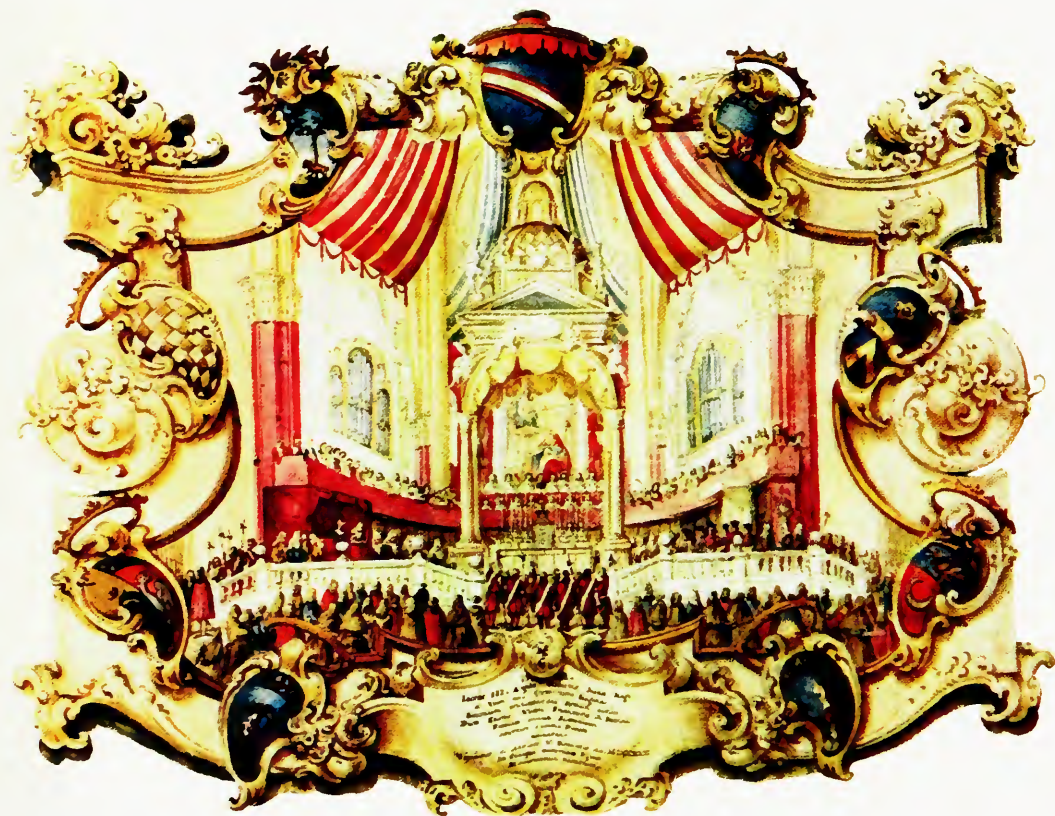


# The Orchestra at San Petronio in the Baroque Era

*Eugene Enrico*



SMITHSONIAN INSTITUTION



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SMITHSONIAN INSTITUTION PRESS

City of Washington

1976

## ABSTRACT

Enrico, Eugene. The Orchestra at San Petronio in the Baroque Era. *Smithsonian Studies in History and Technology*, number 35, 64 pages, 33 figures, 13 tables, 1976.—The church of San Petronio in Bologna was one of the most important centers for the performance of instrumental music in the decades around 1700. The unique architecture of San Petronio, originally designed to be the largest church in Christendom, conditioned the nature of music performed in the church in several ways. The acoustics of San Petronio helped to determine both the balance and placement of the orchestra. Moreover, the size and semicircular shape of the cantoria, or musicians' gallery, influenced both the number and placement of musicians hired for special festival performances.

Records of payment document the size and instrumentation of both these festival orchestras and the resident ensemble permanently employed by the church. The collection of musical manuscripts still preserved in the church archives is perhaps the richest treasure of evidence central to the style of instrumental music played by the orchestra at San Petronio.

OFFICIAL PUBLICATION DATE is handstamped in a limited number of initial copies and is recorded in the Institution's annual report, *Smithsonian Year*. SI PRESS NUMBER 6092. COVER: The capella maggiore of San Petronio during the feast of Saint Petronius in 1722. (Bologna, Archivio di Stato)

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### Library of Congress Cataloging in Publication Data

Enrico, Eugene

The orchestra at San Petronio in the baroque era.

(Smithsonian studies in history and technology; no. 35)

Supt. of Docs. no.: M 11233.E6

Bibliography: p.

"A catalogue of manuscripts at San Petronio, the sources of Torelli's festival compositions with trumpet": p.

1. Orchestra. 2. Bologna. San Petronio (Church) 3. Music—History and criticism—16th–17th centuries. 4. Music—Manuscripts—Italy—Bologna.

I. Title. II. Series: Smithsonian Institution. Smithsonian studies in history and technology, no. 35.

ML1233.E6 785'.06'6 75-619249

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For sale by the Superintendent of Documents  
U.S. Government Printing Office, Washington, D.C. 20402 Price: \$1.55  
Stock Number 047-001-00126-5

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## Preface

The present study was stimulated by two of the author's research projects. His doctoral dissertation, "Giuseppe Torelli's Music for Instrumental Ensemble with Trumpet," began his investigation into instrumental performance practice at the church of San Petronio in Bologna. Most of the statistics included in this study center around those years of Torelli's association with San Petronio and the orchestra there. During 1973, as a Postdoctoral Research Fellow at the Smithsonian Institution, the author directed a series of concerts in which his editions of works by Torelli and Alessandro Scarlatti were performed with antique musical instruments. The preparation of these concerts heightened the author's appreciation of the stunning achievement at San Petronio around 1700 in reconciling the temperament of baroque trumpets and oboes with the relative stability and predictability of the strings and organs.

This study would have been impossible without the help of Sergio Paganelli, music archivist at both the Liceo Musicale and the Archivio di San Petronio in Bologna; Anne Schnoebelen, who has studied extensively the sacred works of Cazzati, Colonna, and Perti; Louise E. Cuyler, who directed the author's dissertation at the University of Michigan; Robert A. Warner, curator of the Stearns Collection of Musical Instruments; Edward J. Soehnlein, who made the photographs of San Petronio for this publication; James Weaver, who supervised the author's performance project at the Smithsonian Institution; and Cynthia A. Hoover, who guided the preparation of the manuscript.





# The Orchestra at San Petronio in the Baroque Era

*Eugene Enrico*

## Introduction

During the last decades of the seventeenth century the Italian cities most distinguished as centers of musical performance were Venice, Rome, Naples, and Bologna. In Venice, the late operas of Claudio Monteverdi stimulated a rush of operatic composition and performance that attracted international attention to such composers as Cavalli, Cesti, and Legrenzi. Rome not only boasted a distinctive style of cantata and opera, employing both spectacle and comedy, but the local Jesuits incubated a new "oratorio" both to stop artistic secularization and to monopolize on the growing vogue for operatic style. In Naples the young Alessandro Scarlatti was beginning to stylize both cantatas and operas into classical patterns that would survive well into the eighteenth century.

Although Bologna was recognized as a regional center for both opera and oratorio, the city was widely acclaimed as the principal center for

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instrumental music in Italy. As early as the 1660s, such composers as Maurizio Cazzati and Giovanni Battista Vitali were composing sonatas that set traditions of style and form that endured throughout the Baroque era. By the end of the century, such composers as Giacomo Perti, Domenico Gabrielli, and especially Giuseppe Torelli were setting similar standards for the orchestral concerto, the concerto grosso, and the solo concerto.

All of these pioneer composers of Baroque instrumental music were employed as performers or as conductor of the orchestra at the principal church in Bologna, the basilica of San Petronio. The central position of San Petronio in the performance of Baroque instrumental music makes the church an attractive candidate for a detailed study of instrumental performance practices in the decades around 1700. This illustrated monograph combines a study of the unique architecture of San Petronio and the musical implications of its design with an examination of church records, musical manuscripts, pictorial documents, and antique musical instruments. Such information should prove useful to help recreate the sound of Bolognese instrumental music.

## The Architecture of San Petronio

The Italian-Gothic basilica of San Petronio (Figures 1 and 2) had been the very center of life in Bologna for almost three hundred years when the Bolognese school of instrumental music rose to importance in the late seventeenth century. Not only did San Petronio provide employment for many of the finest musicians in Italy, but the unique architectural and acoustic characteristics of the building conditioned the nature of much of the music written by composers serving the church.

On 28 October 1388, Bologna's governing body, the Council of 600, proclaimed that construction would begin the following year on a magnificent church dedicated to the Saint Protector of Bologna. The Coun-



FIGURE 1.—San Petronio facing the Piazza Maggiore. (Photo by E. J. Soehnlein)



FIGURE 2.—San Petronio (left) and the skyline of central Bologna.  
(Photo by E. J. Soehnlein)

cil approved the demolition of several houses and eight churches to make room for the new colossus, and on 26 February 1390, Antonio di Vincenzo was finally chosen as architect.<sup>1</sup> To keep Mastro Antonio's creative energies under control, the Council of 600 appointed the esteemed Padre Andrea Manfredi of Faenza as architectural supervisor, "so that he might furnish general suggestions as to the form, the plan, [and] the arrangement."<sup>2</sup> In less than three months Antonio had built an impressive model of his design for San Petronio and had presented it to the Council. The model surpassed what even Manfredi had envisioned, and the Council decreed that construction begin immediately.<sup>3</sup>

Antonio designed what he conceived as the largest church in Christendom, measuring 209.15 meters in length, with a transept extending 142.40 meters.<sup>4</sup> Figure 3 is a diagram of Antonio's original plan, drawn up from the architect's sketches after his death.<sup>5</sup> The octagon at the intersection of the transept with the nave was to have been surmounted by either a gothic spire or a great dome. Forty-three chapels were to adorn the outer walls of the basilica: twenty-two were to open into the nave; six were to frame each transept; and nine were to radiate from the apse. Not only the nave, but even each transept, was to open onto a spacious piazza. The site of honor chosen for San Petronio was the very center of Bologna with the nave of the church opening to the north onto the Piazza Maggiore.

After the first stone was laid, on 7 June 1390,<sup>6</sup> construction progressed rapidly for the first few years (Figure 4). The north end of the nave, up to the second chapel on each side, was completed in two years so that Mass could be celebrated in the Cappella di Santa Maria de'Rusticani on 4 October 1392.<sup>7</sup> In 1401 the building was completed up to the fourth chapel on each side and was covered by a temporary roof. At this point the first temporary cappella maggiore was added to the south end of the construction to serve as an apse.<sup>8</sup>

Antonio di Vincenzo died between 1401 and 1402, and on 21 September 1402, Jacopo di Paolo was appointed to revise Antonio's model for the church and produce another model that would be less expensive to realize. Although Jacopo altered neither the size nor the basic

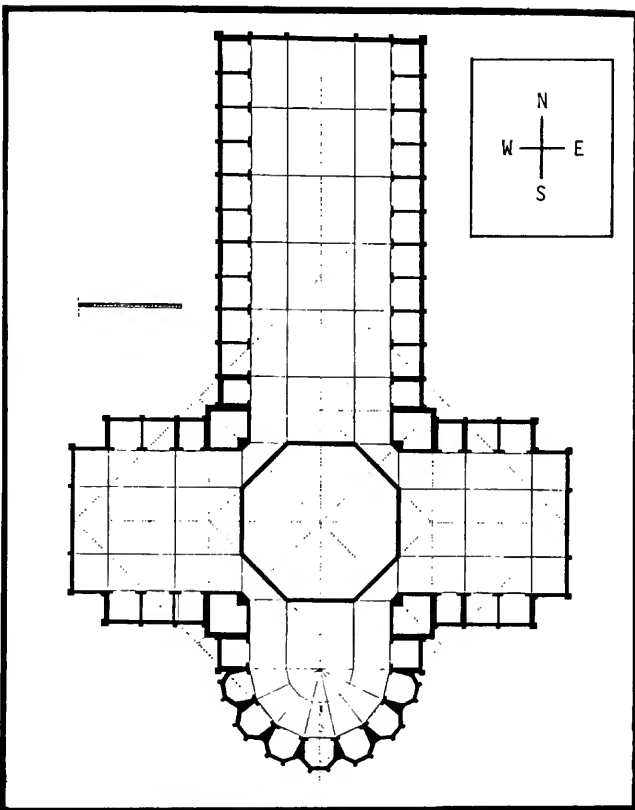


FIGURE 3.—Antonio di Vincenzo's original plan for San Petronio. (From Gatti, *La Basilica Petrononiana*, 1913)

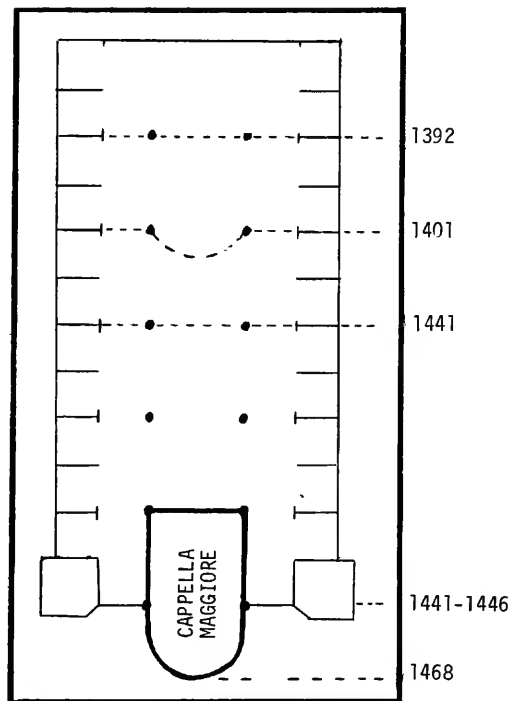


FIGURE 4.—Progressive steps in the construction of San Petronio.

design of Antonio's model, he simplified the marble decoration of the facade, the windows, and the chapels.<sup>9</sup>

During the next few years, work on the basilica was interrupted not only because of the lack of funds, but also because of the bitter politi-

cal struggles between the ruling Bentivoglio family and the papacy. After the temporary defeat of the Bentivoglio family, the new pope, Martin V, issued a bull on 7 June 1419 authorizing the demolition of several Bolognese churches. This seemingly outrageous gesture provided new funds to continue the construction of San Petronio by funneling the tithes once paid by the congregations of the destroyed churches into the construction fund of the new church.<sup>10</sup>

Little work was done to extend the central or lateral portions of the nave from 1419 to 1440; but in 1441, after the Bentivoglio family had regained power, the expansion of the nave was resumed. During that year the basilica was expanded southward with the addition of two more chapels on each side, and by 1446 the pillars and walls were completed as far as the planned transept.<sup>11</sup>

A second temporary cappella maggiore was constructed in 1468 under the direction of Agostino de' Marchi. Agostino constructed a semicircular apse larger than the one first built in 1441, and extended the cappella maggiore northward into the nave up to the position of the nearest supporting pillars and enclosed the sides of the cappella with walls (Figure 4). In 1472 Agostino began to construct the supports for two large organs onto both side walls of the cappella. The celebrated organ builder Lorenzo Ugolini da Prato had been commissioned to build a splendid gothic organ on the supports at the west wall of the cappella, and by 1483 the furnishing of the cappella maggiore was complete.<sup>12</sup>

During the first decade of the sixteenth century, the architect Arduino Arriguzzi was chosen to revise again the plans of Antonio di Vincenzo for the transept and apse. The renewed construction was continually postponed, however, because of the shortage of funds and because of the engineering problems of floating such a heavy dome over such a wide transept. After several years of consideration, the Roman Curia, which had ruled Bologna since 1506, decided not to expand the basilica. Their decision became immutable in 1563 when Pius IV approved the construction of the Archiginnasio to house the city's famous university on the site once intended for the eastern arm of the transept.<sup>13</sup>

In 1596 a new organ was placed opposite the original instrument on the supports at the east wall of the cappella maggiore. Baldassare Malamini designed the organ especially for ensemble accompaniment, and, therefore, voiced it to sound lighter and more brilliant than the gothic organ "for greater convenience and service to the choir and to the music."<sup>14</sup>

The final vaulting of the central nave was begun in 1589 by Terribilia, who died in 1604 without finishing the project. Unfortunately, the Italian craftsman lived up to his name; his vaulting had to be torn down because it was too low to harmonize with the design of the basilica.<sup>15</sup> The present stonework vaulting (Figure 5) was installed between 1626 and 1654.<sup>16</sup> Although countless designs for the marble façade were sketched by such artists as Agostino di Duccio, Baldassare Peruzzi, and Giulio Romano, the facade was never completed, so that much of the red brickwork on the front of the basilica remains naked (Figure 6).<sup>17</sup>

The final step in the construction of San Petronio began in 1669, when the cappella maggiore was enlarged and remodeled according to the new baroque style.<sup>18</sup> Figure 7 shows the design of the cappella maggiore, the focal area of the basilica where music was performed, after the renovation in which the cappella was extended further north into the nave of the basilica.<sup>19</sup> Because of the extra space, the high altar was moved slightly toward the nave and was covered with a larger and even more splendid canopy. Not only was the extended section of the cappella circumscribed on three sides by a set of five continuous steps, but also the iron grille, which had stretched across the entire north end of the old cappella, was replaced by a marble railing placed at the top of the steps on all three sides.

One of the greatest shortcomings of the earlier cappella was the lack of space for musicians, especially during the major liturgical feasts. For several of these feasts, the massing of large musical ensembles had necessitated the construction of temporary scaffolding to form musical galleries over the passageways at each side of the cappella.<sup>20</sup> When the cappella was remodeled during the 1660's, however, an elevated can-



FIGURE 5.—The present vaulting inside San Petronio. (Photo by E. J. Soehnlein)





FIGURE 6.—The unfinished facade of San Petronio.  
(Photo by E. J. Soehnlein)

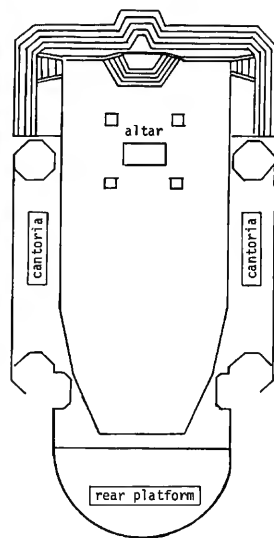


FIGURE 7.—The cappella maggiore  
after the remodeling during the 1660's.



FIGURE 8.—The interior of San Petronio with the cantoria behind the high altar. (Photo by E. J. Soehnlein)

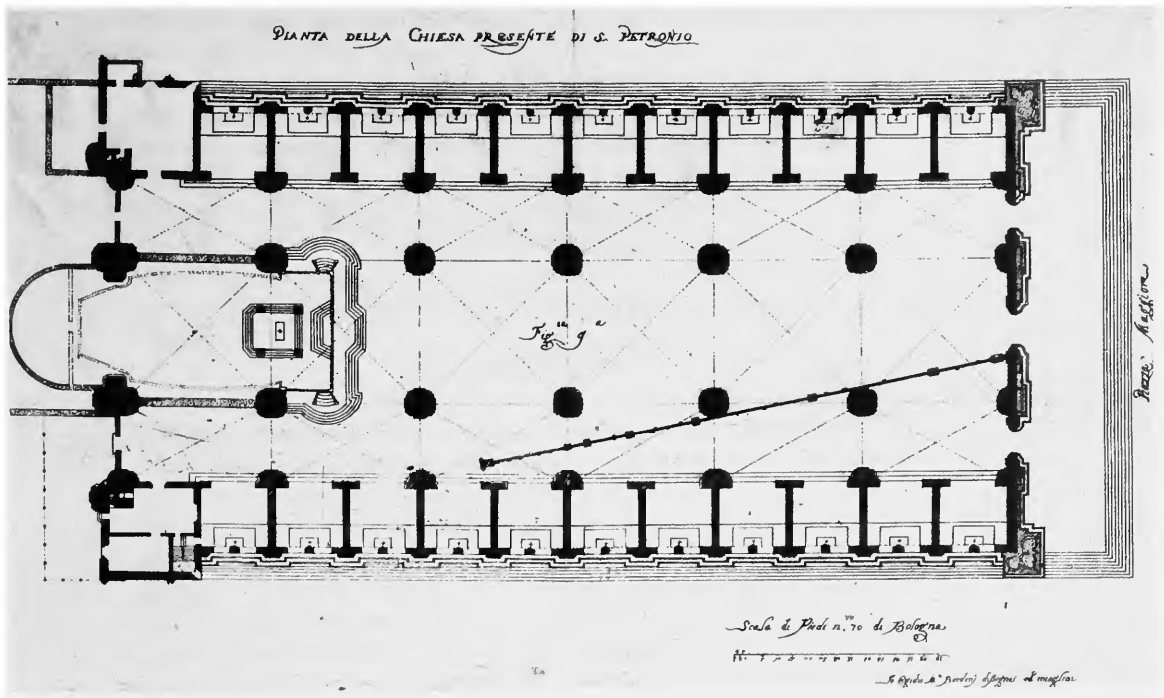


FIGURE 9.—The floor plan of San Petronio in 1695. (From Zanotti, *La meridiana de tempo di San Petronio*, 1779)

toria was constructed onto the walls behind the high altar to serve as a permanent musicians' gallery. This cantoria, which is shown at the rear of Figure 8, was a large semicircular balcony, the two sides of which spanned the distance between the major structural columns on both walls of the cappella, continuing across the rear with a narrow section approximately a meter in depth. Behind this rear section was a large platform, which was raised slightly above the level of the rest of the cantoria, filling the entire south end of the apse.

The cappella maggiore was complete when the four intersecting ceiling vaults at the rear of the apse were finished in 1670,<sup>21</sup> and the newly decorated organ cases were installed in 1686.<sup>22</sup> Figure 9 is a plan of San Petronio taken from a book published in 1695 describing the meridian or solar calendar, which is shown stretching diagonally across the floor of the basilica.<sup>23</sup> This plan clearly depicts at the left the location of the musicians' cantoria and the rear platform.

## Instruments in the Orchestra at San Petronio

An examination of the records of payment to musicians at San Petronio, combined with a study of the manuscript sources still preserved in the musical archive at the church, suggests that the following instruments were used regularly in the decades around 1700, either in the resident ensemble or in the festival orchestras assembled for special holidays: violin, viola (or violetta), tenor viola, violoncello, violone, trumpet, oboe, cornetto, bassoon, trombone, bissone, organ, and theorbo. Except for the two organs in San Petronio, which have been well preserved and are discussed below, the actual instruments that were played in the church around 1700 have been lost. An examination of surviving instruments that were used elsewhere in the seventeenth and eighteenth centuries, however, will offer an insight into the general musical properties of the instruments in the San Petronio orchestra.

### *Bowed String Instruments*

The master-craftsmen of the seventeenth and early eighteenth centuries built violins that differed in several respects from those played in concerts today. During the last two centuries violinists have gradually demanded more tone from their instruments to fill larger concert

halls and to compete as soloists with larger orchestras. Most of the surviving examples of baroque violins, therefore, have undergone countless repairs and alterations that adapted them to perform more effectively the new repertoire of nineteenth and twentieth century music. Figure 10 shows two photographs of a violin by the Tyrolian master, Jacob Stainer (1621–1683). The view on the left shows the instrument as it was acquired by the Smithsonian Institution in 1971 after three hundred years of structural evolution. The view on the right shows the instrument after restoration to baroque proportions with a neck originally made by Stainer. This juxtaposition emphasizes several important differences between the modern violin and its baroque ancestor.

The neck of the restored violin is almost parallel to the top plane of the instrument, and the wedge-shaped fingerboard is considerably shorter. Because the angle of the fingerboard on the restored violin is less steep, the bridge is lower and the strings are closer to the belly. The bridge is also flatter, and the strings carry less tension. Inside, the restored violin has a more delicate soundpost<sup>24</sup> and a bass bar shorter and thinner than commonly used on modern violins. The strings are tuned, like the modern violin:  $g\ d^1\ a^1\ e^2$ , and are made of gut, the  $g$  overspun with silver.<sup>25</sup>

Although Cremona was the city most famous for violin making in the seventeenth century, several other Italian towns boasted fine local craftsmen. Bologna, a principal center of instrument making, was the home of the Tononi family, which was widely known for making violins, violas, and cellos. Felice Tononi (fl. 1670–1710) had three sons, Carlo (fl. 1689), Giovanni (fl. 1689–1740), and Guido (fl. 1690–1760), all of whom were violin makers. The Tononis built violins according to the pattern of Nicola Amati (1596–1684), with careful attention to detail, although the Tononis' instruments usually were flatter.<sup>26</sup> Figure 11 shows an unrestored violin by Carlo Tononi dated 1711. Excluding the neck, the body of the instrument is about 35.5 centimeters (14 in) long, 21 centimeters ( $8\frac{3}{16}$  in) wide in the lower bouts, 17 centimeters ( $6\frac{7}{8}$  in) wide in the upper bouts, 3 centimeters

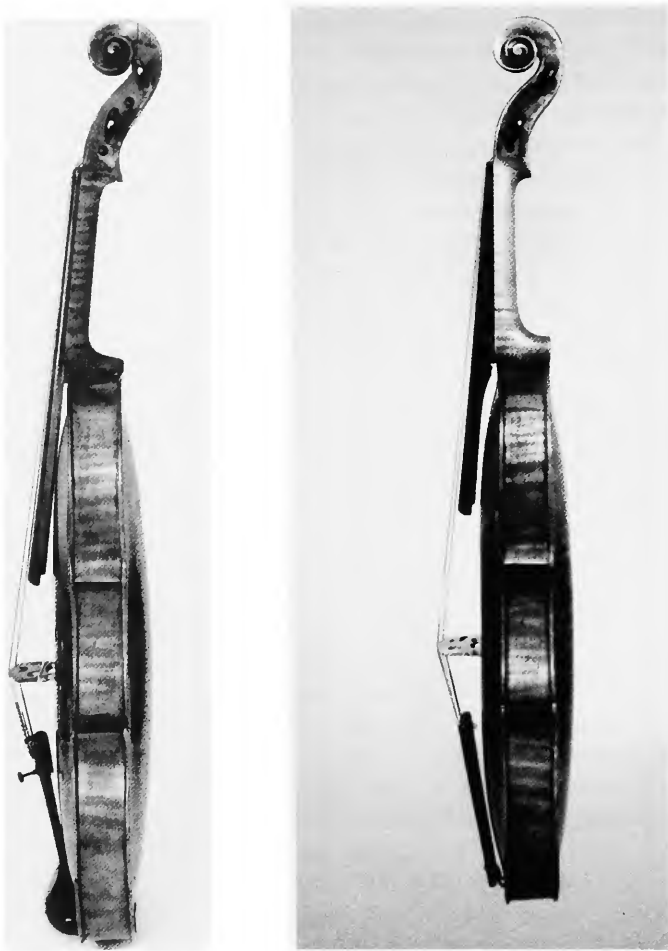


FIGURE 10.—Violin by Jacob Stainer (*left*) as acquired by the Smithsonian Institution in 1971 and (*right*) after restoration to baroque proportions. (Washington, Smithsonian Institution)



FIGURE 11.—Unrestored violin by Carlo Tononi, dated 1711. (Courtesy Rembert Wurlitzer Inc.)

( $1\frac{3}{16}$  in) high in the lower bouts, and 2.8 centimeters ( $1\frac{1}{8}$  in) high in the upper bouts.<sup>27</sup>

The bow used during the late seventeenth century was not standardized either in length or in shape. Those used at San Petronio to perform sonatas and concertos were probably longer and more elegant than those used for dance music in France or England. Figure 12 depicts one style of bow popular in Italy around 1700.<sup>28</sup> The design included a screw button at the end of the stick to regulate the tension of the hair, as well as a frog designed much like that of the modern bow, although the older design was shorter. According to the musicologist David Boyden, "in the best bows of the time . . . violinists must have already possessed advantages comparable to those enjoyed by Viotti with a fine Tourte bow a hundred years later."<sup>29</sup>

Two sizes of violas were used at San Petronio. The alto viola, frequently called the "*violetta*" in music composed for the basilica, was the size of the modern viola and was tuned: c g d<sup>1</sup> a<sup>1</sup>. Because this viola was insufficient in size to obtain the maximum sonority for the range of the instrument, the violetta usually was relegated to the subordinate function of completing the inner harmonies in orchestral tutti. But in the middle movement of Giuseppe Torelli's *Sinfonia* for two trumpets and two oboes, which was written for San Petronio and is catalogued as D.VIII.5 in the musical archive at the church, four violettas are given a rare opportunity for virtuoso display. The tenor viola (*viola tenore*) was regularly used at San Petronio, and between 1687 and 1695 Giuseppe Torelli was the resident tenor violist. The instrument probably was tuned: F c g d<sup>1</sup>, and was large enough so that it likely was held between the knees. In the music written for the tenor viola at San Petronio, the instrument plays the bass line with other continuo instruments.



FIGURE 12.—Design of bow used in Italy around 1700. (Drawing after an illustration in F. J. Fétis, *Notice of Anthony Stradavari*, page 112)

The violoncello was given a special prominence at San Petronio. Domenico Gabrielli, who was associated with the orchestra before his death in 1690, is usually acknowledged as the first composer of solo pieces for the cello, which was tuned: C G d a, as it is today. Both Felice and Giovanni Tononi were famous for their cellos, which, like their violins, followed the pattern of Nicola Amati.<sup>30</sup> Figure 13 shows an unrestored violoncello by Carlo Tononi dated 1723.

Almost all of the orchestral music written for San Petronio with extant manuscript parts specifies the use of the violone. This term was applied to several different instruments in use around 1700. One type of violone, described by Praetorius in 1619, was a member of the violin family, larger than the cello, but smaller than the double bass. Praetorius gave the tuning of the five strings as FF C G d a. Praetorius also spoke of a "violono" (or "*contrabasso da gamba*") with six strings tuned in fourths from DD to d or from EE to f.<sup>31</sup> In 1703 Sebastien Brossard described a violone as twice the size of the violoncello (*basse de violon*) and tuned an octave lower.<sup>32</sup> In 1738 Johann Philippe Eisel reported that the term "violone" referred to any one of three different instruments: a contrabass gamba tuned: GG C E A d g, an even larger gamba tuned: DD GG C E A d, and a contrabass violin tuned: CC GG D A or CC FF BB E.<sup>33</sup> Because the violone parts in the manuscripts at San Petronio extend down to DD (written an octave higher), it may be assumed that the intended violone was one of the two latter instruments described by Eisel—either a large contrabass gamba, or a contrabass violin.

Several manuscript compositions have continuo parts designated simply "basso." It is possible that this term was intended to specify either a contrabass gamba or a contrabass violin, the same two possibilities as for the term "violone." If this was the case, "basso" probably desig-



FIGURE 13.—Unrestored violoncello by Carlo Tononi, dated 1723. (Courtesy Rembert Wurlitzer Inc.)



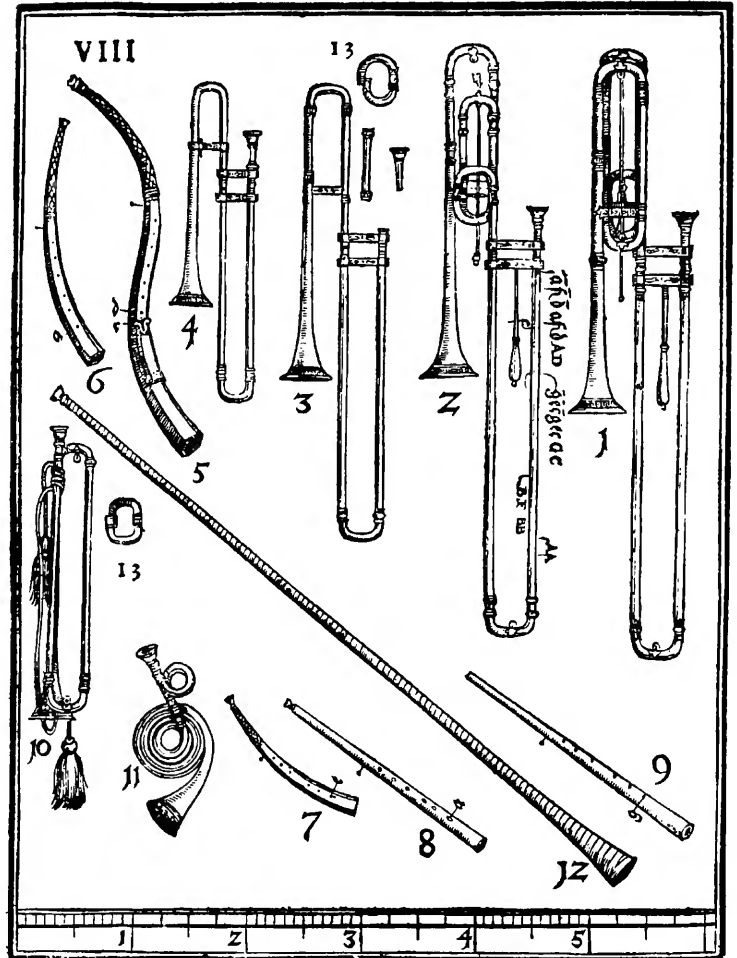
nated one of the two instruments, "violone" the other. It is also possible that "basso" was merely a general designation for a basso continuo part that could have been played by any continuo instrument.

### *Wind Instruments*

Three treble wind instruments appear with some regularity in the festival orchestras at San Petronio: the trumpet, the oboe, and the cornetto. The trumpet used most frequently in the seventeenth and early eighteenth centuries was pitched in D and had a sounding length of approximately 231 centimeters.<sup>34</sup> Although a large trumpet pitched in C was also known in the early seventeenth century, the more common trumpet in D could be lowered to C by adding a separate crook, and around 1700, it normally was used to perform music written for the C trumpet.<sup>35</sup> The standard trumpet in D also could perform music in the key of E with the insertion of a transposing mute in the bell of the instrument.<sup>36</sup>

The following pitches normally could be produced by a natural trumpet: C c g c<sup>1</sup> e<sup>1</sup> g<sup>1</sup> (b<sup>b1</sup>) c<sup>2</sup> d<sup>2</sup> e<sup>2</sup> (f<sup>2</sup>) (f<sup>#2</sup>) g<sup>2</sup> (a<sup>2</sup>) (b<sup>b2</sup>) b<sup>2</sup> c<sup>3</sup> (c<sup>#3</sup>) (d<sup>3</sup>) (d<sup>#3</sup>) (e<sup>3</sup>) (f<sup>3</sup>) (f<sup>#3</sup>) (g<sup>3</sup>). It should be noted that all of these pitches are relative to the fundamental pitch of C. During the seventeenth and eighteenth centuries no international standard of pitch yet existed, so that pitch standards varied greatly among the various centers of musical performance. Because of the physical peculiarities of the harmonic series, the pitches enclosed in parentheses required a skilled trumpeter to adjust the intonation.

Although published several decades before the golden age of Bolognese instrumental music, Praetorius' *Syntagma musicum* of 1614–1620 depicts several brass instruments that changed little during the following century. Figure 14 shows the two most prominent shapes of trumpets in the seventeenth and eighteenth centuries. Number 10 illustrates the common folded design used for most natural trumpets. If this trumpet were pitched in D, the addition of a crook, such as number



1. 2. Quart-Posaunen. 3. Rechte gemeine Posaun. 4. Alt-Posaun. 5. Cornet/ Groß Tenor-Cornet. 6. Rechte ChorZinck. 7. Klein DiscantZinck / so ein Quint höher. 8. GeraderZinck mit ein Mundstück. 9. StillZinck. 10. Trommet. 11. Jäger Trommet. 12. Hölzern Trommet. 13. Krumbbügel auff ein ganz Thon.

FIGURE 14.—Plate VIII from the *Syntagma musicum*, 1619, of Michael Praetorius.

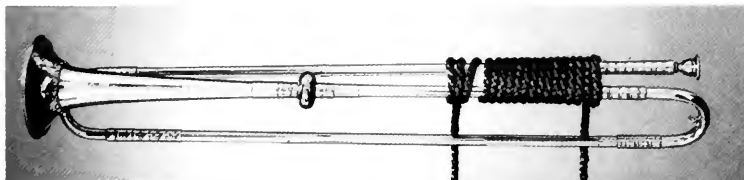


FIGURE 15.—Trumpet by J. C. Kodisch, dated 1689. (Ann Arbor, Stearns Collection of Musical Instruments)



FIGURE 16.—Detail of the Kodisch trumpet.

13 in the illustration, between the mouthpiece and the trumpet itself would lower the pitch of the instrument. Number 11 shows the tightly wound design of the Jäger or hunter's trumpet. Without the circular crook shown in Praetorius' drawing, the wound trumpet probably also was pitched in D and had exactly the same length of tubing as the folded trumpet (number 10). In either design the natural trumpet was made from brass or silver molded over forms and carefully soldered so that the joints were concealed by decorative metal appliques.<sup>37</sup>

Figures 15 and 16 show a trumpet made in 1689 by J. C. Kodisch of Nuremberg, the city most famous for the manufacture of outstand-

ing brass instruments during the seventeenth and eighteenth centuries. Although the folded trumpet was used most frequently to perform art music during the late seventeenth and early eighteenth centuries in Germany, it is possible that the wound trumpet was used at San Petronio. For, in the early seventeenth century, Girolamo Fantini,<sup>38</sup> the virtuoso trumpeter of the Tuscan court, achieved international acclaim for his artistry on the wound trumpet. Even though Fantini probably was incapable of producing every chromatic pitch, as Fétis has reported,<sup>39</sup> he most likely had developed an impressive precision in intonation by carefully stopping the bell of the trumpet with his hand to correct the tuning of impure harmonics. Another famous trumpeter who has been associated with the Jäger trumpet is Gottfried Reiche, who was the leading trumpeter during Bach's tenure at Leipzig. E. G. Haussmann's famous portrait depicts Reiche with a small musical manuscript in one hand and a wound trumpet in the other.<sup>40</sup> Even as late as 1795, Johann Altenburg referred to the wound trumpet as "the so-called invention or Italian trumpet," and noted that the instrument was played superbly in Italy.<sup>41</sup>

Probably the most accomplished trumpeter to be employed at San Petronio was Giovanni Pellegrino Brandi. His name appears regularly between 1680 and 1699 on the lists of musicians hired for the annual feast of Saint Petronius. Although the names of two other trumpeters, "S. Cardinale" and "Sig. Vincenzo," appear occasionally in the records of payment, it is likely that many of Torelli's familiar works for one trumpet and orchestra were written for Brandi.<sup>42</sup>

Many of the festival compositions written for San Petronio are scored for pairs of oboes as well as trumpets. In each of these works the oboes nearly parallel the trumpets in importance, frequently echoing the trumpets with similar thematic material. Three virtuoso oboists who were employed occasionally at San Petronio were Ludovico Ertman, Pompeo Pierni,<sup>43</sup> and Pietro Bettinozzi.<sup>44</sup>

Around 1700 the oboe had a narrow conical bore with the lower end twice the diameter of the upper. The instrument was built in three sections: two body joints and a bell, with tone holes for six fingers. The

range of the instrument was from  $c^1$  to  $d^3$ .<sup>45</sup> The third and fourth fingers covered small double finger-holes bored side by side to facilitate the production of certain pitches (such as  $f^{\#1}$  and  $g^{\#1}$ ) by covering one or both of the paired holes. In addition there were three keys: a swallow-tail key to produce the  $c^1$ , and duplicate keys on either side for right or left-handed players to produce  $e^{b1}$ .<sup>46</sup> The  $c^{\#1}$  was almost impossible to produce, since no additional key was present. Figure 17 (left) shows an oboe made around 1700 by E. Terton, along with another (right) made later in the eighteenth century by Grassi of Milan with two keys, thereby implying that the player's right hand was placed on the lower part of the instrument. Also pictured are alternate upper joints for the Grassi oboe, enabling the player to lower the general pitch of the instrument. Figure 18 shows an oboe of carved ivory made during the first half of the eighteenth century by Anciuati of Milan.

The cornetto was used regularly at San Petronio throughout most of the seventeenth century, and continued to be used, though less regularly, into the early eighteenth century. Around 1700, when so much of the festival music written for the church featured trumpets, the term "cornetto" probably referred to an alto or tenor instrument, since cornetto parts appear in the alto clef, often reinforcing the alto voice in tutti sections.<sup>47</sup> Figure 14 (number 6) pictures a cornetto pitched in A that spans the alto range, and a "tenor corner" pitched in D (number 7) built in the tenor range. This tenor cornetto boasts an S-shaped curve as well as a single key to extend the range of the instrument down to c. Figure 19 shows such a tenor cornetto made in Italy during the seventeenth century.

Trombones had been included in the orchestra at San Petronio even before the seventeenth century. An instrument like those used at San Petronio is shown in Figure 14 (number 3). The instrument probably had a fundamental pitch of BB-flat, as it does today, and therefore had the range and most of the capabilities of the modern trombone. The bassoon (*bassone* or *fagotto*) was employed less regularly at San Petronio. Around 1700 the bassoon had six finger-holes, two

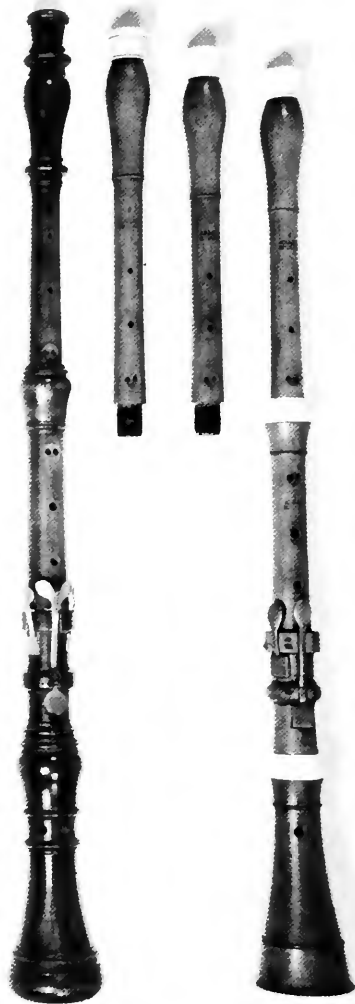


FIGURE 17.—Oboes by E. Terton, ca. 1700 (*left*), and Grassi of Milan, mid-18th century (*right*) with two alternate upper joints (*center*) for the Grassi oboe. (Washington, Smithsonian Institution)

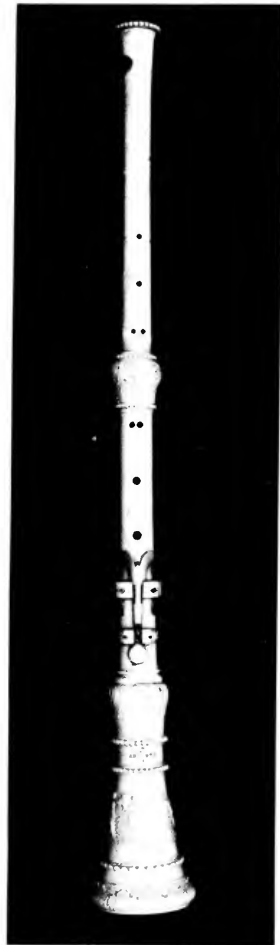


FIGURE 18.—Oboe by Anciuti of Milan, early 18th century. (London, Victoria and Albert Museum, Crown Copyright)



FIGURE 19.—Italian tenor cornetto.  
(Ann Arbor, Stearns Collection of  
Musical Instruments )

thumb-holes, two or three keys, and a range of two-and-a-half octaves up from BB-flat (three keys) or C (two keys).<sup>48</sup> Both the trombone and the bassoon were used to reinforce the basso continuo at San Petronio, especially during tutti sections, although in concerted vocal music trombones may have doubled voice parts. Still another continuo instrument was the *bissone* (sometimes spelled "bisone.") Possibly a variation of "*bassone*" (bassoon), this designation may be an example of the notorious imprecision in early spelling. It is also possible that the designation is derived from the French word "*buisine*" and therefore specifies a trombone. Using slightly more imagination, "*bissone*" may be a dialect form of "*biscione*" (a large snake), therefore denoting a serpent, the bass form of the cornetto with a cup mouthpiece, six finger-holes, and a serpentine shape.<sup>49</sup>

### *Harmonic Continuo Instruments*

The theorbo and the organ were the two harmonic continuo instruments used regularly at San Petronio. The theorbo (or tiorba), which was used widely in the late seventeenth century as a continuo instrument, was an arclute with a second pegbox constructed above the main pegbox at the end of a short extension of the neck. Although the extension to the neck of a typical theorbo made in Germany around 1700 normally was diagonal and curved, many Italian makers preferred a straight extension, similar in design to the longer-necked *chitarrone*.





The strings connected to the second pegbox usually were tuned to a diatonic scale and did not pass over the frets; those connected to the main pegbox did pass over the frets and, except for the top two strings, were geminated and tuned either in octaves or in unison. Although the number of strings and the tuning varied greatly, a single octave of diatonic bass strings often was followed by four pairs of strings and two single strings, tuned in fourths with a third in the middle, like a lute. A possible tuning,<sup>50</sup> therefore, would have been as follows:

<u>Diatonic Bass Strings</u>	<u>Pairs</u>	<u>Single</u>
FF GG AA BB C D E F	G c f a	d g

Figure 20 displays an Italian theorbo of the seventeenth century as depicted by a follower of Caravaggio, whereas Figure 21 shows a theorbo made by Matteo Sellas of Venice in 1737.

Of the two organs in San Petronio, the older and larger is set at the epistle side of the altar on the west wall of the cappella maggiore. Although the organ was begun in 1470 by the famous Tuscan organ builder Lorenzo da Prato, the instrument was not finished until 1483 and Lorenzo was not paid until 1490. The single manual originally had a range from AA to c<sup>3</sup>, but had only fifty keys since the highest and lowest B-flats were missing. According to the Italian organist Luigi Ferdinando Tagliavini, who has studied the instrument carefully, the original organ probably had nine ranks, each of which could be drawn separately: *principale* (front prospect) 16 ft, *ottava* (rear prospect) 8 ft, *decimaquinta* 4 ft, *flauto in decimaquinta* 4 ft, *decimanona* 2 $\frac{2}{3}$  ft, *vigesimalseconda* 2 ft, *vigesimalsesta* 1 $\frac{1}{3}$  ft, *vigesimalnona* 1 ft, and an additional rank doubling one of the preceding. There were probably twelve pedals, from AA to A (without BB-flat), and since the pedals had no pipes of their own, they were designed mechanically to pull

FIGURE 20.—“A Musical Group” by a follower of Caravaggio, 17th century. (Richmond, Virginia Museum of Fine Arts)

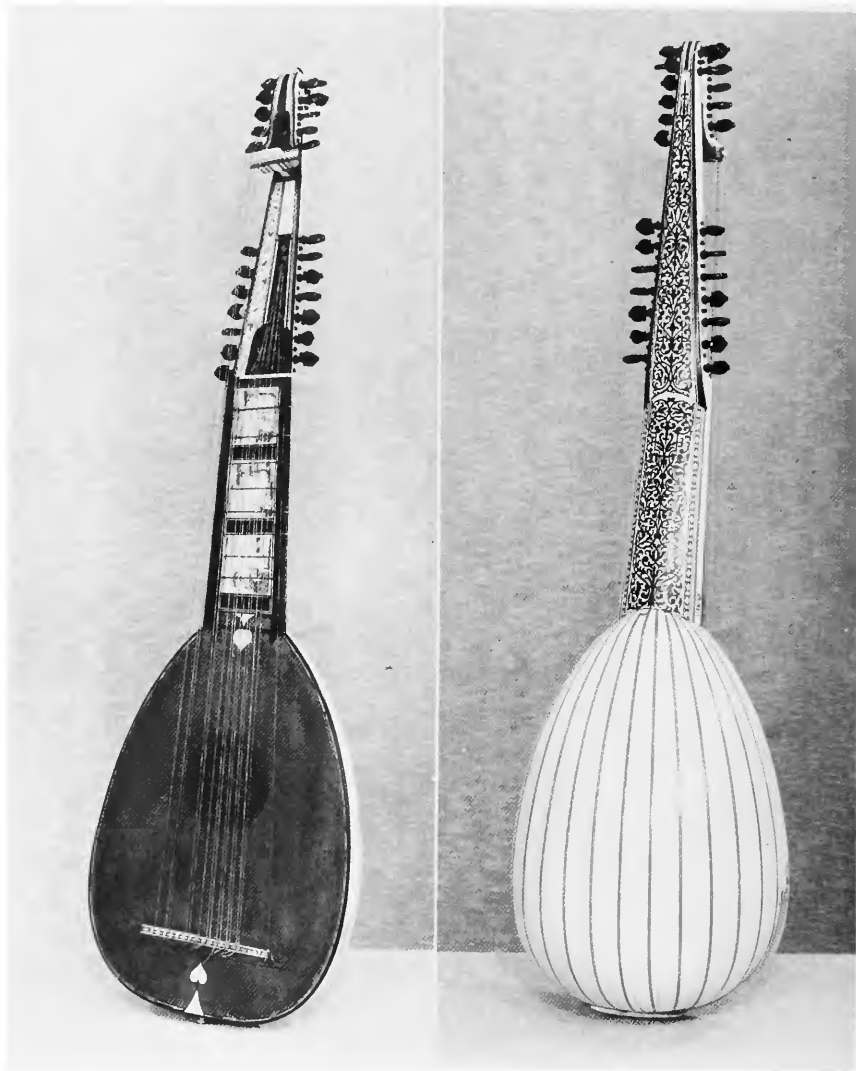


FIGURE 21.—Front view (*left*) and rear view (*right*) of a theorbo by Matteo Sellas of Venice, dated 1737. (London, Victoria and Albert Museum, Crown Copyright)



FIGURE 22.—Front view of the organ in San Petronio by Lorenzo da Prato, 1483. (Photo by E. J. Soehnlein)



FIGURE 23.—Rear view of the organ in San Petronio by Lorenzo da Prato, 1483. (Photo by E. J. Soehnlein)



FIGURE 24.—Console  
of the 1483 organ.  
(Photo by E. J. Soehnlein)

down keys from the manual above.<sup>51</sup> Figures 22 and 23 show both front and rear views of this organ, whereas Figure 24 shows the console of the instrument as it appears today.

The organ on the east wall, at the Gospel side of the altar, was built in 1596 by Baldassare Malanini, and was enlarged in 1641 by Antonio del Corno. Around 1700 this organ had a range from CC to a<sup>2</sup>, but had only fifty-three keys since the lowest part of the keyboard incorporated a "short octave" and the g<sup>#2</sup> was missing. According to Tag-



FIGURE 25.—Front view of the organ in San Petronio by Baldassare Malanini, 1596. It was enlarged in 1641. (Photo by E. J. Soehnlein)



FIGURE 26.—Rear view of the organ in San Petronio by Baldassare Malanini, 1596. It was enlarged in 1641. (Photo by E. J. Soehnlein)

liavini, this newer organ probably had ten ranks: *principale I* (front prospect) 16 ft, *principale II* (rear prospect) 16 ft, *ottava* 8 ft, *decimaquinta* 4 ft, *decimanona*  $2\frac{2}{3}$  ft, *vigesimaseconda* 2 ft, XXVI-XXXVI  $1\frac{1}{3}$  ft +  $\frac{1}{2}$  ft, XXIX-XXXIII 1 ft +  $\frac{2}{3}$  ft, *flauto in VIII* 8 ft, *flauto in XII*  $5\frac{1}{3}$  ft. Like the older organ, the pedals pulled keys from the manual and had no pipes of their own.<sup>52</sup> The softer and sweeter tone of this instrument made it especially suited for concertino sections of concertos; whereas the more powerful sound of the older organ suited it for ripieno sections. Figures 25 and 26 show front and rear views of this concertino organ, as it appears today.

The organ pipes provide a few elusive clues to the pitch used for performances in San Petronio. According to Tagliavini, the pitch was lowered several times to the present level of  $a^1 = 435$  cps at 15° centigrade. The original pitch of the older organ was about one-and-a-half tones higher. The evidence of pitch in use around 1700, however, is ambiguous. Certain elements indicate a pitch close to the present, although other elements suggest a pitch about a semitone higher.<sup>53</sup>

## The Size of the Orchestra

One of the most significant events in the history of Bolognese instrumental music was the hiring of Maurizio Cazzati in 1657 as chapel master at San Petronio. Although most of his predecessors had been native to Bologna, Cazzati was born in the Duchy of Mantua<sup>54</sup> and had already published at least two volumes of chamber music when he was called to Bologna in 1657.<sup>55</sup> Under Cazzati's persuasive direction the number of instrumentalists employed permanently was significantly increased. Table 1 cites the minimum and maximum number of regular employees in Cazzati's chapel from 1657 until his retirement in 1671. Cazzati molded the San Petronio orchestra into one of the finest instrumental ensembles in Europe, and when he left Bologna in 1671 after a heated argument with the organist Giulio Arresi,<sup>56</sup>

TABLE 1.—Numbers of regularly employed musicians at San Petronio from 1657 until 1671 (data from Bologna, "Liste e Ricevute" and "Mandati mensili")

Instrument	Minimum	Maximum
Treble instruments		
Violin.....	2	5
Alto Viola.....	1	2
Basso continuo instruments		
Tenor viola.....	1	2
Violoncello.....	1	1
Violone.....	1	1
Trombone.....	1	2
Theorbo.....	1	2
Organ.....	2	2

Cazzati recommended that he be replaced by Giovanni Legrenzi, the brilliant Venetian composer of instrumental music and operas. But Cazzati's final advice was not taken and the chapel organist, Giovanni Colonna, was promoted to chapel master in 1674.

Colonna, who had been a pupil of both Benevoli and Carissimi in Rome,<sup>57</sup> infused the Roman flair for spectacle, achieved by immense and frequently divided performing forces, with the native and highly developed Bolognese style of instrumental music. Although Colonna himself wrote no purely instrumental music,<sup>58</sup> his fine orchestra attracted a large number of outstanding performers, who also composed instrumental music for use in the church.<sup>59</sup> Among the composers whom Colonna initiated into the orchestra, Giuseppe Torelli probably enjoys the most enduring renown. During the present century, musical scholars have nominated Torelli as one of the principal figures in the genesis of the instrumental concerto. His festival compositions, especially those with pairs or quartets of trumpets, as well as his solo

TABLE 2.—Numbers of regularly employed musicians at San Petronio from

Instrument	1686	1687	1688	1689	1690	1691	1692	1693
Treble instruments								
Violin.....	2	3	3	2	2	2	3	3
Alto viola.....	1	1	1	1	1	1	1	1
Bassa continuo instruments								
Tenor viola.....	1	1	1	1	1	1	1	1
Trombone.....	1	1	1	1	1	2	2	2
Violoncello.....	1	2	2	2	3	3	3	3
Violone.....	1	2	2	2	2	2	2	2
Theorbo.....	1	1	1	0	0	1	1	1
Organ.....	2	2	2	2	2	2	2	2
Organ Tuner.....	1	1	1	1	?	?	?	?

\*The rigorous fiscal reforms of Pope Innocent XII, who served from 1691 until 1700, forced a reduction of church funds coupled with an increase of state taxes, so that the orchestra had to disband from January 1696 until March 1701, except for two organists and one organ tuner.

violin concertos, Op. VIII, set a model of style for such later masters as Vivaldi and J. S. Bach.

Under Colonna the size of the regular orchestra was not altered significantly, so that when Torelli was hired to play viola in September of 1686 he became one of only eleven regularly employed instrumentalists. When Colonna died in 1696, he was succeeded by Giacomo Perti, who had also studied in Rome and who had tutored Giuseppe Torelli in musical composition. Although Perti himself was an active composer of instrumental music, the orchestra at San Petronio was soon disbanded, primarily because Pope Innocent XII's economic reforms would not permit the expenses of a professional resident orchestra. Although the members of the orchestra, including Giuseppe Torelli, left Bologna to seek other employment, the fame of the orchestral



1686 until 1709\* (data from Bologna, "Liste e Ricevute" and "Mandati mensili")

1694	1695	1696	1701	1702	1703	1704	1705	1706	1707	1708	1709
3	3	3	3	3	3	3	3	3	4	4	7
1	1	1	2	2	2	2	2	2	3	3	3
1	1	0	0	0	0	0	0	0	0	0	0
2	2	2	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	1	1	1	1	1	1	1	1
?	1	1	1	1	1	1	1	1	1	1	1

music at San Petronio did not diminish. Instead, the musicians who had been scattered throughout Europe disseminated and even increased the reputation of the instrumental music at Bologna. In 1701 Perti was able to revive the regular orchestra at San Petronio, and several of the great Bolognese musicians, including Torelli, returned.<sup>60</sup>

Table 2 lists the maximum number of instrumentalists employed annually from 1686 until Torelli's death in 1709. A characteristic again obvious in the instrumentation of the regular orchestra at San Petronio is that, before the orchestra was disbanded in 1696, the greatest number of instruments was used to play the basso continuo; whereas after the reorganization of the orchestra in 1701, the proportion of continuo instruments steadily decreased. This decrease in the proportion of continuo instruments around 1700 was not peculiar to Bologna, but

was common to orchestras throughout Italy, and may well have been the result of an increased preoccupation with the virtuoso potential of treble instruments.

Although the regular orchestra was of a modest size, the number of permanent employees was greatly augmented for musical events on special feast days. Besides Easter, the most lavish festival in Bologna was the feast of Saint Petronius on 4 October. For such special occasions, a large number of extra musicians was hired, many of them members of the local *Accademia Filarmonica*, a combination of musicians' union and honorary fraternity of great prestige. Before the regular orchestra was disbanded in 1696, the lists of payment to extra musicians did not always specify the instruments played. Although the exact size and instrumentation of the orchestras for these special festivals is uncertain, the numbers of musicians in Table 3 have been estimated for the feasts of Saint Petronius in 1687 and 1694.

After the regular orchestra was dismissed, however, more accurate records were kept. Table 4 gives the total number of performers hired for the annual feasts of Saint Petronius from 1701, when the regular orchestra was reorganized, until 1708, the last patronal feast before Torelli's death. The festival orchestra grew steadily in size from 46 performers in 1701 to 63 performers in 1708.

Great expenses were incurred in the production of these festive extravaganzas. According to the records of payment, the extra funds allocated for the yearly patronal feast increased from approximately 680 lire to approximately 825 lire in the five years from 1701 to 1706.<sup>61</sup> This money was used for such items as wine, the construction of decorations, the transportation of two extra positive organs into the cantoria,<sup>62</sup> and the payment of musicians. The magnitude of this expense can be realized by noting that Giuseppe Torelli's salary for the occasion was approximately 2 lire,<sup>63</sup> a typical musician's fee for such an event.

Another method of inferring the size of the orchestra used for special occasions at San Petronio is to examine the manuscript parts of certain large-scale works written for performance in the church. The

TABLE 3.—Instrumentation for special festivals of Saint Petronius (all figures estimated; from Schnoebelen, "The Concerted Mass," page 315)

Instrument	1687 1694		Instrument	1687 1694	
	Violin.....	10		10	Trombone.....
Viola.....	4	7	Trumpet.....	4	2
Tenor Viola.....	1	1	Organ.....	4	4
Violoncello.....	4	3	Theorbo.....	3	5
Violone.....	3	6	Cornetto.....	1	2

TABLE 4.—Instrumentation for special festivals of Saint Petronius (data from Bologna, "Liste e Ricevute" and "Mandati mensili")

Instrument	1701 1702 1703 1704 1705 1706 1707 1708								
	Violin.....	11	14	14	15	14	13	17	19
Viola.....	8	10	10	12	12	13	11	14	
Violoncello.....	5	5	6	5	6	6	6	6	
Violone.....	5	5	5	5	5	5	4	5	
Trombone.....	6	6	6	6	6	7	6	6	
Theorbo.....	1	1	1	1	1	1	2	2	
Organ.....	4	4	5	4	4	4	4	4	
Trumpet.....	2	2	2	2	2	2	2	2	
Cornetto.....	4	3	3	3	3	2	3	4	
Oboe.....	0	1	1	1	1	0	1	1	

appendix that concludes this monograph catalogues the scores and parts of certain manuscripts by Torelli still preserved at San Petronio. By examining the extant manuscript parts for these festival compositions, one may infer the size and instrumentation of the orchestra originally

used to perform these works. One composition of particular interest is Torelli's Sonata for four trumpets and orchestra, catalogued as D.X.16 in the musical archive at San Petronio. Table 5 enumerates the individual parts for this work. Even if only one player read from each part, this composition would require an orchestra of thirty-seven performers, assuming that the usual theorbo and organ were added to the continuo. If each of the ripieno string parts were read by two performers, as may well have been the practice on some occasions, the orchestra would have included sixty-four members. Moreover, the grand ensemble would have numbered seventy-one musicians if the continuo were augmented to include four organs, two theorbos, and six trombones, as the size of some festival orchestras suggests.

Another interesting festival composition is Torelli's *Sinfonia con Trombe e due Oboe e quatro Violini Obligati e quatro Violette Obigate* (Sinfonia with Trumpets and two Oboes and four Obligato Violins and four Obligato Violas), catalogued as D.VIII.5 in the musical archive at San Petronio. Table 6 lists each of the individual parts that have survived. Again, if each of the ripieno string parts was read by two performers and if the continuo group included two theorbos, four organs, and six trombones, the festival orchestra would have numbered sixty musicians.<sup>64</sup>

The extant parts of both D.X.16 and D.VIII.5 again suggest festival orchestras with high proportions of instruments to play the basso continuo: nearly a third in D.X.16, and even more than a third in D.VIII.5, according to the above estimates. Both records of payment and the surviving manuscript parts show that the continuo bass line normally was reinforced by violoncellos, violones, theorbos, trombones, one or more organs, and, on certain occasions, bassoons, bisonne, and even tenor violas. Although the full orchestra including the entire complement of continuo instruments resounds in the extended tutti sections that permeate almost all of the music composed for San Petronio, the performing forces are reduced for certain solo passages. The basso continuo section of Torelli's *Sonata à 5 con Tromba*, D.VI.3, for example, includes separate manuscript parts for violoncello,

TABLE 5.—Number of parts for Torelli's Sonata D.X.16

Part	No. of copies	Part	No. of copies
Trumpet I. ....	1	Viola II. ....	4
Trumpet II. ....	1	Violoncello ripieno. ....	4
Trumpet III. ....	1	Violoncello continuo. ....	2
Trumpet IV. ....	1	Violone. ....	2
Violin I. ....	5	Violone ripieno. ....	1
Violin II. ....	4	Trombone. ....	3
Viola I. ....	5	Bisone. ....	1

TABLE 6.—Number of parts for Torelli's Sinfonia D. VIII.5

Part	No. of copies	Part	No. of copies
Trumpet I. ....	1	Viola I [ripieno] ....	1
Trumpet II. ....	1	Viola II [ripieno] ....	1
Oboe I. ....	1	Violoncello I. ....	2
Oboe II. ....	1	Violoncello II. ....	2
Violin I concertino. ....	1	Violone. ....	3
Violin II concertino. ....	1	Violone continuo. ....	3
Violin III concertino. ....	1	Trombone. ....	2
Violin IV concertino. ....	1	Trombone I. ....	2
Violin I [ripieno]. ....	5	Trombone II. ....	1
Violin II [ripieno]. ....	4	Theorbo continuo. ....	1
Viola I concertino. ....	2	Organ. ....	1
Viola II concertino. ....	2	Organ I. ....	1
Viola III concertino. ....	1	Organ II. ....	1
Viola IV concertino. ....	1		

violoncello ripieno, violone, violone ripieno, theorbo, and organ. In the trumpeter solo that begins the final allegro, however, the continuo is reduced to a single cello, violone, theorbo, and organ, preparing for an impressive entrance of the ripieno strings at the end of the second measure. In the initial Grave of the same composition, Torelli reduces the continuo even further by omitting the cello during the opening violin solo.

Certain other works exhibit intricate effects of orchestration, especially in the selective use of continuo instruments. In Torelli's *Sinfonia à 4*, D.IX.1, for example, the extant parts suggest that certain bass instruments are used continuously (violoncello, violone, theorbo, and organ), certain others are used somewhat more selectively (bassoon and violone ripieno), whereas the full bass section (with trombones and timpani) is reserved for the spectacular tuttis that punctuate both the opening and closing movements.

Despite such selective use of bass instruments in certain compositions, basso continuo sections in general at San Petronio appear to have been extraordinarily large by those proportions normally associated with later baroque orchestral music. This seemingly disproportionate band of lower instruments may well have been an adjustment to the acoustics of San Petronio, renowned for immense reverberation, both in intensity and in duration. The splendid tapestries and draperies that adorned the basilica on such special feast days as that depicted on the cover may have been hung as much for acoustic as for artistic reasons. The powerful echoes of the church exaggerated the prominence of treble instruments, which, therefore, had to be balanced by a heavily reinforced bass.

This explanation is supported in that other Italian churches, also famous for acoustic vitality, assembled orchestras with similar proportions. Legrenzi's orchestra at San Marco in Venice, for example, included thirty-four instruments in 1685, approximately a third of which played the continuo (Table 7). Similarly in Rome, Arcangelo Corelli's orchestra at San Lorenzo in Damaso included a comparable continuo force in 1692 (Table 8).

TABLE 7.—Number of instruments in Legrenzi's orchestra at San Marco in 1685  
(data from Caffi, *Storia della Musica*, vol. 2, page 60)

Instrument	No.	Instrument	No.
Cornetto.....	2	Violone.....	3
Violin.....	8	Theorbo.....	4
Violetta [viola].....	11	Bassoon.....	1
Violas da braccio [tenor viola?].	2	Trombone.....	3

TABLE 8.—Number of instruments in Corelli's orchestra at San Lorenzo in Damaso  
in 1692 (data from Schnoebelen, "Performance Practices," page 45)

Instrument	No.	Instrument	No.
Violin.....	17	Contrabass.....	4
Violetta.....	4	Lute.....	3
Violone.....	7	Trumpet.....	2

The unusual reverberation of San Petronio not only appears to have influenced instrumentation, but also may well have influenced the practice of embellishment and ornamentation. Many of the slow movements written for the church consist of homorhythmic chords in quarter notes or half notes. Such chordal slow movements are not only characteristic of Torelli, but also of his colleagues at San Petronio, such as Domenico Gabrielli, Giacomo Perti, and Giuseppe Jacchini. In locations less reverberant than San Petronio, improvised embellishments may be appropriate in modern performances of such slow movements, especially if a small orchestra is used and if a harpsichord plays

the continuo; but ornamentation may have been omitted during performances in San Petronio as an adjustment to the unusual resonance that amplifies the sound of treble instruments. Intricate embellishments probably would have been lost in the extreme reverberation of the basilica.

## The Placement of the Orchestra

A few documents provide valuable information about the placement of musicians during performances at San Petronio. One such document, shown in color on the front cover, is a miniature watercolor depicting the dispersion of clerics, musicians, and guests in the cappella maggiore during the feast of Saint Petronius in 1722. This is one of a set of paintings called "*insignie*" preserved in the Archivio di Stato in Bologna. The artist has faithfully shown the two organs and the semicircular cantoria, filled with approximately sixty musicians—although 141 musicians were actually paid for this particular feast according to the church records.<sup>65</sup> One can see singers standing on both sides in the cantoria, from the front to slightly beyond the organ cases. The instrumentalists seem to be grouped at the rear of the cantoria with theorbo players next to the two large columns at either end. Two musicians are standing behind the theorbo player at the right (Figure 27), with the large violas or cellos projecting over their right shoulders. Another violist (or cellist) is shown behind the theorbo player at the left (Figure 28). This awkward pose may not represent the actual playing position of these instruments, but may well be the invention of an artist who was especially anxious to display the instruments. At the rear of the cantoria (Figure 29), fifteen violinists are clearly depicted, seven on the lower level, and eight above them at the front of the large semicircular platform that covers the entire rear of the apse. Although few musicians are pictured here, this raised platform is large enough to hold comfortably more than fifty





FIGURE 27.—Detail of cover: musicians of the cappella maggiore of San Petronio during the feast of Saint Petronio in 1722. (Bologna, Archivio di Stato)



FIGURE 28.—Detail of cover.

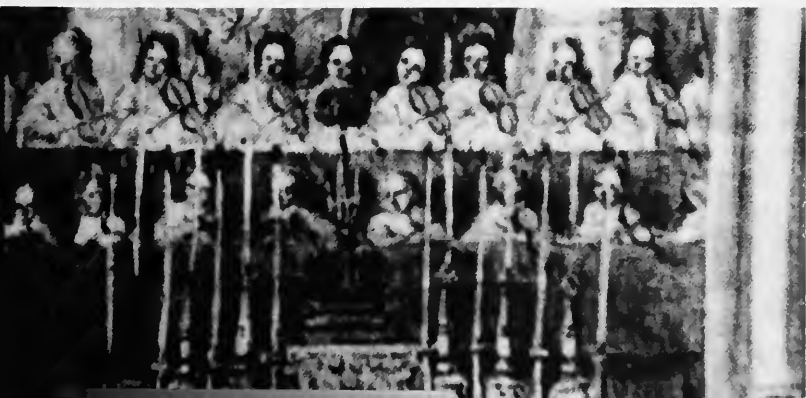


FIGURE 29.—Detail of cover.

instrumentalists. This miniature not only shows that there were two organs, but also suggests that several of the other continuo instruments were split into two separate groups, placed on opposite sides of the cantoria. In the picture, the higher string instruments are grouped together at the rear of the cantoria.

Another important document is a seating chart for musicians at San Petronio written in Perti's hand on the back of an otherwise inconsequential letter, dated 24 October 1700. The chart lists two columns of names according to several categories: sopranos, contraltos, tenors, basses, and instrumentalists. The names in the column at the right were probably those to be seated on the west end of the cantoria listed in order from front to back; whereas those in the left column were probably to be seated on the east.<sup>66</sup> Since the following instrumentalists or instruments are listed after the singers, the instrumentalists probably were placed at the rear of the cantoria:

Violette 7	Otto Violini
Bergamini (trombone)	Vanti (trombone)
Scarfaglia (trombone)	Bissone
Simincini (violoncello)	Jachini (violoncello)
Pesci (violone)	D. Vincenzo (violone)

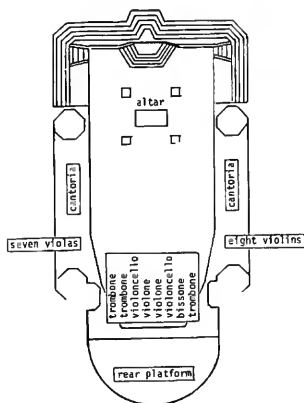


FIGURE 30.—A possible arrangement of instruments according to Perti's seating chart.

Figure 30 is a possible graphic representation of Perti's chart with the violins and violas on opposite sides of the cantoria and the continuo instruments at the rear. One may infer, however, that the seating arrangements were probably flexible, in that another document, preserved in the Archivio della Fabbrica di San Petronio, indicates the placement of singers "on the west side near the old organ" with instrumentalists on the east "near the new organ."<sup>67</sup>

Still other possible arrangements of instruments are suggested by the manuscript sources of works composed for San Petronio. Such compositions as Torelli's Concerto D.IX.3 (Figure 31) or his Sonata D.VI.5 (Figure 32) are set for two separate orchestras. These compositions may well have been performed with the two opposing orchestral groups on opposite sides of the cantoria. Several of the other works,

*Concerto à 2 Horni con Trombe.* *T. Torelli*

FIGURE 31.—The opening of Torelli's Concerto, D.IX.3, for split orchestra. (Bologna, Archivio di San Petronio)

*Grave*

FIGURE 32.—The opening of the Grave of Torelli's Sonata, D.VI.5, for split orchestra. (Bologna, Archivio di San Petronio)



FIGURE 33.—The opening of the second movement of Torelli's Concerto, D.VII.7, for two trumpets and orchestra. (Bologna, Archivio di San Petronio)

set for two trumpets, four trumpets, or two trumpets and two oboes with orchestra (see appendix) may have been performed with still other variations in instrumental placement. Works with two trumpets, such as Torelli's Concerto D.VII.7 (Figure 33), may have used one trumpet on each side of the cantoria; those for four trumpets may well have used two on each side. The works with two trumpets and two oboes would most likely have been performed with the trumpets on one side and the oboes on the other, since the pair of oboes frequently imitates the pair of trumpets in an echo effect. An examination of the following appendix will once more prove valuable; the manuscript sources of Torelli's festival compositions suggest still more possible variations in the placement of performers at San Petronio.

# Appendix

## A Catalogue of Manuscripts at San Petronio, the Sources of Torelli's Festival Compositions with Trumpet

Of the impressive list of composers employed in the orchestra at San Petronio during the Baroque era, Giuseppe Torelli probably has enjoyed the most enduring reputation. Of Torelli's music preserved in manuscript in the musical archive at San Petronio, more than half is scored for an ensemble of strings with one or more trumpets. Since trumpeters never were included among the permanent members of the resident orchestra, it may be inferred that Torelli's trumpet works were intended to be performed at such special festivals as Easter or the Feast of Saint Petronius, when trumpeters were added to the ensemble. The following catalogue of Torelli's trumpet music is particularly interesting in the inferences that may be drawn from the manuscript parts about the size and instrumentation of the orchestras intended for these works.

The tables list the manuscripts according to their present catalogue numbers in the Archivio di San Petronio.<sup>68</sup> The catalogue number for each composition consists of three parts: a capital letter "D," which has been chosen in the archive as the symbol for instrumental music; a Roman numeral, which indicates the number of the box in which the piece is contained; and an arabic number, which indicates the position in the box. This three-part catalogue number is shown as the first item and is followed by the number (if any) assigned by Franz Giegling in his thematic index of Torelli's works.<sup>69</sup>

In the second column, the title of the composition is listed with the original spelling and punctuation. The most complete version of the title is used, and the name of the part that bears this version is shown in parentheses. In the next column, information about the individual parts is included. The word "Copyist" or "Autograph"<sup>70</sup> indicates the scribe and is followed by the dimensions of the manuscript pages to the nearest half centimeter. The first dimension given is the height, the second the width, and the individual parts are listed according to scribe and dimensions. The Arabic number preceding the abbreviation for a part indicates the number of extant copies of that part. The Roman numeral following the abbreviation indicates "Primo," "Secondo," etc., so that Vn. I, for example, is "Violino Primo" (First Violin). In a final column, similar information is included about the score, if any.

The two pieces that are duplicated in the Dresden Landesbibliothek, D.VI.1 (Table A) and D.X.16 (Table C), have been marked with an asterisk (\*), and parallel information about the Dresden sources is included in footnotes.

The manuscripts are listed according to five categories: works for one trumpet and orchestra (Table A); works for two trumpets and orchestra (Table B); the work for four trumpets and orchestra (Table C); works for trumpets, oboes, and orchestra (Table D); and works with missing parts (Table E). The abbreviations that are used in the tables are as follows:

B.C.	Basso Continuo	spezz.	spezzato
Bss.	Basso	Tr.	Tromba
Cmb.	Cembalo	Trb.	Tiorba
conc.	concertino	Trmb.	Trombone
cont.	continuo	Va.	Viola
mvt.	movement	Vc.	Violoncello
Ob.	Oboe	Vn.	Violin
Org.	Organo	Vne.	Violone
rip.	ripieno	w/o	without

Some of the manuscripts reveal more than one version of instrumentation. For example, only one trumpet is specified in the autograph score of D.VI.7 (Table A), although there is a separate autograph part for "2a Tromba ad libitum," which provides a complementary part in homorhythmic relationship to the original trumpet part. Even though no score is extant for D.VI.8 (Table B), the title, *Sinfonia Con Tromba è Violini Del Sig.r Gioseppe Torelli*, implies that the piece originally had only one trumpet part instead of the two that are prescribed. This assumption is further supported in that the second trumpet part was copied by a different scribe than the one who copied most of the other parts. The titles of D.VI.9 (*Sinfonia con due Trombe . . .*) and D.VII.1 (*Sinfonia con 2. Trombe . . .*) imply that both were originally scored for two trumpets, as shown in Table B. In addition to the two separate trumpet parts, however, each work has a third part, designated simply "Tromba," which is a condensation of the two trumpet parts. Moreover, the condensed Tromba part of D.VI.9, which is in Torelli's hand, is smaller in size than the other parts, and, therefore, may well have been copied at a different time.

The autograph score of D.VIII.1 (Table D) appears to have been scored originally for two trumpets and orchestra, without oboes. Throughout the score, however, the two trumpet parts have been marked (in a pen stroke lighter than that used originally) with the words "*Trombe*" and "*Oboe*" to indicate that the parts originally composed for trumpets alone should be assigned to alternating pairs of trumpets and oboes. The extant parts for D.VIII.1 support this interpretation of the score. The autograph versions of Tromba I and Tromba II include all of the music originally assigned to the trumpets, whereas the parts for Tromba I, Tromba II, Oboe I, and Oboe II, transcribed by a copyist, correspond to the version for alternating pairs of trumpets and oboes.

The autograph score of D.VIII.2 includes four separate staves for the two trumpets and the two oboes. The instrumentation of the score is duplicated in the parts for Tromba I and Tromba II and Oboe I and Oboe II, which were transcribed by a copyist. Included among the

manuscript parts, however, are autograph parts for Tromba I and Tromba II, which appear to be a condensation of the parts for trumpets and oboes. The scores of both D.VIII.1 and D.VIII.2 end with a pair of brief dance movements, which are not included in any of the parts for either work.

Several movements of the manuscript compositions are not unique, but are used in other works of Torelli and his teacher, Giacomo Perti. Both the third and fourth movements of D.V.10 (Table A), for example, are used as the second and third movements, respectively, of D.VI.4. The first movement of D.VII.4 (Table B) is an altered version of the first movement of the second concerto of Torelli's Opus 5, published in 1692. The third movement of D.IX.2 (Table D) duplicates the final movement of D.IX.3; whereas the first two movements of D.IX.2 are identical not only to the fifth and second movements, respectively, of D.VIII.2, but also to the first and second movement of a *Sinfonia con 4 Trombe e Stromenti di G. A. Perti* (D.X.14 in the San Petronio archive). The last movement of Perti's *Sinfonia* (D.X.14) is identical to the final movement of Torelli's D.X. 16 (Table C).

Two other compositions have movements that are duplicated in the works of Perti. The second, fourth, and fifth movements of D.VII.6 (Table B), for example, are used by Perti as the second, third, and fourth movements, respectively, of the prelude to his cantata *Sdegno Amore* (P.66.1 in the San Petronio archive). Moreover, the first movement of D.VIII.5 duplicates the second movement of Perti's *Sinfonia avanti La Messa a 8 Conciata* (P.1.1. in the archive).



TABLE A.—Works for one trumpet and orchestra

Numbering		Title (with name of part bearing title)	Parts (dimensions in cm)	Score (dimensions in cm)
San Petronio Cat. No.	Giegling Index No.			
D.V.7	G.4	<i>Sinf. à 4-con Tromba, e Violini Unissoni, del Sig. r Giuseppe Torelli. 1693. (organo)</i>	Copyist (29×20.5): Tr., 2Vn.I, 2Vn.II, 2Va., Vc., Vc. spezz., Vne., Org.	None
D.V.8	G.6	<i>Sonata à 5. con Tromba. Di Giuseppe Torelli. (organo)</i>	Autograph I (25×17.5): Tr., Vn.I, Va., Vc.cont., Vne., Org. Copyist (25×17.5): Vn. II, Va., Vne.	None
D.V.9	G.7	<i>Sonata à 5 con Tromba. di Giuseppe Torelli. (organo)</i>	Autograph I (24.5×17.5): Tr., Vn.I, Vn.II, Va., Vc., Org. (21.5×30): Trb. Copyist (24.5×17.5): Va.	None
D.V.10	G.1	<i>Suonata con Strom.<sup>42</sup> è Tromba di Guiseppe Torelli. 1690. (organo)</i>	Copyist (25×18): Tr., Vn.I, Vn.II, Va., Vc., Org.	None
D.V.11	G.10	<i>Sinfonia con Tromba Di Guiseppe Torelli. (organo)</i>	Autograph II (22×30): Tr., Vn.I conc., Vn. II conc., Va., Bss., 2Bss. spezz., Org. Copyist (22×30): 2Vn.I, Vn.II, 5Va., Vc. cont.	None
D.VI.1*	G.9	<i>Sinfonia Con Tromba è Violini Unissoni Di Giuseppe Torelli. (organo)</i>	Autograph II (25×18.5): Vn.I, Va., Vc., Vne. Copyist (25×18.5): Tr., Vn.I conc., Vn. II conc., Vn.II, Va., Org.	None
D.VI.2	G.8	<i>Sinfonia con Tromba. Torelli. (organo)</i>	Autograph II (22×30): Tr., Vn.I conc., Vn.II conc., Va., Vc.cont., Vne.cont., Bss. spezz., Org. Copyist (22×30): 2Vn.I, Vn.II, Va.	None

TABLE A.—Continued

Numbering		Title (with name of part bearing title)	Parts (dimensions in cm)	Score (dimensions in cm)
San Petronio Cat. No.	Giegling Index No.			
D.VI.3	G.5	<i>Sonata à 5 con Tromba. Torelli.</i> (organo)	Autograph I (24×18): Tr., Vn.II, Vn.IIrip., 2Va., Vc., Vc.rip., Vne., 2Vne.rip., Trb., Org. Copyist (24×18): Vn.I, Vn.I rip.	None
D.VI.4	G.2	<i>Sinfonia con Tromba.</i> (score)	Autograph I (24×18): Vc.cont. Copyist (24×18): Tr., Vn.I, Vn.I rip., Vn.II, Vn.II rip., 2Va., Vc. rip., Vne.cont., Vne.rip.	Autograph I and Copyist (23×31)
D.VI.5	G.3	<i>Sonata à 5 con Tromba. di G.*</i> <i>Torelli.</i> (score)	Copyist (24×17.5): with 2nd mvt. divided into 2 choruses: Tr., Vn.I, Vn.II, Vn.III, Vn.IV, Vn.I rip., Vn.II rip., Vn.III rip., Vn.IV rip., 2Va.I, 2Va.2, 4Vc.I, 4Vc.II, 4B.C., Org.I, Org.I cont., Org.II. with 2nd mvt. in 1 chorus: Tr., Vn.I conc., Vn.II conc., Vn.I rip., Vn.II rip., 2Va., 2Vne., Org.	Autograph I and Autograph II (22×30)
D.VI.6	None	<i>Sonata à 5 con Tromba. Di G.*</i> <i>Torelli.</i> (Violone Co.)	Autograph I (25×18): Tr., Vn.I, Vn.II, Vn.III, Vn.IV, 2Va., Vc.cont., Vne.cont., Vne.rip., Org.I. Copyist (25×18): 2Vn.I rip., 2Va., 2Vc., Vc.rip., 2 Trmb., 2 Org.II.	None
D.VI.7	G.11	<i>Sinfonia Con Tromba.</i> (score)	Autograph II (25×18): Tr.II ad libitum, Vn.II. Copyist (25×18): Tr., 2Vn.I, Vn.II, 2Va., 4Vne., Org.	Autograph II (23×31)

TABLE A.—Continued

Numbering		Title (with name of part bearing title)	Parts (dimensions in cm)	Score (dimensions in cm)
San Petronio Cat. No.	Giegling Index No.			
D.X.12	None	<i>Sinfonia avanti l'opera con Tromba. (score)</i>	None	Autograph I and Copyist (22×30.5)

\*A manuscript copy of this composition is also found in the Dresden Landesbibliothek:

Cat. No.: Musica 2035 0.2	<i>Concerto con 2 Violino, 1 Trombe, Viola et Cembalo del Sing<sup>o</sup> Torelly. (cembalo)</i>	Copyist (31×23): Tr., Vn.I, Vn.II, Va., Cmb.	None
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TABLE B.—Works for two trumpets and orchestra

Numbering		Title (with name of part bearing title)	Parts (dimensions in cm)	Score (dimensions in cm)
San Petronio Cat. No.	Giegling Index No.			
D.VI.8	G.16	<i>Sinfonia Con Tromba è Violini Del Sig. r Giuseppe Torelli.</i> (organo)	Autograph I (24.5×18.5): Va. (1st p. and 1st 2 lines of 2nd p.). Copyist (24.5×18.5): Tr., Tr.II, 2Vn.I, 2Vn.II, 3Va., 4Vne., Org.	None
D.VI.9	G.21	<i>Sinfonia con due Trombe et altri Stromenti di Giuseppe Torelli.</i> (organo)	Autograph I (24×18): Tr. (27×19.5): Tr.II, Vn.I (only 1st p. is autograph), Vn.I rip., Vne.rip. (only 1st p. is autograph), Org. Copyist (27×19.5) (all headings are autograph): Tr.I, Vn.I, 2Vn.II, Vn.I rip., 3Vn.II rip., 4Va., 4Va.rip., Vc.cont., 3Vc.rip., 3Vne.cont., 4Vne.rip.	None
D.VII.1	G.22	<i>Sinfonia con 2. Trombe, è Instrumenti di Giuseppe Torrelli.</i> (organo)	Copyist (25×18): Tr., Tr.I, Tr.II, Vn., Vn.I" ", Vn.II" . . .", Vn.II" . . .", 2Vn.I, 2Vn.II, 4Va.I, 4Va.II, 2Vc.I, 2Vc.II, Vc.cont., 2Vne.II, 2Vne.cont., Org., Org.II.	None
D.VII.2	G.17	<i>Sinfonia con due Trombe di G. e T.</i> (violoncello)	Copyist (27×19): Tr.I, Tr.II, Vn.I conc., 2Vn.I, 5Vn.II, 7Va., Vc., 6Vc.spezz., 3Vne., Org., Org. II. (25×18): Org.II.	None
D.VII.3	G.19	<i>Sinfonia-con 2 Trombe, è Violini Unisoni. Torelli.</i> (score)	Copyist (25×19): Tr.I, Tr.II, Vn.I conc., 6Vn.I, 3Vn.II, 6Va., Vc., 4Vc.spezz., 3Vne., Org.	Autograph II (22×30)

TABLE B.—Continued

Numbering		Title (with name of part bearing title)	Parts (dimensions in cm)	Score (dimensions in cm)
San Petronio Cat. No.	Giegling Index No.			
D.VII.4	G.15	<i>Sonata à 5-due Trombe, e V.V. unisoni del Sig. Giuseppe Torelli. 1692. (basso continuo)</i>	Copyist (24.5×18): Tr.I, Tr.II, 2Vn.I, 2Vn.II, 2Vn.I-rip., 2Vn.II rip., 2Va., 2Va.rip., Vc.rip., 4"rip"-(Vc.), 2Vne.cont., Vne.rip., B.C., Trb., Org.II. (25.5×19): Org.II.	None
D.VII.5	G.23	<i>I:N:D: Sinfonia con due Trombe. Torelli. (score)</i>	Autograph II (22×30): Tr.I, Tr.II, Vn.I conc., Vn.II conc., Vn.I rip., Va., Va. (only 1st p. is autograph), 2Vc., Vne., Org. Copyist (22×30): 3Vn.I rip., 4Vn.II rip., 4Va., 5Vc.spezz., Vne.	Autograph II (22×30)
D.VII.6	G.20	<i>Sinfonia con due Trombe e VV. di G. e Torelli. (unmarked B.C.)</i>	Copyist (25×18.5): Tr.I, Tr.II. (26.5×20): Vn.I conc., Vn.II conc., 4Vn.I, 4Vn.II, 7Va., 2Vc.I, 2Vc.II, 2Vne.I, 2Vne.II, Trb., (unmarked) B.C.	Autograph II (22×30)
D.VII.7	G.18	<i>Concerto con 2 trombe Torelli. (score)</i>	None	Autograph II (22×30)
D.VII.8	None	<i>Concerto Con due Trombe è Strom.ti Di G. e Torelli. (organo)</i>	Copyist (25×18): Tr.I, Tr.II, Vn.I" T", Vn.I" B", Vn.I" V", Vn.I" M", 4Vn.I, 8Va., 3Vc., 2Vne., 2Bss., Org.	None

\*Items in quotation marks are exact designations on the original manuscripts. Their meaning is not certain.

TABLE C.—Work for four trumpets and orchestra

Numbering		Title (with name of part bearing title)	Parts (dimensions in cm)	Score (dimensions in cm)
San Petronio Cat. No.	Giegling Index No.			
D.X.16*	None	<i>Sonata à 4-Trombe</i> (score)	Autograph II (26.5×19): Vn.I, Va.II Copyist (26.5×19): Tr.I, Tr.II, Tr.III, Tr.IV, 4Vn.I, 4Vn.II, Va., 4Va.I, 3Va.II, Vc., Vc.cont., 4Vc.rip., 2Vne., Vne.rip., 3Trmb., Bisone	Copyist (18.5×25.5)

\*A manuscript copy of the first three movements of this composition is also found in the Dresden Landesbibliothek:

Cat. No.: Musica 2035 N.1	<i>Sinfonia VV<sup>ni</sup> 4 Tromb. Viola e Basso. Del Sigr. Torelli</i> (cover)	Copyist (22.5×30.5 cm.): Tr.I, Tr.II, Tr.III, Tr.IV, Vn.I, Vn.II, Va., Cmbl.	None
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TABLE D.—Works for trumpets, oboes, and orchestra

Numbering		Title (with name of part bearing title)	Parts (dimensions in cm)	Score (dimensions in cm)
San Petronio Cat. No.	Giegling Index No.			
D.VIII.1	G.26	<i>Sinfonia con Tromba di G. e Torelli.</i> (organo)	Autograph II (27×19): Tr.I, Tr.II, Vn.I, 2Vn.II, 2Va., Vc., Vne., Org. Copyist (26.5×19): Tr.I, Tr.II, Ob.I, Ob.II, Vn.I. (24.5×18): 2Vc.spez.	Autograph II (23×30.5)

TABLE D.—Continued

Numbering		Title (with name of part bearing title)	Parts (dimensions in cm)	Score (dimensions in cm)
San Petronio Cat. No.	Giegling Index No.			
D.VIII.2	G.27	<i>Concerto con Trombe, Oboe, e Violini-Torelli. "Per il Sig: Co: Cicholini." (score)</i>	Autograph II (26.5×19): Tr.I, Tr.II, Copyist (26.5×19): Tr.I, Tr.II, Ob.I, Ob.II, 3Vn.I, Vn.II, 3Va., 2Vc., 2Vc.rip., 2Vne., Org.	Autograph II (23×30.5) (last 2 mvt. are not auto- graph and are not included in parts)
D.VIII.3	G.29	<i>Sinfonia con Trombe Oboe, et altri Stromenti per L' Accademia del 1707. (score)</i>	Autograph II (27×19): Tr.I, Tr.II, Ob.I, Ob.II, Vn."obbligato," 2Vn.I, 3Vn.II, 3Va., Vc.cont., Vne.cont., 2Vne., Trmb., Bss., Org. Copyist (27×19): 3Vn.I, 3Vn.II, 5Va., 3Trmb., 2Bss., 3Org.II.	Autograph II (30×22)
D.VIII.4	G.30	<i>Sinfonia con Obois Trombe, e Violini Di G. e Torelli. (organo)</i>	Copyist (22×30.5): Tr.I, Tr.II, Ob.I, Ob.II, Vn.I-conc."Torelli", Vn.II conc.-"sig:r Girolamo Laurinti," 2Vn.I rip., 2Vn.II rip., 4Va., Vc.I, Vc.II, Vc.rip., 2Vne.rip., Org.	None
D.VIII.5	G.31	<i>Sinfonia con Trombe e due Oboe e quattro Violini Obligate e quattro Violette Obligate Del Sig.r Gioseppe Torelli. (organo)</i>	Copyist (25×19): Tr.I, Tr.II, Ob.I, Ob.II, Vn.I conc., Vn.II conc., Vn.III conc., Vn.IV conc., 5 Vn.I, 4Vn.II, 2Va.1 conc., 2Va.II conc., Va.III conc., Va.IV conc., Va.I, Va.II, 2Vc.I, 2Vc.II, 3Vne., 3Vne.cont., 2Trmb., 2Trmb.I, Trmb.II, Trb.cont., Org., Org.I, Org.II.	Autograph II (23×30)

TABLE D.—Continued

Numbering		Title (with name of part bearing title)	Parts (dimensions in cm)	Score (dimensions in cm)
San Petronio Cat. No.	Giegling Index No.			
D.IX.1	G.33	<i>Sinfonia à 4 di G. e Torelli.</i> (tromba I)	Autograph II (22.5×30.5): Tr.I (last mvt. only is autograph), Tr.III, Tr.IV. Copyist (22.5×30.5): Tr.II, Ob.I conc., Ob.II conc., Ob.I, Ob.II, Vn.conc. "per il Sig. Perino," Vn.conc. "per il mio Torellino," 2Vn.I rip., 2Vn.II rip., 4Va., Vc.I, Vc.II, Vne., Vne.rip., Bassoon conc., Bassoon rip., Trmb., Timbal, B.C.	None
D.IX.2	G.28	<i>Concerto Con Trombe, et Oboe di G. e Torelli.</i> (tromba I, coro I)	Copyist (26.5×19.5) (Coro I): Tr.I, Tr.II, 3Vn.I, 3Vn.II, 3Va., 2Vc., 2Vne. (Coro II): 3Vn.I, 3Vn.II, 3Va., 2Vc., 2Vne. (w/o distinction of Coro): 2B.C.	None
D.IX.3	G.32	<i>Concerto à 2 Chori con trombe. Torelli.</i> (score)	Copyist (26.5×19) (with 5 mvt.) (Coro I): Tr.I, Tr.II, Vn.I conc., Vn.II conc., Vn.I rip., Vn.II rip., 3Va., 2Vc., Org.II. (Coro II): Ob.I, Ob.II, Vn.I conc., Vn.II conc., Vn.I rip., Vn.II rip., 3Va., 2Vc., 2Vne., 2Org.III. (w/o distinction of Coro): 2Cont., Org. (25×18.5) (with 7 mvt.) (Coro I): Vn.I conc., Vn.II conc., Va., 2Bss. (Coro II): Vn.I conc., Vn.II conc., Va., 2Bss.	Autograph II (22×30.5)



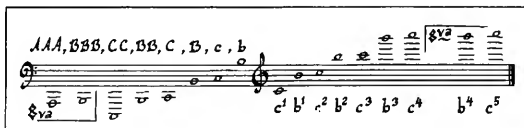
TABLE E.—Works with missing parts

Numbering		Title (with name of part bearing title)	Parts (dimensions in cm)	Score (dimensions in cm)
San Petronio Cat. No.	Giegling Index No.			
D.IX.8	None	<i>Sinfonia con Tromba del Sig. Giuseppe Torelli.</i> (organo)	Copyist (30×22): 2Vn.II, 2Va., Vc., Vc.rip., Vne., Org.	None
D.X.1	None	<i>Sonata à 5 con Tromba di Giuseppe Torelli.</i> (organo)	Autograph I (24×18): Tr., Vn.I rip., Vn.II rip., 2Vc., Vc.rip., Vne.rip., Org.	None
D.X.2	None	<i>Sinf<sup>a</sup> Per L'Accademia 1705 Del Sig. G. e Torelli.</i> (viola)	Copyist (31×22): 7Va.	None
D.X.3	None	<i>Sontata Con Tromba et instromenti.</i> (viola)	Copyist (24×17.5): Va.	None
D.X.9	None	<i>Concertino con quattro Violini Soli che vâ in mezzo alla sinf.a con trombe.</i> (score)	Copyist (22×30): Vn.I, Vn.II, Vn.III, Vn.IV, Vc., Vne., Org.	Autograph I (22×30)

# Notes

(See "Selected Bibliography" for complete citations)

- <sup>1</sup> Gatti, *La Basilica Petroniana*, page 293, document 2A.  
<sup>2</sup> Ibid., page 106: ". . . che egli dovesse fornire suggerimenti generici circa la forma, l'ordine, la disposizione." Translation in text by author.  
<sup>3</sup> Ibid., pages 105–107.  
<sup>4</sup> Ibid., page 47.  
<sup>5</sup> Ibid., figure 18.  
<sup>6</sup> Ubertalli, *Il San Petronio di Bologna*, page vi.  
<sup>7</sup> Gatti, op. cit., page 296, document 2A.  
<sup>8</sup> Ibid., page 246.  
<sup>9</sup> Ibid., pages 120–122.  
<sup>10</sup> Ibid., pages 64–65.  
<sup>11</sup> Ibid., pages 66–67.  
<sup>12</sup> Gatti, op. cit., pages 247–249. Da Prato's organ is discussed later.  
<sup>13</sup> Ibid., page 79.  
<sup>14</sup> Hutchings, *The Baroque Concerto*, page 75.  
<sup>15</sup> Gatti, op. cit., pages 84–88.  
<sup>16</sup> Ubertalli, op. cit., page xv.  
<sup>17</sup> See Zucchini, *Disegni antichi e moderni*.  
<sup>18</sup> Gatti, op. cit., page 247.  
<sup>19</sup> Ibid., figures 59–60.  
<sup>20</sup> Schnoebelen, "Performance Practices at San Petronio," page 38.  
<sup>21</sup> Ubertalli, op. cit., page xv.  
<sup>22</sup> Burns, "The Organs of San Petronio," pages 191–192.  
<sup>23</sup> Zanotti, *La meridiana de tempio di San Petronio*, appendix.  
<sup>24</sup> In a manuscript compiled around 1700, James Talbot of Cambridge specified a soundpost with the "thickness [of a] goosequill." See Donnington, "James Talbot's Manuscript," page 29.  
<sup>25</sup> Bessaraboff, *Ancient European Musical Instruments*, page 306, and Nelson, *The Violin and Viola*, pages 51–71. The following system of pitch notation is used throughout this study:



<sup>26</sup> Jalovec, *Italian Violin Makers*, pages 395, 396, 404, and Hamma, *Meister Italienischer Geigenbaukunst*, pages 686–695.

<sup>27</sup> For comparative dimensions see Hill, *Antonio Stradavari*, pages 291–295, and Nelson, op. cit., page 66.

<sup>28</sup> Roda, *Bows for Musical Instruments*, page 44, and Fétis, *Notice of Anthony Stradavari*, page 112.

<sup>29</sup> Boyden, *The History of Violin Playing*, page 211.

<sup>30</sup> Jalovec, op. cit., page 396.

<sup>31</sup> Praetorius, *Syntagma musicum*, volume 2, part 1, pages 25–26.

<sup>32</sup> Brossard, *A Musical Dictionary*, page 221.

<sup>33</sup> Eisel, *Musicus avrodidakros*, pages 47–51.

<sup>34</sup> Smithers, *The Music and History of the Baroque Trumpet*, page 44.

<sup>35</sup> Bate, *The Trumpet and Trombone*, page 107.

<sup>36</sup> Altenburg, *Versuch*, page 86.

<sup>37</sup> Smithers, op. cit., pages 72–74.

<sup>38</sup> Note Fantini's treatise *Modo per imperare*.

<sup>39</sup> Fétis, *Biographie Universelle*, volume 3, page 181.

<sup>40</sup> Bate, *The Trumpet and Trombone*, pages 109–110.

<sup>41</sup> Altenburg, op. cit., page 12: "die sogenannte Inventions-oder italiänische trompete."

<sup>42</sup> Schnoebelen, "Performance Practices," page 50.

<sup>43</sup> Ibid., page 52.

<sup>44</sup> Giegling, *Giuseppe Torelli*, page 7.

<sup>45</sup> Bate, *The Oboe*, page 3.

<sup>46</sup> Ibid., pages 47–50.

<sup>47</sup> Schnoebelen, "Performance Practices," pages 50–51.

<sup>48</sup> Langwill, *The Bassoon and Contrabassoon*, pages 34–35.

<sup>49</sup> Schnoebelen, "Performance Practices," page 48, and Hutchings, op. cit., page 85.

<sup>50</sup> Praetorius, op. cit., page 27.

<sup>51</sup> Williams, *The European Organ*, pages 206, 207, 209, and Burns, op. cit., pages 191–193. This information was confirmed by Luigi Ferdinando Tagliavini in a conversation with the author on 21 May 1969.

<sup>52</sup> This information is taken from a letter from Tagliavini to the author dated 22 February 1975.

<sup>53</sup> Ibid.

<sup>54</sup> Damerini, "Maurizio Cazzati," page 941.

<sup>55</sup> Although the opus numbers suggest additional publications, only the following are extant: *Canzoni A 3, Doi Violini, e Violone . . . Op. II* (Venetia: Bartolomeo Magni, 1642), and *Il Secondo Libro delle Sonate, A Doi, Tre, e Quattro . . . Op. VIII* (Venetia: Alessandro Vincenti, 1648).

<sup>56</sup> Sartori, "Bologna," page 86.

<sup>57</sup> Paole, "Giovanni Paolo Colonna," page 1565.

<sup>58</sup> *Ibid.*, pages 1565–1566.

<sup>59</sup> Hutchings, *op. cit.*, pages 69–73. The orchestra boasted such composers as Giovanni Maria Bononcini (1624–1648), Giovanni Bononcini (1670–1755), Giovanni Battista Vitali (1644–1692), Tommaso Antonio Vitali (ca. 1655–after 1711), Pietro degli Antonii (1686–1720), Petronio Franceschini (1650–1681), Domenico Gabrielli (1655–1690), Giovanni Battista Bassani (1657–1716), Giuseppe Maria Jacchini (d. 1727), Giuseppe Torelli (1658–1709), Giacomo Antonio Perti (1661–1756), Pirro Albergati (1663–1735), and Giuseppe Aldrovandini (1665–1707).

<sup>60</sup> Vatielli, "Bologna; Musica," page 343.

<sup>61</sup> Exact increases, according to Gaspari, *Miscellanea musicale*, pages 261, 267, were L 680.9.6 and L 823.17.6, respectively.

<sup>62</sup> Schnoebelen, "Performance Practices," page 41. The mass of these organs may be inferred by comparing the cost of lifting the organs into the cantoria (about 3 lire) with that of lifting the double basses (about ½ lire).

<sup>63</sup> Gaspari, *Miscellanea Musicale*, page 261. Torelli's salary was exactly L2.10.

<sup>64</sup> The parts for the concertino Viola I and II were not likely doubled. Although Torelli may well have intended a larger viola ripieno section, the extra parts may have been lost.

<sup>65</sup> Schnoebelen, "Performance Practices," page 39.

<sup>66</sup> *Ibid.*, page 40.

<sup>67</sup> *Ibid.*, page 41.

<sup>68</sup> A former catalogue number appears at least once on each composition, and denotes the old box number where the manuscript was stored until the instrumental music in the archive was rearranged by the archivist, Sergio Paganelli. Most of the manuscripts were stored in the boxes numbered L.1.T., L.2.T., L.3.T., L.14.A, L.15.A, and L.16.A. In the old numbering, "T" was used to indicate that the composition was originally grouped among the works of Torelli; "A" indicated grouping among miscellaneous composers.

<sup>69</sup> Giegling, *Giuseppe Torelli*, pages 79–83.

<sup>70</sup> Since Torelli's autograph manuscripts exhibit two different musical hands, a distinction has been made between "Autograph I" and "Autograph II." Sergio Paganelli is preparing a detailed study of the several copyists of music active at San Petronio during the time of Torelli. Therefore, individual copyists are not distinguished in this table.

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