THE EVOLUTION OF THE BAROQUE ORCHESTRA

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It has become a common convention among historians of music to use the convenient date of 1600 as the beginning of the baroque era. Two of the great stars of renaissance polyphony, Palestrina and Orlando Lasso, had disappeared, and at about the same time, there began a decisive turn from the old, venerable, polyphonic tradition towards a new ideal of expressiveness—monody, a leading melody against a neutral background harmony. The chords of this background harmony were condensed by an ingenious shorthand device, the thorough bass.

The texture of the new baroque phenomena—opera, oratorio, cantata, and the instrumental concerto—was largely based on this new principle of distinction between a protagonist melody and a background harmony. The new approach to musical texture became apparent with surprising swiftness, but if we compare this revolution in musical style with the alteration of its technical tools, the instruments, we cannot find, by any means, so sharp a change.

Only gradually, almost imperceptibly, did the orchestra of the baroque period evolve from the enormous instrumentarium of the Renaissance. The most characteristic aspect of renaissance instruments was their grouping into families, with each family—winds as well as strings—comprising many members of different sizes, each of small compass, corresponding to a range of the human voice, and going from small high-treble instruments to gigantic double basses. There was a bass viol seven and a half feet long and a Gross Bass-Pommer ten feet long. A family of recorders, for instance, was made up of eight sizes and, when used as a choir, included no less than twenty-one instruments—a homogeneous group, perhaps best compared with one of the registers of an organ, consisting of a great number of pipes of the same timbre. The double reeds alone had many families, such as the bass-sanelli, Rauschpfeifen, Schreierpfeifen, cromorni, and sordoni, names already long forgotten by the time of Johann Sebastian Bach. In addition to these choirs of instruments in which polyphony was created by the co-operation of several single-voiced instruments there were also solo instruments which could produce polyphony unaided, such as the keyboard instruments: organ, regal, harpsichord, clavichord, and, to a lesser extent, the many-stringed lutes, viols, and lier da braccio and da gamba.

Seen beside this renaissance heritage the baroque orchestra appears impoverished in number and kind. A process of selection and standardization began, which can best be interpreted as a survival of the fittest or of those instruments which best served either as soloists or as vehicles of background harmony. Thus the large families of reed instruments gradually fell into oblivion. Of the strings those families survived which best met the new stylistic requirements by forming
Lutes. Right, German, late XVI century, Drexel collection. Center and left, German and North Italian, xvIII century. The instruments illustrated on the following pages are presently being shown in the exhibition of Musical Instruments of the Baroque Period and unless otherwise noted are from the Crosby Brown collection.

the instrumental background chorus—which was to become the tutti in the baroque concerto—and the accompanying orchestra in opera. These survivors were the families of the violins and the viols. On the other hand there was a need for solo instruments with a wider compass and greater dynamic and tonal flexibility. Cut of the various types of renaissance double-reed instruments with doubled tubes, such as the kortholts, the sordoni, dolcians, doppioni, and fagotti, evolved the versatile baroque bassoon, furnished with keys and made in separate joints, as we know it in Johann Sebastian Bach’s orchestra. Similarly, out of the family of renais-
Archlutes, or bass lutes, with two sets of strings, open and stopped. Left and center, xviii and xvii century theorbos, used by singers and for chamber music. Right, xvii century chitarrone, used for basso continuo.
Pochettes, or pocket fiddles, early xviii century. Above, French. Below, German pochette d'amore.

LEFT: Lyra viol (viola bastarda). Italian, about 1700. RIGHT: Pandora, with side walls of ebony with ivory stripes. Italian, XVII century
A family of viols, high treble, two treble, alto, large tenor, and bass. European, XVII and XVIII century

Renaissance shawms developed the keyed and jointed oboe of the eighteenth-century orchestra, with its lower-pitched sisters the oboe d’amore, the oboe da caccia, and the English horn. They are all represented in the exhibition by interesting specimens.

The shawm family itself, however, continued to live on in improved and refined form far into the seventeenth century; at its peak it consisted of seven sizes ranging in length from one to ten feet. Such an entire family is included in the exhibition.

Likewise, the family of recorders, consisting of eight sizes in Praetorius’s time, continued throughout the seventeenth century, although it was shrinking slowly. In the exhibition it is represented by a group of five sizes, all now of the jointed type and of typical baroque contour,
and by several ivory recorders, among them a French alto, exquisitely carved and now, after some repair, of a beautiful, velvety tone.

Flauti in the scores of Alessandro Scarlatti, Lully, Bach, and Handel still meant the recorder, not the transverse flute. The latter was one of the few wood-wind instruments that existed in only three sizes in the renaissance orchestra. In its new conical one-keyed form it was to become one of the most expressive and fashionable solo instruments of the eighteenth century, as we know from the amount of music written for it and from numerous treatises written on it from the days of Louis Hotteterre to those of Quantz, the teacher of Frederick the Great, who was a devoted player of the *transversière*.

The transformation of the brass instruments in the baroque period took place in so many different ways in various countries that it cannot be readily summarized. In general, the majestic choir of trombones was inherited unchanged from the Renaissance. The trumpet also persisted, retaining its different registers, the extremely difficult and virtuoso *clarino* and the medium *principale* register. Germany, especially Nuremberg, still retained its importance as the center for making these instruments. Two mid-eighteenth-century German silver trumpets, recently purchased, are to be seen in the exhibition.

The only true newcomer to the brass orchestra of the baroque period grew out of the rather primitive hunting horn by lengthening its tube and narrowing its bore; it was the “lovely-pompous waldhorn,” as Mattheson in 1713 called it, “better and rounder in tone than the deafening and shrieking trumpet.” Two forms of this waldhorn are exhibited.

Another renaissance wind instrument, the *cornetto*, or *zinck*, a wooden or ivory tube with finger holes and a cup-shaped mouthpiece, persisted in general use in its various forms, as *dritto*, *curvo*, *torto*, and *muto*, and in various sizes until the end of the seventeenth century, when it was replaced by the modernized wood winds in the baroque orchestra, the one-keyed transverse flute, the two-keyed oboe, and the three-keyed bassoon. The *cornetto* still occurs in Bach cantatas and in some scores of Gluck’s. The treble *zinck*, which was once so famous for its almost human voice and coloratura technique, succumbed to the solo violin. The Museum’s collection contains all the kinds mentioned; noteworthy especially is a recently purchased early seventeenth-century ivory *cornetto* with gilded mounting and its original mouthpiece. In the early baroque period the *zinck* family developed larger bass members in the undulating form, known as serpents, which were in use in
church music and in military bands far into the nineteenth century, especially in France. Several good examples are on exhibition.

Turning to the stringed instruments and first to the bowed ones, long before 1600 two distinct families had been established—the deep-bodied, many-stringed viols with their silvery, subdued sound and the shallow-bodied, four-stringed violins with their more penetrating timbre. Both persisted in the baroque period, providing, together or alone, the nucleus of the orchestra; the treble violin, moreover, became the prima donna, as one of the leading performers. Of viols the exhibition includes a family of six sizes, one beautiful Italian lyra viol of about 1600, a bass viola da gamba by Joachim Tielcke, Hamburg, 1690, and several German and French viole d'amore by different makers.

The violin is represented by two instruments by Antonius Stradivarius, the “Francesca” of “long pattern,” made in 1694, and the Antonius of “grand pattern,” made in 1717, both the bequest of Annie Bolton Matthews Bryant. A large group of pochettes is also shown, from the Museum’s rich collection of pocket fiddles used by the dancing masters of the seventeenth and eighteenth centuries.

From the end of the fifteenth century the in-
dispensable instrument for house music was the lute, used for solo performances as well as for accompaniment; it is represented by several Italian and German specimens from the late sixteenth to the eighteenth century. Around 1600 the lute acquired larger relatives with an additional set of bass strings, the archlutes; among them are the various forms of the theorbo, portrayed in many Dutch interiors, and the long-necked chitarrone, so frequently used as a striking silhouette in landscapes by Watteau and also shown in the Allegory of Music by La Hire in this Museum. Two theorbos and one chitarrone are included in the exhibition. The many-stringed lute survived as a polyphonic solo instrument in Germany through the partitas of Johann Sebastian Bach and even after Bach's time; but in Latin countries, during the seventeenth century, it was replaced by the sturdier guitar, better suited for the out-of-doors, seen in Watteau's elegiac Mezzetin in this Museum, and in the hands of other Italian comedians in French eighteenth-century paintings. In Spain it was still rivaled by the older, deep-bodied, electron-struck chitarra battente.

Other stringed instruments on exhibition that were fashionable in the baroque period though not strictly parts of the orchestra can only be mentioned here: the hurdy-gurdy (vielle à roue), represented by elegant, courtly specimens as well as rustic ones; a beautiful and extremely rare seventeenth-century pandora; a small mandora with ivory belly; several colascioni and a pandurina; a psaltery and its cousin the dulcimer; and several harps, one of which, made by Martin Eggert in Wertingen in the early eighteenth century, is among the earliest equipped with hooks—the new device for shortening the strings by a semitone.

The stringed keyboard instruments of the Renaissance, the harpsichord in its various forms and the clavichord, persisted in the sixteenth and the seventeenth centuries, gradually being adapted to the new needs. As solo instruments they were still as useful as before for polyphonic pieces, but in addition they became indispensable to provide the continuo, the background harmony essential to the texture of baroque music. The Museum's collection excels in many beautiful specimens, some of the utmost rarity. Only the most important can be mentioned here: the recently purchased spinettino made in 1540 by an anonymous Venetian for Eleonora, Duchess of Urbino, the daughter of Isabella d'Este. Perhaps the most beautiful example that has been preserved, it is in perfect playing condition, lavishly, though discreetly, decorated with carving, intarsia, certosina ornament, and painting. Its particular type of construction served as a model for many generations of instrument-makers during the seventeenth century.

Sound-hole decoration with Pan, from a double virginal by Ludovicus Grovelus. Flemish, 1600

Outstanding for their age and their decoration are two Flemish double virginals, both made in Antwerp in the workshop of that famous dynasty of instrument-makers founded by Hans Ruckers. The first, made by Hans Ruckers himself and dated 1581, is the earliest double virginal in existence. It was probably commissioned by a Spanish connoisseur for the then Spanish Peru, whence it came to the Museum. The second, likewise typically Flemish in its painted decoration, wallpaper embellishments, and beautiful sound-hole ornaments, was made in 1600 by Ludovicus Grovelus. Also in the Flemish tradition is a two-manual clavecin made by Jean Couchet, the nephew of Hans Ruckers, in Antwerp about 1650. Italian harpsichords in the exhibition are represented by several clavi-
Recorder (flute douce) made of ivory, French, XVII century, and a family of German XVIII century recorders, high treble, treble, alto, tenor, and bass. Right, cornetto curvo of ivory, about 1600, with gilded mounting and its original mouthpiece. Purchased with Proceeds from Sale of Objects of Art, 1952
cembali, among them a Roman one with paintings probably by Gaspard Dughet and thought to have been made for the Colonna family, and two single-keyboard instruments by Hieronymus de Zentis, made in Rome in 1658 and 1666. Also on display are several octave spinets, clavichords, a regal, and a small German folding harpsichord like the one that Frederick the Great allegedly carried with him in his campaigns.

A beautifully decorated Bavarian mid-eighteenth-century chamber organ in the exhibition will remind the visitor of the queen of baroque music—the large baroque church organ, the instrument that in its many registers most faithfully retained the many distinct choirs of the renaissance wind orchestra. It is the instrument also that reflects the culmination of baroque craftsmanship and technology, the new achievements in acoustical theory, and, last but not least, the new symbolic theological concept of the universe as the Organon re-created perpetually by its player, the Creator.

There is, finally, another outstanding instrument on display, the priceless pianoforte built in 1721 in Florence by Bartolommeo Cristofori, the inventor of the pianoforte. Evidently this significant invention was stimulated by the powerful dynamic effects employed in Corelli’s concerti grossi in Rome. The harpsichord—like the baroque organ—could change from one level of loudness to another by the operation of its stops. A device was needed to achieve changing volume by degrees, and it was Cristofori who fulfilled this need by building an ingenious hammer action into the body of the harpsichord. The result was the gravicembalo col piano e forte. Curiously enough, this product of baroque technical ingenuity, a tool most capable of serving the baroque ideal of expressiveness, met with little acceptance in its own time—especially in Italy—and not until the compositions of Philipp Emanuel Bach and Joseph Haydn did the piano start on its unbroken road to glory.

Our many thanks go to William Scheide and Emma Reifenberg for their gracious co-operation in lending to the exhibition two extremely interesting portraits of Johann Sebastian Bach. Objects from the Museum’s collections of paintings, prints, renaissance art, and textiles have added much color to the exhibition.
LEFT: Cornetti and serpents, XVII—XVIII centuries. Above, four cornetti diritti and a group of cornetti curvi and torti. Below, bass members of the cornetto family: three serpents and a reproduction of a XVI century corno torto. Cornetti curvi and torti and serpents were usually of wood, covered with leather. ABOVE: XVIII century hunting horns showing two stages of development. The one above, of simple form, was a signal instrument. The other, a four-octave horn of close-coiled form with ten narrow coils, placed in two ranks, was used in the orchestra.
Venetian spinettino, decorated with marquetry inlay, carving, certosina work, and painting. Made in 1540 for Eleonora della Rovere, Duchess of Urbino, the daughter of Isabella d'Este. Pulitzer Bequest Fund, 1953

Double virginal, made by Hans Ruckers in Antwerp and dated 1581. This is the earliest double virginal in existence. The left-hand section, an ottavina, can be removed and played separately. Gift of B. H. Homan, 1929
Detail of the painting on the virginal by Ruckers, showing a musical party, with lutes, flutes, a shawm, and an open lute case on the steps to the right.
Clavicytherium, or upright harpsichord. Italian, xvii century. In the center King David plays a harp; the other paintings show a singer and musicians with cornetto, treble viol, and bass viol.
Chamber organ, with four sets of pipes. German, dated 1758. The painting, by Franz Caspar Hofer, shows Saint Cecilia playing the organ, accompanied by an angel on a bass viola da gamba.
Harpsichord supported by Tritons, with gilded gesso relief showing the procession of Galatea. Large flanking statues of Polyphemus (p. 268) and Galatea complete the design. Roman, xviii century. This harpsichord was once in the famous "Galleria Armonica," Michele Todini's baroque music museum in Rome.
Pianoforte made by Bartolommeo Cristofori in Florence, 1721, the earliest still in existence. Cristofori was the inventor of the hammer action, which permits gradual changes in dynamics by varying finger pressure. This pianoforte has been played in Museum concerts.