ensemble is used as a massive, twelve-voice instrument. The rather bland and normative voicing of the triad in Choir Two is enriched and colored by the nonstandard sonic contributions of Choirs One and Three, neither of which would be likely to be found standing on its own.³¹ In the remaining bars of the example, Benevoli introduces a short phrase in which every individual line has a different rhythm. This is true twelve-part polyphony. This brief opening incantation thus displays three different compositional approaches to polychoral writing: a pseudoecho effect, a group of homorhythmic “power chords,” and intricate twelve-part polyphony.

The continuation of the *Kyrie* is shown in Music Example Two (FIG. 11, sound sample 2). The imitative writing is quite conservative in style, but the shaping and proportional relationships are interesting. The upper two parts of Choir One lead the lower two, which answer after three measures of rest. Choir Two follows the same pattern, entering six measures after the initial statement. Choir Three enters six bars later, again with paired voices entering at a three-bar interval. This point of imitation thus involves twelve lines presented as six pairs in three groups. The remainder of this section explores varying combinations of two, three, four, six, and twelve in vertical and horizontal (that is, in harmonic and rhythmic) dimensions. From the midpoint of the movement onward, Benevoli uses fewer rests, creating a denser texture, more intricate combina-

FIG. 11: Musical Example 2: Orazio Benevoli, *Missa Ecce sacerdos magnus*, *Kyrie* (continuation). © David H. Smyth.

tions of moving lines, and an impressive crescendo as all three choirs sing simultaneously. In a space as small and resonant as S. Ivo, such *tutti* effects would be especially potent.

In contrast, Benevoli sets the central *Christe* for three half-choirs, as shown in Music Example Three (FIG. 12, sound sample 3). Such a reduction in forces was common in settings of the *Christe* text, but Benevoli's elimination of the inner voices, leaving only sopranos and basses, is highly unusual and indicates a well-developed sense of sonority. The corresponding reduction of the time interval between the entering voices by exactly half is another inspired stroke; the answering voice in each duet now enters after a delay of a measure and a half. The distance separating the choral entrances is here four measures instead of three. At the end of the *Christe*, Benevoli provides a simultaneous augmentation and diminution of the head motive using all six voices (not shown in the example).

For the final section, shown in Music Example Four (FIG. 13, sound sample 4), Benevoli returns to twelve voices, now set in triple meter. As in the first *Kyrie*, the top pair of voices leads the bottom pair in each choir at the distance of half a measure but with the duets within each choir following at the distance of two measures. Choirs Two and Three enter four and eight bars later, respectively. Benevoli articulates the midpoint of this section with a strong cadence and a new point of imitation, and at the end, he builds up a rich, twelve-voice chord in a *stretto* over a dominant pedal point before the final cadence.

Even these brief examples suffice to show that Benevoli created a musical edifice replete with symmetries and proportional relationships that are remarkably varied and suggestive and fully consonant with Borromini's adept coordination of number and proportion with the symbols of Christian faith and papal sponsorship. Benevoli's careful manipulation of texture and sound color and his close attention to rhythmic variation are evident throughout. A performance of this music in S. Ivo would be impressive indeed. With a creative disposition of instruments and singers in the symmetrical lofts and a judicious application of varied dynamics, Benevoli's mass would provide a fitting musical ornament for Borromini's stunning architectural space. ■

*See soa.utexas.edu/caad/mia-aim for sound samples referenced in this paper.

FIG. 12 shows the beginning of the *Christe* section. It consists of three staves labeled I, II, and III. Each staff has a vocal line (soprano and bass) and a bass line. The lyrics are: "Christe iste e lei" on the first staff, and "i son e lei" on the second and third staves. The music is in a simple, homophonic style with a clear melodic line.

FIG. 12 continues with the second and third staves. The lyrics are: "i son e lei" on the first staff, and "Christe iste e lei" on the second and third staves. The music continues with the same homophonic style.

FIG. 12: Musical Example 3: Orazio Benevoli, *Missa Ecce sacerdos magnum, Christe (beginning)*. © David H. Smyth.

FIG. 13 shows the beginning of the final *Kyrie* section. It consists of three staves labeled I, II, and III. Each staff has a vocal line (soprano and bass) and a bass line. The lyrics are: "Kyrie e lei" on the first staff, and "son e lei" on the second and third staves. The music is in a more complex, polyphonic style with multiple voices.

FIG. 13 continues with the second and third staves. The lyrics are: "Kyrie e lei" on the first staff, and "Kyrie e lei" on the second and third staves. The music continues with the same polyphonic style.

FIG. 13: Musical Example 4: Orazio Benevoli, *Missa Ecce sacerdos magnum, final Kyrie (beginning)*. © David H. Smyth.

1 Luca Della Libera, "La musica a Sant'Ivo alla Sapienza nel XVII secolo," *L'università di Roma 'La Sapienza' e le università italiane*, ed. Bartolomeo Azzaro (Roma: Gangemi, 2008) 101–110. This seminal article transcribes and analyzes the documents of payments to Benevoli [or Benevolo] and other choirmasters, and the list of musicians who performed on May 19.

2 The church's primary dedication to St. Ives was certainly decided by April–May 1660, but other saints were connected with it before and after that date. These included St. Leo the Great (Pope Leo X's patronage, patron saint of theologians, and an earlier chapel on the site), St. Fortunatus (an earlier chapel on the site), St. Luke (patron saint of the entire university), St. Alexander (Alexander VII's donation of martyr-saint's remains, in 1660), and St. Pantaleon (patron saint of physicians). See John Scott, "S. Ivo alla Sapienza and Borromini's Symbolic Language," *Journal of the Society of Architectural Historians* XLI.4 (1982): 309–316; Joseph Connors, "S. Ivo alla Sapienza: The First Three Minutes," *Journal of the Society of Architectural Historians* 55.1 (March 1996): 38–57; and Louise Rice, "The Pentecostal Meaning of Borromini's Sant'Ivo alla Sapienza," *Francesco Borromini, Atti del convegno internazionale: Roma, 13–15 gennaio 2000*, eds. Christoph Luitpold Frommel and E. Sladek (Milan: Electa, 2000) 259–270, especially p. 268 and n. 42, p. 270.

3 For a general history of Borromini's church, see Julia Smyth-Pinney, "Borromini's Plans for Sant'Ivo alla Sapienza," *Journal of the Society of Architectural Historians* 59.3 (September 2000): 312–337; and Antonella Pampalone, *Il palazzo della Sapienza*, vol. 1, n. 1–2, in the series *Palazzi di Roma: le sue ville e altre architetture civili*, ed. Paolo Galeotti (Roma: Iride per il Terzo Millennio, 2010).

4 Scott, "Borromini's Symbolic Language," 315–316, for the oration.

5 For a historical survey of early modern Roman choirlofts and organs, see Arnaldo Morelli, "L'arte organaria a Roma dal XV al XIX secolo," in Giovanni Batistelli, *Organi e Cantorie nelle chiese di Roma* (Roma: Istituto Poligrafico e Zecca dello Stato, Libreria dello Stato, 1994), 11–36 and notes, 147–154. S. Ivo never had, nor was intended to have, a fixed organ.

6 Details in Carlo Cartari, "Relazione della venuta di Papa Alessandro Settimo nella Sapienza di Roma [1660]," in Archivio di Stato di Roma, Università 297, fasc. II, pp. 67r–80r. [hereafter ASR, U. 297, II, 67r–80r]. See also P.J.A.N. Rietbergen, "Papal Patronage and Propaganda: pope Alexander VII (1655–1667), the Biblioteca Alessandrina and the Sapienza complex," *Nederlands Instituut te Rome* vol. 4 (1987): 157–177.

7 ASR, U. 112, 309, cited in Marcello del Piazzo, *Ragguagli borrominiani: mostra documentaria*, Ministero dell'Interno, Pubblicazioni degli Archivi di Stato, LXI (Roma: 1968) 232; and Della Libera, "La musica a Sant'Ivo," 102–103.

8 Before 1661 the events were held either in the Sapienza's old Leo X chapel, or at S. Eustachio or S. Luigi dei Francesi, or after 1617 in the other Roman church dedicated to St. Ives, S. Ivo dei Brettoni/alla Scrofa (Filippo Maria Renazzi, *Storia dell'università degli studi di Roma . . .* (Roma: 1805), v. III, lib. IV, c. VIII, 167–169). S. Ivo dei Brettoni received financial support from the Consistorial Advocates over the years. For instance, in 1632, previous gifts are mentioned in a solicitation for funds to purchase a fixed organ (Della Libera, "La musica a Sant'Ivo," 102 and Doc. 7, who mistakes the Brettoni church for the Sapienza's S. Ivo). After 1661, in addition to the Saint Ives feast day events, expensive graduation ceremonies were staged in the Sapienza's church (Arnaldo Morelli, "La musica a Roma nella seconda metà del Seicento attraverso l'archivio Cartari-Febei," *La musica a Roma attraverso le fonti d'archivio*, *Atti del Convegno internazionale, Roma 4–7 giugno 1992*, eds. B. Antolini, A. Morelli, and V. Spagnuolo (Lucca: Libreria Musicale Italiana, 1994) 107–136.)

9 Plan, between 1635 and 1640 or later (ASR, U. 198, n. 122, but kept separately). Construction documents for 1643–1655: ASR, U. 115, 4–55; another version ASR, U. 198, 124–190. Construction documents for 1658–1661: ASR, U. 115, 289–406.

10 In the 1640s, the western balcony was not described as a *coretto*, but rather only as a *transito* (ASR U. 115, 19–20r), part of a piano nobile pathway connecting the south corridor, through the southwest hexagonal room (the

original university archives room) with the northeast wing of the palace (completed from 1658–1667).

11 ASR, U. 115, 13–15, 18–21, 29–30. Most of the 1640s design can only be recreated by analyzing the changes made in 1659–1661, in ASR, U. 115: altar-area changes 341–348, 350–352; holes and windows filled 330, 338, 358–361; new coretti 362–364; niches closed 365; ground floor doors closed 366–368, 372; altar vault built 1660, 372–374. Additional details in construction documents for 1661–1669: ASR, U. 115, 154–176.

12 The seven-column screen, in various iterations of the ASR plan [FIG. 4], may reflect Early Christian/Byzantine sources such as Milan's San Lorenzo (certainly known by Borromini), Hagia Sophia (Ciriaco da Ancona's drawings known by Borromini), and/or S. Vitale in Ravenna (proposed by Joseph Connors, "The Cultural Moment at the Beginning of Work on S. Ivo alla Sapienza," *I Barberini e la cultura Europea del seicento: atti del convegno internazionale Palazzo Barberini alle Quattro Fontane, 7–11 dicembre 2004*, ed. Lorenza Mochi Onori (Rome, 2007) 581–586, with Borromini's sketch after Castelli, Fig. 3).

13 For the interchangeable uses of *coretti* and *romitori*, see Fabio Barry, "'Pray to thy Father which is in secret': The Tradition of coretti, romitori and Lanfranco's Hermit Cycle at the Palazzo Farnese," *Barocke Inszenierung: Akten des Internationalen Forschungssymposiums an der Technischen Universität Berlin*, eds. Fritz Neumeier, J. Imorde, and T. Weddigen (1999): 198–204.

14 Constructed between 1637 and 1640: Joseph Connors, *Borromini and the Roman Oratory: Style and Society* (Cambridge, MA, and London: Architectural History Foundation, 1980): 28–29. See also Francesco Borromini, *Opus Architectonicum*, ed. Joseph Connors (Milan: Il Polifilo, Trattati di architettura, 1998); and more recently Kerry Downes, *Borromini's Book: the "full relation of the building" of the Roman Oratory by Francesco Borromini and Virgilio Spada of the Oratory* (Wetherby: Oblong Creative, 2009).

15 By the 1650s, matching choirs were placed on either side of the presbytery, or along the nave arcades, left and right. Sacred music might call for two, three, four, or six separate choirs, or even more, to perform "colossal baroque" music. Before this, multiple choirs had often been located together in one loft, along with a fixed organ, or more haphazardly around the space. After the 1660s, single choirlofts with single fixed organs began to migrate to the eventual, preferred position above the entry door, despite repeated papal objections to this arrangement. See Arnaldo Morelli, "Musica nobile e copiosa di voci et istromenti": Spazio architettonico, cantorie e palchi in relazione ai mutamenti di stile e prassi nella musica da chiesa fra Sei e Settecento," *Musik in Rom in 17. Und 18. Jahrhundert: Kirche und Fest / Musica a Roma nel Sei e Settecento: Chiesa e festa* [Analecta Musicologica 33], ed. M. Englehardt and C. Flamm (2004): 293–330.

16 For the first version of Alexander's *Piae sollicitudinis studio* (1657), and later versions including that of 1665, which reconfirmed and hardened prescriptions for sacred music and its performance, see Jean Lionnet, "Una svolta nella storia del collegio dei cantori pontifici: il decreto del 22 giugno 1665 contro Orazio Benevoli; origine e conseguenze," *Nuova rivista musicale italiana* xvii.1 (1983): 72–103.

17 The designation *coretto* is only used in S. Ivo's construction documents after 1659 (ASR, U. 115: 289r–406r [1659–1661], and U. 115, 154r–176v [1661–1669]), when the two new balconies are clearly designated for musicians, and the west balcony is called a *coro*. The 1660–1661 project had the musicians screened from view by moveable wooden shutters (*gelosie*) installed on top of the lower, fixed stone railings in the three performers' balconies [Riccardo Pacini, "Alterazioni dei monumenti borrominiani e prospettive di restauro," *Studi sul Borromini: Atti del convegno promosso dall'Accademia Nazionale di San Luca* vol. 1 (Roma: De Luca, 1967): 317–341 and fig. 37].

18 ASR U. 115, 349, 350, 359; U. 198, 133, 135; del Piazzo, *Ragguagli borrominiani*, 151.

19 Cardinal Francesco Barberini (1597–1679), protector of the Cappella Sistina and later Vice-Chancellor of the Church, had arranged Borromini's appointment at the Sapienza in 1632, and would continue to support the university for many years; his brother, Cardinal Antonio Barberini the Younger (1608–1671), was Chamberlain of the Church, and Chancellor of the University

from 1625 until his death. Cardinal Antonio recited the divine office from the west loft over the entrance door on November 13, 1660, when the altar was dedicated (Cartari, "Relazione," 76v). See also Frederick Hammond, *The Ruined Bridge: Studies in Barberini Patronage of Music and Spectacle, 1631–1679* (Sterling Heights, MI: Harmonie Park Press, 2010).

20 "Triangle-plus-apses-minus-angles" is Connors's description ("First Three Minutes," 38), but he contends that this was Borromini's original 1640s schema, rather than the adjusted geometry of 1658.

21 Literature on this issue is vast. See sources listed in notes three and four, above; for a recent overview, see Pampalone, *Il palazzo*, 66–77, concerning sacred numbers evident in the church and throughout the Sapienza palace.

22 Walter Gürtelschmied, s.v., "Benevoli, Orazio," in the *New Grove Dictionary of Music and Musicians*, ed. Stanley Sadie, vol. 2 (London: Macmillan, 1980) 484.

23 Ernst Hintermaier, "The Missa Salisburgensis," *Musical Times*, vol. cxvi (1975): 965–966.

24 Werner Jaksch, "Missa Salisburgensis: Neuzuschreibung der Salzburger Domweihmesse von O. Benevoli," *Archiv für Musikwissenschaft* 35 Jahrg. H. 4 (1978): 239–250.

25 Graham Dixon, "The Origins of the Roman 'Colossal Baroque,'" *Proceedings of the Royal Musical Association*, vol. 106 (1979–1980): 115–128.

26 Günther Massenkeil, s.v., "Carissimi, Giacomo," *New Grove Dictionary of Music and Musicians*, ed. Stanley Sadie, vol. 3 (London: Macmillan, 1980) 785–794.

27 For an account of a performance of an Abbatini work involving huge forces at S. Luigi dei Francesi, 1665, see Florian Bassani Grampp, "On a Roman polychoral performance in August 1665," *Early Music* 36.3 (2008): 415–434.

28 Della Libera, "La musica a Sant'Ivo," 103 and 105.

29 Horatii Benevoli, *Missa Ecce sacerdos magnus*, vol. IV, no. 3, of *Opera omnia in Monumenta liturgiae polychoralis* (Trent: Societas Universalis Sanctae Ceciliae, 1969). All musical examples shown below are derived from Feininger's edition, though the orthography and clefs have been modernized.

30 As Grampp has argued.

31 The low E in the bass of Choir Three is especially notable, as is the doubling of this note in the outer parts of Choir One.