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Holy Redundancy and Echo in the Lateran Basilica in Rome

ne of the most fruitful approaches in Renaissance and baroque scholarship has been to reconstruct the performative context for which works of art were created. Altarpieces, dismantled in the nineteenth or twentieth century and appropriated by collectors and museums, have been reassembled, reconstructed, and replaced, in the mind’s eye, on the altars for which they were made. Thus they can be seen in light of the rituals that took place around them, particularly the mass but also the cult of relics. In the realm of domestic architecture, the performance of rituals of everyday life has shed great light on the planning of palaces and in particular the sequence of rooms in princely apartments. In the larger context of urban public architecture, the piazza has come to life with the study of civic ceremony in the Renaissance and the more autocratic or neoclassical entertainments of the baroque age.

Louise Rice, in her parallel essay in this volume, puts an important genre of printmaking, the thesis print, back into the performative context of the baroque thesis defense. The neo-Latinate rhetorical culture of Jesuit education culminates in the ceremony of the doctoral defense, in which an assembly of cardinals and their entourages observe a performance in words and music. This mixture of discourse and song colors her interpretation of immensely erudite images produced for the occasion by distinguished artists and their learned advisors. To interpret the image, one must relive the performance.

My essay was stimulated by an earlier book by Louise Rice, in which she reconstructed the context of the altarpieces of new Saint Peter’s and in so doing breathed life back into the fragment of the old Constantinian nave that survived for a century before its demolition under Paul V in 1606. I set myself a similar task, namely to reconstruct the nave of San Giovanni in Laterano as it was before the restoration under Francesco Borromini in 1646–1650 (figs. 1–4).

My original aim was to understand the design of the new church in terms of the performance of ritual and music carried over from the old. But I found that the Borromini restoration represented a radical caesura in the history of the Lateran. Before 1646 the experience of the church centered on the cult of relics, particularly on fragments of architecture and furniture that allegedly came from Jerusalem. These allowed the Lateran to be seen as a re-creation of the setting of the Passion, an event relived with special fervor in Holy Week. In Borromini’s restoration, this holy clutter was swept away and replaced by a new aesthetic, which can be interpreted in terms of a sonic metaphor, echo. In his design, one part of the church was meant to “echo” another, and a choir was projected to contain the echoes of polyphonic singing. Musical forms and
performance supplant the visual and spatial re-creation of Jerusalem as the key by which visitors are invited to understand the space.

To understand Borromini’s work at the Lateran, one must first understand the church Constantine built 1,300 years before. It was the first Christian basilica in Rome, a gift to the bishop, in which the entire Christian community of the city could assemble. Constantine chose the site of a former barracks of the special forces, the Equites Singulares, a guard unit that had fought on the wrong side at the Milvian Bridge and was consequently suppressed. The huge walls of the barracks provided useful substructures for the new building. But it is important to remember that this had not been a Christian cult site before Constantine made it over to the Christian community, and after he did so the barracks was filled with earth and forgotten.

Thus the Lateran was quite different from Constantine’s second basilica, Saint Peter’s, begun around 319–324 C.E. [though the precise date is not attested in the ancient sources]. Saint Peter’s was built to mark the tropaion over the burial place of the Apostle Peter, and thus had an important underground dimension. It eventually welcomed burials of pious Christians and of the early popes. It had an atrium in which pilgrims were offered water and a place to rest. To
the far end of the nave [the west end] was added, almost as a separate building, a transept (trans saepta, across the barriers), which was in effect a martyrium honoring the tomb of the apostle. Between atrium and transept the nave and aisles—what one might call the Lateran component of the Saint Peter’s hybrid—was a covered hall in which feasting could take place on the anniversaries of the deaths of beloved family members.

The Lateran, in contrast, had no transept, no atrium, no tropaion, and no tombs—in fact, no underground dimension at all, and nothing to attract pilgrims. It was simply the assembly hall of the Christian community under the bishop.
Over the next millennium, however, the Lateran caught up with Saint Peter’s. It never quite acquired an atrium, but Pope Sergius II (844–847) gave it a portico, which was rebuilt in grander form in the 1180s or 1190s, the first of the great Cosmatii porches. Popes began to ask for burial under the porch beginning in 904 with the burial of Leo V, then more frequently in the eleventh century; ten of the twelve popes of the twelfth century were buried in the Lateran. Nicholas IV, the first Franciscan pope, built a huge transept at the Lateran in 1291. It was bigger than most churches, resembling a Franciscan preaching barn. He rebuilt the apse and had Giacomo Torriti redo the mosaic, and around the exterior of the apse he built a double annular portico, misleadingly called the “portico leonino” in the guidebooks. The portico served as a passage to the Lateran baptistery, which played an important role in the Easter liturgy.

By the high Middle Ages the Lateran’s relics rivaled those of Saint Peter’s. Sergius II began the collection and excavated a confessio for them under the high altar. This was the first time an underground space had meant anything in the Lateran. By the tenth century, the relics began to be identified with the spoils brought back by Titus from the conquest of Jerusalem. And a Jerusalem association was ascribed to the four bronze columns, which were probably of Constantinian origin, but said to be from the Temple of Jerusalem.

If in the ninth century relics tended to be put underground, in the Gothic period they were lifted on high for all to see. There were two great Gothic altars in the old Lateran, both following the generic type of the volto santo shrine in Saint Peter’s, with the altar below and a locked relic cage on top. The first, the so-called Altar of the Magdalen, was the altar at which the canons said mass. Borromini dismantled it, and sad remnants of its twisting columns and spiky pinnacles now lie scattered about the cloister. But we know of its many relics from a list called the Tabula Magna Lateranensis, which also catalogued hundreds of other relics elsewhere in the church.

The second great altar, the papal altar, was built by Urban V in 1367–1370 and still
vessel for the blood and water that came from his side, a fragment of the True Cross, and the sudarium that covered his face in the tomb. Many other Passion relics were moved into the church when Sixtus V demolished the old patriarchate in 1586: the porphyry column on which Peter’s cock crowed (complete with a bronze cock), a column from the Temple of Jerusalem that split in two at the death of Christ, the porphyry slab on which the soldiers cast dice for his cloak, and finally the Mensura Christi, a slab on four columns said to be Christ’s exact height.

By the end of the Middle Ages, the Lateran had turned into the relic capital of the Western world, and the work carried out here during the Counter-Reformation celebrated the collection and put it at the center of attention. In 1564 Pius IV covered the nave with a magnificent wooden ceiling, done according to the designs of Daniele da Volterra (see fig. 3). The geroglifici in the coffers reflect the prize relics. In 1600 Clement VIII restored the transept and decorated it with a cycle of paintings representing the life of Constantine. The four bronze columns were incorporated into a magnificent altar of the sacrament. The table of the Last Supper was kept in the upper reaches of the altar and could be displayed by pulling back a curtain. The transept was also given a wooden ceiling with geroglifici that complement those in the ceiling of Pius IV a generation earlier, and here too the relics are the paramount theme (fig. 5).

The old basilica that Borromini dismantled in 1646 may have been structurally weak, but it was full of life: the kind of life that Louise Rice has discovered in the nave of old Saint Peter’s, revolving around the altars, relics, tombs, and particular devotions. The few fragments of the Constantinian basilica that survived, the medieval relic collection, and the triumphalist additions of the Counter-Reformation worked together in perfect synergy. The mind, soul, and senses of the faithful were simultaneously engaged by a visit. The same messages were reinforced over and over in a kind of holy redundancy of image, relic, and text.

Holy redundancy—reinforcing the same messages over and over again in image, text, and ritual—is an important concept that
perhaps exists in a wide spectrum of world religions. As in all churches, the Passion cycle was read from the gospels during Holy Week and acted out in liturgy, but in the Lateran the faithful were also invited to contemplate the very objects mentioned in the Passion narrative. They heard about the soldiers casting lots for Christ’s seamless garment and the cock crowing at Peter’s denial, but here they also saw the stone on which the lots were cast and the column on which the cock crowed. Lifting their eyes upward, they saw the same objects in the gilt reliefs on the coffered ceilings, as well as in the marble intarsie of the Altar of the Sacrament. On Maundy Thursday they heard the gospel narrative of the washing of the disciples’ feet and also saw the ablution reenacted in the liturgy; at the same time, they could glimpse images of the vessels for the water on the ceiling and recall that the originals were kept under the altar. The Last Supper was shown in a relief of lapis and silver under the Altar of the Sacrament and reenacted in every mass; a piece of the very bread used was kept in the church. Holy redundancy ensured that a visit to the Lateran in Holy Week was as close as anyone would ever come to a visit to Pontius Pilate’s Jerusalem.

In the space of a few months in 1646, in the name of restoration, Borromini swept aside all of this paraphernalia. Some altars and tombs were heaped up in the *portico leonino* behind the apse, and others in the cloister. Long stretches of Constantinian, or really medieval, wall were encased inside the tall piers. It may be said that, in the name of Constantine, Borromini encased a medieval pâlimpste inside a baroque reliquary. He reshaped the boxy old basilica into something more curvaceous and plastic. Seen from the papal altar, Borromini’s piers march down the nave like graceful giants, bending toward the entrance, which itself curves forcefully inward (see fig. 2).

This entrance, with its monumental inflections and curves, was meant, in Borromini’s words, to echo a choir at the other end. On a fascinating drawing, intensely worked in Borromini’s typical medium of pencil, we find him explaining the design in a long inscription [fig. 6]. What counts, he says, is that the order runs uninterrupted around the church in an unbroken alternation of piers and arches. Without the canted corners and central curve, the design would not have the merit of echo (*riverbero*) with a choir or tribune, which itself would be curved. Borromini adds that the more one end of the building resembles the other, the more perfect and unified the design will be.9

A drawing that recently appeared on the art market in New York shows the new choir and apse that the entrance front was
supposed to echo. It is very large, 1.22 meters long, done on two sheets of paper. The bottom sheet is preserved entire, but the top (fig. 7) is mutilated, so that we have the full eastern (entrance) end of the nave but only the right half of the western end, with the transept and choir. Still, it is an extraordinary contribution to our knowledge. It shows Borromini’s new choir with a wide ambulatory wrapped around it, in the Milanese fashion. “Choir for musicians,” reads an inscription. Polychoral singing with cori spezzati had been introduced in the Lateran by the early seventeenth century, and the proposed choir would have accommodated these musicians. The new drawing shows that from the beginning, as his compass was describing the curves of the inner facade, Borromini was already thinking of echoing it in a choir that would reverberate both spatially, with the nave, and sonically.

So the holy redundancy of the old Lateran nave was swept away by a newer aesthetic of riverbero. The same also happened in the context of a widespread fashion for the use of echo in poetry and music. Echo poetry is, of course, as old as Euripides, reaching a pitch of Alexandrian subtlety with Callimachus. To the Renaissance reader, the locus classicus was the tale of Narcissus and Echo in Ovid’s Metamorphoses (III.375–510). Because Echo was garrulous and kept Juno distracted while the other nymphs slunk off to trysts with Jove, Juno cursed her with extreme brevity of speech, “linguae . . . potestas parva . . . vocisque brevissimus usus.” All she can do is return the last syllables of Narcissus’ lines, clipped syllables that are drenched in unfulfilled longing: Narcissus’ “Huc coeamus” (Here let us meet) is answered by Echo’s “Coeamus” (Let us love).

Politian, a learned commentator of Ovid, wrote a famous echo poem around 1479, later set to music by Heinrich Isaac. In it, Echo returns only the last syllables of the speaker, changing the meaning of the lines:

Che fai tu, Ecco, ment’io ti chiamo Amo
Chi fa quello a chi porti amore A more!

[What do you do, Echo, while I call thee? I love. What does he to whom you proffer love? Ah, he dies!]
It is this clever change of sense that invests mere echolalia, which would otherwise be quite maddening, with a sense of pungency and wit. In Italian poetry, echo was thought especially appropriate for laments of all sorts, for funerals, and for pastoral poetry set amid resonant hills and woods.\textsuperscript{14} It was popular outside Italy as well, as attested by a colloquy by Erasmus, “Youth and Echo,” from 1526, and Joachim du Bellay’s “Dialogue d’un amoureux et d’Echo” of 1549.\textsuperscript{15} George Herbert uses echo to describe the delights of heaven:

Then tell me, what is that supreme delight?
Light.
Light to the mind: what shall the will enjoy?
Joy.\textsuperscript{16}

Echo poetry had currency both in the Renaissance and later, whereas in music echo reached the height of fashion in the early baroque.\textsuperscript{17} The earliest example of echo music seems to date to around 1520. By the mid-sixteenth century it had invaded the madrigal and the frrottola, and by the later Cinquecento it had appeared on the stage. It was a feature of the nascent genres of opera and oratorio. Giovanni Battista Doni chided Emilio dei Cavalieri for his artifices, “such as repetitions, echo effects, and similar devices, which have nothing to do with good and true theatrical music.”\textsuperscript{18} But echo had come to stay. An echo scene features in one of the first operas, Rinuccini’s Daphne [1608], with music by Marco da Gagliano.\textsuperscript{19} Giacomo Carissimi’s Jephte [1643] also uses echo, and by the time of Henry Purcell’s The Fairy Queen [1692], echo had found a firm footing on the operatic stage.

Echo was also the subject of scientific research in the early seventeenth century. Borromini knew of some of this work, and he writes about the acoustical qualities of the oval refectory in the Casa dei Filippini.\textsuperscript{20} When the Lateran was finished, it is hard to imagine that Borromini did not notice the way whispers are conveyed from one concave pier to another across the side aisles, which act as echo chambers. These clever acoustical effects, sonic curiosities that can be added to the visual curiosities, bring us to the acoustical science of Marin Mersenne, the French Minim friar, mathematician, and tireless defender of Galileo.

Mersenne’s cell at the Place Royale in Paris was a meeting place for scientists, and his correspondence extended to the farthest corners of the republic of letters. It has been estimated that about one-fourth of Mersenne’s prolific output deals with sound. There is a mini-treatise on echo accompanying his great tome of 1636, Harmonie universelle.\textsuperscript{21} Mersenne set himself the task of founding a science of échométrie in which the reflection of sound could be measured with the same precision as the reflection of light in optics and catoptrics [the science of mirrors]. Trained along with René Descartes at the Collège Royal Henry-le-Grand at La Flèche, Mersenne knew how to sweeten his geometry with allusions to classical mythology and Roman monuments. For example, he proffers an interpretation of the innermost room of the tomb of Cecilia Metella (“Capo di Bove”), with its eightfold reverberations, as an echo chamber designed to amplify the sound of the hecatombs taking place inside [a sacrificial rite whose practice here is inferred from the cows’ skulls that adorn the cornice]. He collected famous examples of modern echo effects in gardens, such as the Tuileries, and in architecture, such as the echo chamber in the Villa Sermoneta near Milan, which was said to resound with serial echoes twenty times.

So serious was Mersenne in his attempt to found a science of echo that in 1625 he spent a month in the Marne valley conducting experiments in a great variety of resonant locales, clapping stones together to spare his voice and listening for an answer, as he says, in streams, swamps, isles, caves, churches, bell towers, streets, walls, wells, farm courtyards, privies, wine presses, canals, aqueducts, underground chambers, rooms with plaster vaults, hovels, public squares, ports, arcades of bridges, portals, and the rocky terrain of hills and mountains. He went around “like a sailor looking for the New World with a shaky compass.” But for all his measurements and geometric diagrams, he still found Echo as fleeting as she had appeared to the poets: “Fille de l’air, Nymphe fuyarde, farouche, vagabonde, moqueuse, deguisant la voix, desdaigneuse à répondre quand on l’interroge, plaintive et dolente.”\textsuperscript{22} His experiments in the countryside of the Marne and the analysis of sound
refracted off curves determined by conic sections, though carried out with the utmost rigor, led only to inconclusive results. As Mersenne puts it, after all the research and effort spent pursuing this fleeting nymph, he was left holding only her cloak. So he leaves the science of echo to another ["a new Pan"] with more time and patience than he.

Anyone with access to even a modest collection of recordings of early music can listen to several short echo passages and appreciate the pervasiveness of the phenomenon. The latest of those I will mention is the trio in act 2 of Purcell’s Fairy Queen (1692), where words and music echo each other in a passage of great popular appeal.23 Even without the music, the words convey the echo effect:

May the God of Wit inspire,  
The Sacred Nine to bear a part:  
And the Blessed Heavenly Quire,  
Shew the utmost of their Art.  
While Echo shall in sounds remote,  
Repeat each Note,  
Each Note, each Note.

The trio is followed by an instrumental suite with echoes of the refrain. John Hollander characterizes this repetition as exhibiting three degrees of diminution ["loud," "soft," "softer"], followed by softening instrumental echoes of the vocal parts.24

My second example is Claudio Monteverdi’s Vespers of 1610, composed in Mantua but with full knowledge of the polychoral tendencies in Roman music of the period around 1600. In some of its motets we hear twinned voices or twinned instruments echoing each other from widely separated parts of a church. In the motet “Duo Seraphim,” two tenors sing to each other across space with haunting effect, until they are joined by a third voice, each echoing the others to express the mystery of the Trinity:25

Duo Seraphim clamabant alter ad alterum:  
Sanctus, sanctus, sanctus Dominus Deus  
Sabaoth  
plena est omnis terra gloria eius.  
Tres sunt qui testimonium dant in coelo:  
Pater, Verbum et Spiritus Sanctus:  
et hi tres unum sunt.

To take the analogy between music and Borromini’s Lateran still further, some of the verses in the Vespers of 1610, especially in the Magnificat, are sung in an archaic cantus firmus, resembling Gregorian chant, around which the composer brilliantly weaves passages of instrumental music. The archaic chant that provides the setting for “Fecit potentiam in brachio suo; / dispersit superbos mente cordis sui” gives a sense of unity to a piece of breathtaking inventiveness. It is a brilliant way of encasing the archaic within the modern. In the subsequent passage, “Deposuit potentes de sede / et exaltavit humiles,” Monteverdi follows a similar strategy, but this time the instrumental music is itself full of echoes, played across the space of the church, making the modern ornament doubly complex. Listening to both these passages, with their brilliant interweaving of virtuoso instrumental music around the archaic chant, one might be forgiven for thinking ahead a generation from Monteverdi to Borromini. The long, sober stretches of Constantinian and medieval wall in the Lateran clerestory, which Borromini meant us to glimpse though the oval frames, might be thought of as a cantus firmus around which the gifted architect wove a web of daring modern ornament.

In the instrumental music in the “Deposuit potentes” passage of his 1610 Magnificat, Monteverdi created echoes without voices. Purely instrumental echo is developed further in the work of the Brescian composer Biagio Marini (1594–1663).20 In pieces that are tours de force of composition, Marini uses the instrumental echo as a clever abstraction of the concept from the vocal world, where echo had flourished since Hellenistic times.

Simultaneity is no proof of influence; nevertheless, we can come quite close to the time of the Lateran commission and Borromini’s remark on riverbero by turning to the composer Giacomo Carissimi and his sacred oratorio Jephte, performed in the Collegio Germanico in 1645, the year before the restoration of the Lateran. In this piece, full of plangent laments, the very hills are urged to weep, to scream, to shed tears, to resonate, all describing and creating echo:

Plorate colles, dolete montes et in afflictione cordis mei ululate (Echo: ululate!) Ecce mortiar virgo et non potero morte mea mei filiis
consolari, ingemiscite silvae, fontes et flumina, in interitu virginis lachrimate! [Echo: lachrima-

tem!] Heu me dolentem in laetitia popula, in victoria Israel et gloria patris mei, ego sine filii virgo, eo filia unigenita moriar et non vivam. Exhorrescite rupes, obstupescite colles, valles et cavernae in sonitu horribili resonate! [Echo: resonate!] Plorare Filii Israel, plorate virginitatem memet Jephthe filiam unigenitam in carmine doloris lamentamini.27

In his analysis of the rhetoric of echo, Hollander lists the ways that returning only part of an utterance can inflect its sense. Echo can be mocking, lamenting, assenting, amplifying, or interpreting.28 Not all of these qualities apply to architecture. Poetry and music are evanescent, whereas architecture has a grandiloquence appropriate to its permanence. Thus it is difficult to conceive of an architectural echo intended as mocking or lamenting, at least in premodern times. But an amplifying, interpreting echo is precisely what Giovanni Battista Piranesi proposed at the Lateran a century later to complete Borromini’s unfinished choir. In a commission first conceived for Clement XIII Rezzonico in 1762 or 1763, and then elaborated in a series of twenty brilliant drawings presented in 1764 to the papal nephew Cardinal Giovambattista Rezzonico, Piranesi proposed five different projects for a new Lateran choir [one of which is shown in fig. 8].29 Like the recently discovered plan by Borromini, of which he perhaps had some knowledge, Piranesi proposed to dismantle the medieval apse and move it back, allowing space for a canons’ choir and a new ambulatory. Even though some of his projects are more grandiose than others, all repeat the typical Borrominian pier as the basic structural unit. But the pier is inevitably hollowed out, far more than Borromini himself would have dared to do. In some of Piranesi’s drawings, what had been for Borromini the statue tabernacles are turned into organ lofts, while in others the space above the tabernacles, designed originally for reliefs, is turned into a balcony for singers.

Piranesi took music seriously and created beautiful spaces for polyphonic singing. The canons might sit in the grand baroque stalls designed for them on either side of a new canons’ altar, but their croaky voices would be supplemented by those of professional singers arranged in cori spezzati. Piranesi is respectful of the major relics: the wand of Moses, the table of the Last Supper, the face of Christ “not made by human hands” in the apse mosaic. But he fully absorbed Borromini’s fundamental principle, that the new structure should be reverberant spatially and sonically. His choir would have echoed

8. Giovanni Battista Piranesi, project for the Lateran choir ["Tavola quinta"], 1764, pen and colored inks on paper
Avery Architectural and Fine Arts Library, Columbia University,
New York
the entrance and nave and made the Clementine transept seem like an interlude in an otherwise harmonious Borrominian space. At the beginning of this essay, I represented the Borromini restoration of 1646–1650 as a caesura between two quite different worlds of performance. The old order was based on the idea that Jerusalem could be re-created by collecting its disiecta membra, the relics of the Passion that had accrued at the Lateran over the centuries. At the core was the word of God in the gospels read at mass, but around this were spun webs of liturgy and art, a holy redundancy of evocation to help the faithful experience the Passion. Borromini broke up the ship of the old basilica, and although he preserved large pieces of its hull inside his new structure, for him the building was primarily a work of art. In his aesthetic view, one end should artfully echo the other, the majestic entrance curving in response to an even more majestic choir that was never built. Riverberato was meant to replace holy redundancy in shaping the visitor’s experience of the church.

Piranesi’s projects propose a majestic choir, which picks up Borromini’s forms and echoes Borromini’s entrance. But he also proposed to reinstall the major relics in the new apse. Piranesi might perhaps be seen as reconciling the two modes of performance that we have seen jostling each other over the ages at the Lateran.

NOTES

1. I thank Kathryn Bosi of Villa I Tatti and Giuseppe Gerbino of Columbia University for their sage musicological advice.

2. To cite only one example from each of these genres, see Cristina Gardner von Teuffel, From Duccio’s Maestà to Raphael’s Transfiguration: Italian Altarpieces and Their Settings (London, 2005); Pancita Waddy, Seventeenth-Century Roman Palaces: Use and the Art of the Plain (New York, 1996); Marcella Baglio dell’Arco and S. Cossignini, Uffizi benaco: Strutture della fosa nella Roma del ’600, 2 vols. (Rome, 1977–1978).


6. Herklotz 2000 is fundamental for all these changes.


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9. The inscription on this drawing is very difficult to read. In the following version I have adopted some, but not all, of the suggestions of Roca De Amicis [1995, 81] and Heinrich Thelen, “Francesco Borromini, Planissis zu S. Giovanni in Laterano [zwei Fragmente],” in Architektur weiterdenken: Werner Oechslin zum 60. Geburtstag, ed. Sylvia Claus et al. [Zürich, 2004]:

Se questa facciata veniva quadra
nelle angoli bisognava fare dei tabernacoli
in cambio di uno e così si perderà l'ordine
di un arco e un tabernacolo che è quanto si può
desiderare per seguitar l'ordine non mai interrotto.
L'altra non aveva merito di riverbero con il coro o
tribuna
principale che gira [Thelen: e più che questa parte]
rasomigliasse a quella sarebbe . . .
più perfetta [Thelen: e più unita e più ferma].


12. Two stimulating contributions to the subject are John Hollander, The Figure of Echo: A Mode of Allusion in Milton and After [Berkeley, 1981]; and Frederick William Sternfeld, “Reportion and Echo in Poetry and Music,” in The Birth of Opera [Oxford, 1993], 197–226. I owe this reference to the kindness of Kathryn Bosi. Although the present study is concerned largely with echo as metaphor, the study of acoustics in Renaissance churches is being set on a new scientific basis in the work of the Centre for Acoustics and Musical Experiments in Renaissance Architecture (CAMER), which focuses on Venice, their first publication is Deborah Howard and Laura Moretti, eds., Architettura e musica nella Venezia del Rinascimento [Milan, 2006].


22. Mersenne 1634, 54.


27. Quoted from the liner notes accompanying Giacomo Carissimi, Jephte, directed by Joel Suhubiette, compact disc, LIGA Digital, 2003.