

Oxford Music Online

Grove Music Online

Orchestra

article url: <http://www.oxfordmusiconline.com:80/subscriber/article/grove/music/20402>

Orchestra

(It.; Fr. *orchestre*; Ger. *Orchester*).

'Orchestra' has been used in a generic sense to mean any large grouping of instrumentalists. Thus one reads of an Indonesian gamelan orchestra, a Japanese gagaku orchestra, a Chinese drum and gong orchestra, the 'orchestra' of a Renaissance *intermedio*, or even the 'orchestras' of the Old Testament. In this article, 'orchestra' is treated in a specific and historical sense, as a characteristically European institution that arose in the 17th and 18th centuries and subsequently spread to other parts of the world as part of Western cultural influence. Related information will be found in other articles, for example [CONCERT \(II\)](#), [CONDUCTING](#) and [INSTRUMENTATION AND ORCHESTRATION](#); see also [BAND \(I\)](#).

1. Definitions.

Analysis of orchestras from the 18th century to the present reveals a series of interrelated defining traits (Zaslaw, 1988, 1993). (a) Orchestras are based on string instruments of the violin family plus double basses. (b) This core group of bowed strings is organized into sections within which the players usually perform the same notes in unison. This practice of doubling string instruments is carried out unequally: there will almost always be more violins than lower strings. (c) Woodwind, brass and percussion instruments are usually present, in numbers and types differing according to time, place and repertory. (d) Orchestras of a given time, place and repertory usually display considerable standardization of instrumentation. Such standardization facilitates the circulation of repertory among orchestras. (e) Most orchestras are standing organizations with stable personnel, routines of rehearsal and performance, an administrative structure and a budget. (f) Because orchestral music requires many instrumentalists to play the same thing at the same time, orchestras demand a high degree of musical discipline. Such discipline involves unified bowing, the ability to play at sight and strict adherence to the notes on the page. (g) Orchestras are coordinated by means of centralized direction, provided in the 17th and 18th centuries by the first violinist or a keyboard player and since the early 19th century by a conductor.

Instrumental ensembles that manifest all the traits listed above can be designated unequivocally as 'orchestras', wherever they are found and whatever they are called. Ensembles with many but not all of these traits are often called orchestras and can at the least be said to function orchestrally. Orchestras may be further categorized into a number of sub-types, including theatre orchestras, symphony or concert orchestras, string orchestras, chamber orchestras, café or salon orchestras, radio orchestras, studio orchestras and others. This article will give the most attention to theatre orchestras and symphony orchestras.

2. Etymology.

The word 'orchestra', which in ancient Greece and Rome referred to the ground level of an amphitheatre, was revived in the Renaissance to designate the area immediately in front of the stage. In the early 17th century this became a favourite spot to place the instrumentalists who accompanied singing and dancing, and 'orchestra' began to mean 'the place where the musicians sit' (E. Phillips, *The New World of English Words*, London, 1658). By the 18th century the meaning of the word had been extended to the instrumentalists themselves and to their identity as an ensemble (J.-J. Rousseau, *Dictionnaire de musique*, Paris, 1768). Before the word 'orchestra' had established itself in various European languages, a variety of other expressions were used to indicate large ensembles of instrumentalists. In Italian such groups could be called *capella*, *coro*,

concertants, les instruments and *la symphonie*. The use of 'orchestre' or 'orquestre' to refer to an instrumental ensemble rather than a place in the theatre appears in French around 1670 at the latest. In German the term *Kapelle* ('chapel') was widely employed in the 17th and 18th centuries as a name for court, church and private musical establishments, meaning instrumentalists and vocalists taken together. In addition Germans designated instrumental ensembles as *Chor, die Musik, Konzert, Symphonie* and *die Instrumenten*. The use of 'Orchester' in this sense turns up in German by 1713 as a borrowing from the French. In English, too, the word was imported from French around 1700, displacing such words as consort, band, company of musick, the musick, musick-meeting and the violins (Strahle, 1995).

3. Pre- and proto-orchestral ensembles (1500–1700).

In the 16th and 17th centuries instrumental ensembles, some of them quite large, played for ballets and dances, for operas and other dramatic entertainments, for church services and for banquets. The instrumental ensembles of early opera developed out of ensembles for *intermedi* and similar entertainments at 16th-century courts in Italy and France. These might include lutes, viols, violins, flutes, trombones, trumpets, cornetts, keyboard instruments and others, assembled and deployed variously according to the occasion. The principal roles of the instruments seem to have been to double the singers in vocal polyphony and to provide the remaining parts of a polyphonic texture during vocal solos. In dances, *sinfonias* or other interludes the instruments played alone. Descriptions of the Florentine *intermedi* of 1539, 1565, 1589, and 1608 provide examples of this sort of instrumentation (Brown, 1973; Coehlo, 1998). A similar French practice is seen in the *Balet comique de la Roynne* of 1581. The instrumentalists who played for these entertainments were hidden offstage or placed onstage in costume. The scoring for such ensembles has been characterized as 'programmatic': for instance, gods were accompanied by an 'Olympian' ensemble of lutes, viols and harps; flutes, shawms and pipes accompanied pastoral scenes; an 'infernal' grouping of trombones and bass viols evoked the underworld (Weaver, 1961). There seems to have been no notion that a single, standard ensemble should accompany an entire work; instead, groups of musicians with a variety of instruments communicated and reinforced meanings through their costumes and the symbolic associations of their instruments.

During the 17th century, court-sponsored festival operas celebrating occasions of state were accompanied by lavish ensembles of the *intermedi* type, for example in Monteverdi's *Orfeo* (1607, Mantua), *The Triumph of Peace*, a masque for Charles I (1634, London) and Cesti's *Il pomo d'oro* (1668, Vienna). More modestly financed public operas, beginning in Venice in 1637 and soon adopted elsewhere, were accompanied mainly by a small group of strings, harpsichords and lutes, with wind instruments added for special effects. Late 16th- and 17th-century large-scale sacred music was characteristically polychoral and often called for large numbers of instrumentalists. The instruments, however, did not form their own ensemble but were distributed into choirs mixed with the singers, whose parts they usually doubled. Judging from the number of performers, the instruments most often played one-to-a-part. A watercolour by Pierre Paul Sevin of a performance in Rome shows many voices and instruments divided into four similar sized ensembles grouped around four organs. *The Missa salisburgensis*, attributed to Biber, has individual parts for 37 instruments, divided into six ensembles, some mixed with singers, some exclusively instrumental, distributed in various places around the cathedral.

String bands or consorts, made up of viols or violins of several sizes, with four to six players performing one-to-a-part, were popular in many parts of Europe during the 16th and 17th centuries. For balls, weddings, dining in state and similar social events the more penetrating violins were favoured, playing an international repertory of dances, often from memory. By the end of the 16th century Parisian violin bands, which played for civic festivities and also at the court of Louis XIII, had begun to perform their repertory with several instruments to each part. By 1607, 12 string players ('violons') held official appointments as the 'violons du Roi', offices that could be passed on to their sons or sons-in-law or sold outright. A court document of 1618 mentions '24 violons ordinaires', who received a New Year's bonus (Bardet, 1992). The ensemble remained the '24 violons du Roi' for over a century, until it was abolished by royal decree in 1761. Marin Mersenne in 1636 described how the 24 violins were disposed in their characteristic five-part texture: six *dessus* (violins), four



about the same time was cut short by the Interregnum (Holman, 1993). Violin bands, sometimes with several players on the parts, were also assembled at the Spanish court of Naples, in Sweden at Queen Christina's court and in Germany at several courts, including those at Wolfenbüttel, Kassel and Stuttgart. The French violin bands, with violin-family instruments in five sizes, unequal doubling and a repertory of dance music, can be singled out as the origin of the orchestra.

4. Lully and Corelli (1650–1715).

Jean-Baptiste Lully's rise to power at the French court had profound musical implications, not just in France but for all of Europe. In 1653, at the age of 20, Lully was appointed *compositeur de la musique instrumentale*, which made him leader of his own violin band, the Petite Bande (Petits Violons, Violons du Cabinet). In 1664 he was made head of the Grande Bande (the 24 Violons du Roi). In 1672 he took over the Académie Royale de Musique (the Paris Opéra). The Grande Bande had 24, the Petite Bande perhaps 18 string players; for large-scale court performances Lully occasionally combined the two. He could also call upon woodwind players, trumpets and timpani of the Grande Ecurie (musicians attached to the cavalry). When in 1664 Lully pulled together these and additional forces for a multi-day entertainment at Versailles called *Les plaisirs de l'isle enchantée*, he used them in typical pre-orchestral fashion: consorts of like instruments, in costume, joined together on an ad hoc basis (Lemaître, 1991). Ten years later, when Lully produced his opera *Alceste* as well as Molière and Charpentier's *comédie-ballet Le malade imaginaire*, at a similar entertainment, he organized his instrumental forces very differently. The engravings of the 1674 events show large ensembles of bowed and plucked strings placed in two boxes in front of the stage, not in costume but in livery. At the stage apron a man with a short baton, perhaps Lully himself, beats time for the singers and instrumentalists. Much as this looks like an orchestra, it is likely that the bowed strings played only for the overture, entr'actes and dances, while the plucked strings accompanied just the vocal music. Lully's 'orchestra' was famous for its unanimous attack (the *premier coup d'archet*), for using short bowstrokes, for bowing up and down in unison, and for the tastefulness of the ornamentation that the players added to the notes on the page (Zaslaw, 1990, 1993; Kolneder, 1970).

These innovations in instrumental ensembles and ensemble playing made a brilliant impression on visitors to the French court. Princes in neighbouring lands, especially Germany, sought to create Lully-style ensembles at their own courts. They engaged French violinists and oboists for their own Kapellen; they sent German musicians to Paris to learn the new style and bring it back home. In consequence, Lully's orchestral style is best documented in the prefaces to publications by German composers: the *Florilegium I* and *II* by Georg Muffat (Augsburg, 1695; Passau, 1698), J.C.F. Fischer's *Journal de printems* (Stuttgart, 1695) and J.A. Schmierer's *Zodiaci musici* (Augsburg, 1698). The German Lullistes for the most part worked at small courts with limited instrumental resources; only Schmierer discussed string doubling. Lully's ensemble with doubled strings, oboes and bassoon provided an important model of orchestral scoring to several generations of French, English and German composers.

The fashion for large violin bands reached Italy as early as the 1660s. In a *Serenata* by M.A. Cesti, performed at the Florentine court in 1664, the sinfonias were played 'with the instruments doubled following the practice of concerts in France, that is, with six violins, four alto violas, four tenor violas, four bass violas, a contrabass, a high-pitched spinet and a large spinet, one theorbo and one arclute' (Wellesz, 1913–14). In Rome there was no single large-scale employer of musicians comparable to the courts of France or Florence; instead, cardinals, foreign ambassadors, Roman nobles, churches and other institutions each employed a handful of musicians, mainly keyboardists and string players. For important occasions these musicians could be called together to play in a large ensemble under unified leadership. From about 1680 until 1712, the leader of almost all such ensembles was Arcangelo Corelli, who acted as contractor, artistic director, leader (concertmaster) and, not infrequently, composer. In 1687, for instance, Corelli led two public concerts in specially constructed 'theatres' in the Piazza di Spagna, one sponsored by the French ambassador, the other by the Spanish ambassador. Of the first, celebrating the recovery of Louis XIV from an illness, a commentator wrote:

with a beautiful sinfonia of concerted instruments by the famous Arcangelo [Corelli] Bolognese, who had assembled together all the best string players in Rome. Then two vocalists accompanied by the orchestra sang a poem in praise of the King. The audience listened in profound silence.”

For the nameday of the Queen of Spain, the Spanish ambassador put on a specially commissioned *Applauso musicale* by Bernardo Pasquini. An engraving of the performance shows an ensemble of over 60 string players, plus a continuo group of two harpsichords and a pair of archlutes. The ensemble is led by two violinists standing on a raised platform at the far left, presumably Corelli and his assistant, Matteo Fornari (Marx, 1988; Spitzer, 1991). Payrolls for similar occasions confirm that this picture does not exaggerate: Corelli's orchestra often exceeded 40 players, and for oratorios it could grow to more than 70 (Marx, 1968, 1983). Corelli, like Lully, cultivated a high level of orchestral discipline in his ensemble. According to the testimony of Geminiani, ‘Corelli regarded it as essential to the ensemble of a band, that their bows should all move exactly together, all up, or all down; so that at his rehearsals, which constantly preceded every public performance of his concertos, he would immediately stop the band if he discovered one irregular bow’ (*BurneyH*). The repertory of Corelli's orchestra, like Lully's dance music, was printed, disseminated and imitated throughout Europe. His op.6 concerti grossi, in which a large ensemble of massed strings alternated with a small concertino of two violins and cello, became another model of orchestral scoring for the next generation of composers.

5. The birth of the orchestra (1680–1740).

The history of the orchestra from the 17th century to the present involves consideration of how many instruments and of what kinds this ensemble comprised, how these instruments were used, the training and career paths of instrumentalists who performed in orchestras and the roles that orchestras played in society. Such a history shows that local traditions did not always conform with the broader picture. Nonetheless, in many cities and courts between about 1680 and about 1740, parallel changes can be observed in instrumental ensembles: the number of strings (especially violins) increased; the Renaissance wind instruments (cornetts, shawms, curtals etc.) were replaced by French-type ‘Baroque’ recorders, flutes, oboes and bassoons; pairs of horns were added; and a 16' bowed bass instrument joined the orchestra, first as an occasional novelty but eventually as a permanent member. These characteristics began to appear in France and Italy by the 1680s and in Germany and England by 1700. In addition, the organization and performing practices of instrumental ensembles became more ‘orchestral’. Rather than being split into separate ensembles, instrumentalists were gathered into a single group. Instead of playing several instruments with the same range or function, instrumentalists began to specialize on particular instruments. One member of the ensemble, usually a violinist, was designated as leader for purposes of setting tempos in instrumental numbers and deciding on bowing and ornamentation. Finally, orchestras began to call attention to themselves as a central feature of musical events. In the theatre they occupied a prominent place; elsewhere they are displayed on risers, in balconies or on a stage. They played pieces, or long sections of pieces, without singers, and commentators began to note and to compare orchestras and orchestral performances. By the 1730s and 40s the ‘orchestra’ – by that time called by its own name – was recognizable as an institution in most parts of Europe.

6. The Classical orchestra (1740–1815).



Because the orchestral works of Haydn, Mozart and especially of Beethoven were maintained in the repertory as ‘classics’ from the early 19th century onwards, the orchestra for which the Vienna masters composed has come to be known as the ‘Classical’ orchestra. The term may usefully be extended to include orchestras from about 1740 until 1815 or even later. For the first part of this period, from the 1740s to the 1780s, a typical orchestra included

About the Index 



Show related links



Search across all sour

Zürich... horns, one or two bassoons and keyboard continuo (harpsichord or organ). Trumpets and timpani were optional. Violins were divided into two sections of approximately equal size; violas (except in France) were consolidated into a single section, although composers occasionally wrote 'divisi' parts for them. Cellos, double basses, bassoons and keyboard usually played the same *basso* line, although cellos and bassoons had occasional obbligato passages, and the keyboard player added improvised harmonies above the bass. Oboists often played the flute as well, so these instruments could be interchanged but typically did not play simultaneously. This was the orchestra for Italian opera throughout Europe; it was also the typical configuration for spoken theatre, for private and public concerts, for important church services, and for dancing. For special occasions the orchestra could be enlarged by increasing the size of the string sections or even doubling the wind. Unusual instruments could be added for special effects: trombones for underworld scenes, flageolet to imitate birds, clarinet or chalumeau to suggest shepherds. In modest venues, for routine occasions or when money was short, the orchestra could be reduced to pairs of strings or even single players on the four parts, plus oboes and horns (fig.1).

In the theatre the orchestra was placed in front of the stage at floor level, separated from the audience by a rail. In the most common seating plan two long rows of violinists faced one another across double-sided desks which held the music. Oboes, flutes and violas were distributed among the violins, whose parts they often doubled. Italian opera often used two harpsichords, one on the left side, one on the right, each surrounded by a group of cellos, basses and bassoons playing the *bassopart*. Orchestral seating for concerts, oratorios, dances and serenades manifested great variability from one place or one occasion to another (figs.2 [not available online], 3 [not available online], 4 [not available online]). During most of the 18th century, printed orchestral music was typically offered in à 8 format: four string parts plus oboes and horns. This sufficed for an orchestra of 14 to 16 players; for larger orchestras, additional parts were copied out by hand. Similarly orchestral music in manuscript tended to circulate as sets of single parts, with extra parts (doublets) for violins and *basso* copied out as needed.

By the last two decades of the 18th century previously optional or interchangeable instruments, including flutes, clarinets, trumpets and drums, had become indispensable. Thus Haydn, Mozart and Beethoven composed for an orchestra of strings, plus pairs of flutes, oboes, clarinets, bassoons, horns, trumpets and timpani. This may be called the 'high-Classical' orchestra (Zaslaw, 1991). The configuration is found as a general practice, however, only from the 1790s: of Haydn's more than 100 symphonies, only four (nos.99, 100, 103, 104) call for those forces, as do only two (the Paris and the Haffner) of Mozart's more than 50. Beethoven and such contemporaries as Spontini, Méhul and Rossini began to transform this ensemble, giving the double bass its own part, adding a third horn part and sometimes a fourth, and making trombones an obligatory part of the orchestra.

In France, and especially in Paris, orchestral development followed a somewhat different course. The orchestra of the Opéra during the first quarter of the 18th century was still organized as it had been in Lully's day. It was divided into two groups with separate personnel and different roles, a *petit chœur* and a *grand chœur* (La Gorce, 1990). The *petit chœur*, which at the beginning of the period consisted of harpsichords, lutes, theorbos, bass viols and cellos, accompanied song, that is, recitatives, airs and vocal ensembles. The *grand chœur*, a five-part string band plus wind (about 30 instruments in all), played overtures, descriptive symphonies and dance music; it also accompanied choruses. The differentiation between *petit* and *grand chœur* was maintained at the Opéra until 1778, but the make-up of both groups changed. The *petit chœur* added a pair of violins and later one or two flutes to play obbligato parts in songs. In the *grand chœur* the number of violins increased, while the violas decreased. By the 1720s the violins had been divided into firsts and seconds, and there were only two viola parts (*haute-contre* and *taille*); in the 1740s the violas were consolidated into a single section, and the Opéra joined other European orchestras in four-part string scoring. Wind instruments, which before had mainly doubled the strings of the *grand chœur*, were now given more independent parts; horns were added in 1759 and also clarinets, first as supernumeraries (1749), later as regular members of the orchestra (1771). Both the Opéra orchestra and the orchestra of the Concert Spirituel, whose personnel overlapped considerably, were led by a baton-wielding *batteur de mesure*. Other Paris orchestras at the Comédie Française, the Théâtre-Italien, the Concert des Amateurs and La Pouplinière's salon were organized more like Italian and German orchestras, as unitary ensembles with four-part strings and pairs of winds, directed by the first violinist. By the 1780s the large Paris orchestras had come to resemble

The shift from early- to high-Classical orchestra can be seen in two developments found in many orchestral works of the 1780s and 90s: the wind instruments become full and equal participants in the orchestration; and the generic bass line is differentiated into independent parts for bassoons, cellos and double basses. To their earlier functions of doubling or alternating with the strings and sustaining slow-moving harmonies in the *tutti*, the wind add a new role: they participate in the presentation and development of thematic materials. As soloists, in pairs or in other combinations, wind instruments emerge from the orchestral texture and play a bar or two of melody, then relinquish their place to other instruments. This kind of orchestration may have been associated with the rise of specialist wind players, who no longer doubled on several instruments but were virtuosos on a single one. The second development was tied to the decline of the keyboard continuo. As pianos, with their softer tone, replaced harpsichords towards the end of the 18th century, the keyboard instrument became less useful for supplying the harmonies, guiding the singers and directing the instrumental ensemble. Singing, both in the theatre and on the concert stage, was accompanied increasingly by the full orchestra rather than just by continuo. A keyboard instrument often remained in the orchestra as a place from which a composer could supervise the performance, particularly in opera and oratorio. By the last two decades of the 18th century, however, most orchestras (except in France) were directed by the first violinist. With the end of continuo practice, composers started writing separate parts for cello and double bass, creating in effect a five-part string section, although the double basses often doubled the cellos at the octave.

In the 18th century there were few concert halls devoted primarily to orchestral performance; most orchestral concerts took place in theatres, the great halls of palaces and large houses, inns and other public buildings. In the second half of the century many larger cities had public concert series featuring orchestras, such as the Concert Spirituel in Paris, the Grosse Konzert in Leipzig and the Bach-Abel concerts in London. In principle, anyone could purchase a ticket to such concerts, but most concert series maintained a degree of exclusivity by allowing admission only by costly subscription. Many more such events were under private patronage and open to invited audiences only.

7. The Romantic orchestra (1815–1900).

The 19th century saw a tremendous expansion of orchestras and their culture. The number of orchestras in Europe increased several-fold; orchestras themselves grew larger and incorporated new kinds of instruments; orchestras became more widely dispersed geographically and appeared in new venues and new social contexts. During most of the 18th century orchestras had been an accompaniment to and an expression of aristocratic court culture; in the 19th century the orchestra became a central institution of public musical life. Orchestras in different places and different venues came to resemble each other in instrumentation, organization and performing practices. Playing in orchestras became a profession, distinct from other kinds of musical work; newly founded conservatories trained instrumentalists as orchestral musicians, and players' associations (later trade unions) were formed to improve wages and working conditions. Concert orchestras became independent organizations with their own property, administrative structure and income; concert series were organized in most European cities, with multiple series in the larger ones. Orchestral repertory became increasingly distinct from other kinds of music and increasingly standardized; over the course of the 19th century programme planning became dominated by a limited number of canonical or 'classical' works (Weber, 1986). Alongside such classicizing programmes – which often comprised an overture, concerto and symphony – orchestras continued to perform mixed or miscellaneous programmes with large numbers of shorter works, including operatic excerpts and instrumental solos, which were the precursors of 20th-century 'pops' concerts.

19th-century orchestras divide into two principal types: theatre orchestras and concert orchestras. Theatre orchestras played for both spoken theatre and opera, which often shared the same theatre and the same orchestra. Some theatres (for example those in Vienna, Berlin and St Petersburg) were still appendages of a court; their orchestras were court Kapellen and the players civil servants. More commonly theatres were commercial enterprises, and the orchestra was engaged for one season at a time. However, personnel tended to remain stable year after year. Because of this stability and because the theatre was open several nights a week, employment in a theatre

provide only a portion of a musician's living, and concert orchestras shared personnel in most cities with theatre orchestras. As the market for entertainment expanded during the 19th century, other types of orchestra came into being: salon orchestras, café orchestras, dance orchestras, spa orchestras, orchestras in music halls and burlesque houses, and at the beginning of the 20th century in cinemas.

Experimentation and advances in instrument technology during the 19th century led to significant changes in the composition of the orchestra, particularly among the brass. The serpentone, bombardon, ophicleide and cimbasso were added in turn to fortify the lower register of the brass; they were gradually replaced by various forms of tuba, beginning in the 1830s (Meucci, 1996). Even more important was the addition of valves to trumpets and horns, which allowed them to play melodies in their lower and middle registers and to play in various keys. During the first half of the 19th century, valved and natural instruments played side by side in the same orchestras. Wagner, for example, in *Rienzi* (1842, Dresden) calls for two natural trumpets along with two valved cornets, two natural horns along with two valved horns, and both serpent and ophicleide. Woodwind too were redesigned, mainly by adding new keywork, which enabled them to play in any key rapidly and more reliably in tune. Woodwind instruments in new, sometimes extreme registers were added – piccolo, English horn, bass clarinet, double bassoon – but these were usually used only for special effects and played by doublers from the regular wind section. From the 1820s on many orchestras included one or even two harps, often played by women, exceptions in what was otherwise an all-male institution.

Because 19th-century orchestras, especially concert orchestras, continued to play a repertory of symphonies and oratorios from the 18th and early 19th centuries, their structure remained frozen in the pattern of the 'high-Classical' orchestra: five sections of strings, with pairs of wind brass instruments and a small battery of percussion. Keyboard continuo had been eliminated from most orchestras by the second quarter of the 19th century, and opera recitative was accompanied now by the full orchestra or by a solo cello. In the larger opera houses the string sections were expanded for greater volume and the wind were often doubled, with a principal and an assistant on each part; percussion instruments such as cymbals and castanets were added for local colour and special effects. Instrumentalists sometimes appeared on stage in costume as a band (*banda sul palco*, *musique de scène*), usually made up of military instruments like clarinets, cornets, and keyed bugles, with players sometimes borrowed from the local garrison. By using shifting combinations of instruments, opera composers achieved a myriad of orchestral colours and effects. In Wagner's later operas the large orchestra functions as a central element in the drama, setting the scene, hinting at the thoughts and emotions of the characters and commenting on the action through a system of leitmotifs. By the late 19th century the Wagnerian orchestra and Wagnerian techniques of orchestration had made their way into symphonic and concert repertory, for example in the tone poems of Richard Strauss or the symphonies of Bruckner and Mahler.

The biggest structural innovation in 19th-century orchestras was the baton conductor, first in France, where the Opéra and the Concert Spirituel had been directed by time beaters as early as the 18th century, then in Germany, beginning in the 1780s with Reichardt in Berlin and becoming common in German orchestras by the 1820s. English orchestras resisted baton conducting until the 1830s, and some Italian orchestras were still directed by the first violinist as late as the 1860s. Whereas the violin director had led by example, the baton conductor led by directive, communicating with the players through words and gestures rather than through music, although ex-violinists like Habeneck at the Paris Conservatoire kept an instrument handy to illustrate what was wanted. Conductors of the first half of the century did not generally interpret or express the music with the baton but limited themselves in performance to keeping the beat, giving cues and presiding over the ensemble. Soon, however, conductors began to think of themselves (and the public began to think of them) as performers and interpreters, with the entire orchestra as their instrument. 'The members of an orchestra', said Berlioz, 'are like strings, pipes, soundboxes and soundboards of wood or metal – intelligent machines that the conductor plays like an immense piano' (Berlioz, 1843). Wagner, with his controversial and highly influential interpretations of Beethoven's symphonies, introduced into orchestral practice the flexible beat, fluctuating tempos and gradations of dynamics that characterized the playing of such 19th-century instrumental virtuosos as Paganini and Liszt.

Because orchestras functioned in so many different venues and contexts during the 19th century, it is difficult to make useful generalizations about their size. Where the same orchestra can be traced





Berlioz and an assistant conduct massed forces in the Cirque...

orchestra in Dresden and the London Philharmonic all grew from about 60 players in the 1820s to over 90 in the 1890s; on the other hand, the Paris Opéra and the court orchestra at Munich remained about the same size over the same period (Koury, 1986; Mahling, 1971; Ehrlich, 1995). Personnel records do not provide a reliable guide to the size of orchestras, because orchestras normally engaged supernumeraries to meet the requirements of whatever piece they were playing. For festival performances 'monster' orchestras were assembled, a tradition that had already begun in the 18th century with

the Handel Commemoration of 1784 at Westminster Abbey, which advertised 'at least Four Hundred Performers, a more numerous Band than was ever known to be collected in any country, or on any occasion whatever' (Burney, 1785). Not to be outdone, the Viennese mounted a Handel performance in 1812 with an orchestra of 300. Berlioz, in Paris, organized and conducted several mega-concerts during the 1840s: 450 singers and instrumentalists at the Opéra in 1840 for a programme of music by himself, Handel and (more surprisingly) Gluck and Palestrina; over 1000 performers at the Palais de l'Industrie in 1844 at a concert in which five chorus masters and an assistant conducted simultaneously with Berlioz; 350 for a series of four concerts at the Cirque Olympique in 1844 (again with a second conductor, [fig.5](#)). The Handel festivals at the Crystal Palace, London, in 1857 and 1859 featured orchestras of almost 500 instrumentalists accompanying choirs of over 2000 singers (see [LONDON \(I\)](#), [fig.](#)). Instead of projecting the wealth and power of the royal court or an aristocratic patron, these monster orchestras were civic and patriotic displays. In their size and in their coordination of diverse elements, they represented the wealth and the capacities of civil society – the musical and social harmony that people could achieve when they set their minds on a common goal.

The seating arrangements of 19th-century orchestras have been studied in detail (Koury, 1986). During the first quarter of the century opera orchestras abandoned the pattern of long parallel rows ([figs.5](#) and [8](#)) and began to sit in pairs facing the centre and reading from stands rather than desks. The 18th-century system of arranging instruments according to musical function was replaced by a system of seating in sections by type of instrument. Typical arrangements from the first half of the century placed strings on one side, wind on the other; later it became common to split the first violins from the seconds and the woodwind from the brass. Double basses were sometimes dispersed around the orchestra, in an attempt to make the bass line audible to all players, or they were placed in a row either at the back or at the front of the orchestra, a practice about which Verdi complained, saying that it destroyed the sonority of the basses as a section (Harwood, 1986–7). Concert orchestras displayed no widely accepted seating arrangements, varying according to venue, acoustics, repertory and local traditions. Orchestral seating was a subject of great interest to musicians in the first half of the 19th century, and treatises often published diagrams of famous orchestras. They almost always show the violins at the front of the orchestra, facing one another on opposite sides. The wind were often placed on risers, sometimes quite steep, in the rear, with the brass at the very back. Violas, cellos and basses might be found almost anywhere. When there was a chorus, it was placed in front of the orchestra or at the sides. The conductor of a concert orchestra usually stood in the centre of the orchestra, among the instrumentalists; often he faced the audience.



Louis Jullien conducting the 'British Army Quadrille' for orchestra and...

In the first half of the 19th century, the public concert joined opera as a cornerstone of musical life in most European countries. Concert series were usually organized by a society established exclusively for the purpose – sometimes a group of professional musicians, sometimes an organization of musical amateurs. The society engaged an orchestra and became in effect its management, raising money, leasing or building a hall and contracting soloists. Some concert societies continued the 18th-century tradition of keeping venues small and prices high in order to maintain social exclusivity; the

Philharmonic Society in London and the Société des Concerts du Conservatoire in Paris provide examples of such a policy. Others, like Musard's outdoor concerts on the Champs Elysées, and Jullien's Promenade concerts in London, brought orchestras and orchestral music to mass audiences in large venues at low prices. Several orchestras that have remained in existence until the present day originated as concert series in the 19th century. The London Philharmonic was



professionals, many of whom played at the court opera. The Budapest Philharmonic (1853), the Zürich Tonhalle Orchestra (1868), the Berlin Philharmonic (1887), the Concertgebouw Orchestra of Amsterdam (1888) and the Munich Philharmonic (1893) were all founded as concert societies. Other orchestras were established by conductors, acting as musical promoters and entrepreneurs. The most successful and the most notorious was Louis Jullien, who assembled the best players in London during the 1840s for promenade concerts of both modern and 'classical' music, which the public could attend for a modest price (fig.6). Charles Hallé founded the orchestra that still bears his name in Manchester in 1857 to give concerts in the newly built Free Trade Hall, again for large audiences at relatively low prices. Jules Padeloup, in Paris, conducted a Concert Populaire from 1861 to 1884 at the Cirque d'hiver for audiences of up to 5000. An observer for the *Revue des deux mondes* commented in 1884 on the broad appeal of the Padeloup concerts (quoted in Bernard, 1971):

“All levels of society are represented in this multitude. In the parterre you see an elite of connoisseurs and aesthetes; seats in the main amphitheatre are shared by all classes of people; in the upper galleries students from the Latin quarter rub elbows with working men. This whole great attentive crowd holds its breath, waiting for the orchestra's first downbow as if for a revelation from heaven.”

Such audiences heard orchestras in other venues, in theatres, music halls and cafés. But the concerts of Jullien, Hallé and Padeloup brought them a repertory of orchestral 'classics' and presented orchestras and orchestral music not just as entertainment and accompaniment but as an aesthetic and moral experience.

The 19th century also saw the expansion of orchestras beyond Europe. In the 18th century, Spanish and Portuguese missionaries and colonists had assembled orchestras, sometimes composed of Amerindian instrumentalists, to play in church. By the end of the century there were orchestras in theatres and occasionally in concert settings. In the North American colonies, theatres in New York, Philadelphia and Charleston had small orchestras by the 1750s. Immigration, urbanization and the accumulation of wealth in the 19th century created many more opportunities for orchestras. Theatres in Havana, Rio de Janeiro, Mexico City, Buenos Aires, Lima and other cities established permanent orchestras for performances of spoken drama, zarzuela and Italian opera. In the USA too, almost every city had one or more theatres, and almost every theatre had an orchestra, which played for spoken theatre as well as for opera (see [NEW YORK](#), [not available online]). Beginning around the middle of the century concert societies were formed, like the Philharmonic Society and the Euterpean Club in New York, the Handel and Haydn Society in Boston and the Germania Music Society in Baltimore, for the purpose of playing the 'classics' of choral and orchestral music. The New York Philharmonic began in 1842 as a cooperative society of professional musicians. The Boston Symphony was founded in 1881, the Chicago Symphony in 1891, the Cincinnati Symphony in 1894, the Philadelphia Orchestra in 1900. During most of the 19th century American orchestras were composed principally of European emigrants, first English and French, then Germans and Italians. The foremost promoter-conductor of 19th-century America was Theodore Thomas, a German-born violinist who had played in Jullien's orchestra in London, then emigrated to the USA and formed the Theodore Thomas Orchestra in 1862. For almost 30 years Thomas toured with his orchestra, bringing orchestral music to masses of people throughout the country. By the end of the 19th century orchestras in the USA occupied much the same place in public musical life as they did in Europe.

8. The modern orchestra.

Beginning in the late 19th century and increasingly during the first half of the 20th, concert life became dominated by the music of earlier times (see Grotjahn, 1995). One consequence of this development was that modern orchestras retained the instrumentation and the performing practices of 19th-century orchestras. The technical and social changes that have revolutionized other areas of musical life – electric instruments, electronic amplification, computer sound processing, and the i



have been greatly reduced. In theatres, in cafés and at dances orchestras have been replaced by other sorts of ensemble or by recorded sound (Kraft, 1994). Studio orchestras that up until the 1970s recorded background music for films, radio and television have been replaced by electronics. On the other hand, the number of concert orchestras has increased during the course of the 20th century, and the audience these orchestras reaches has increased even more, thanks to tours, radio and television broadcasts and especially to LP and CD recordings. To a great extent the modern orchestra has become a museum, an isolated, self-contained institution dedicated to the preservation and the dissemination of culturally valued artefacts (see Burkholder, 1986).

Of the many new musical instruments that were invented during the late 19th century and the 20th, almost none has found a regular place in the modern orchestra. Saxophones, cornets, flugelhorns and Wagner tubas made brief appearances, then vanished largely. Electronic instruments like the theremin, the ondes martenot, the Moog synthesizer and the electric guitar have been used, sparingly, usually as novelties or for special effects. Tape recorders and computer-generated and/or altered sounds have not moved beyond the status of experiments. The only true expansion of the instrumentarium of the modern orchestra has come in the percussion section, where a large battery accumulated during the 20th century, with many of the instruments borrowed from non-European cultures, for example temple blocks, gongs, maracas, guiro etc.. The piano was also reintroduced into the orchestra, more or less as a member of the percussion section rather than as a harmonic or a continuo instrument.

Although instrumentation remained more or less static during the 20th century, changes in instrument construction and performing practices make modern orchestras sound somewhat different from their predecessors. In the 19th century and the first half of the 20th the necks of string instruments were lengthened, bass bars were reinforced, and the strings were tightened to higher tension. By the middle of the 20th century steel E strings had replaced gut as the norm for orchestral violins. Gut-core lower strings on violins, as well as on violas and cellos, were displaced by strings with steel and later synthetic cores, overwound with metal. These changes increased the volume and brilliance of the string section. In the first quarter of the 20th century orchestral violinists began increasingly to use continuous vibrato, and by the 1930s vibrato had become a normal part of tone quality for string sections. Woodwind players took up vibrato, beginning with French, Russian and American players, followed by the middle of the century by English, Italians and Germans. The fluctuating tempos of the Wagnerian conducting tradition were replaced by the more regular beat of Toscanini and other 'modern' conductors; loose ensemble was replaced by mechanical precision. These changes in orchestral sound and performing practice are documented in recordings from the first half of the 20th century (Philip, 1992). In the second half of the 20th century the orchestral palette was enlarged with 'extended' techniques of instrumental playing: harmonics, microtones, *sul ponticello*, *col legno* etc. in the strings; multiphonics, hypervibrato, flutter tonguing, glissando etc. in the wind.

A minor rebellion against the tradition of the orchestra as it was inherited from the 19th century occurred after World War I with the idea of the 'chamber orchestra', a considerably smaller ensemble, with only a few strings on each part and only selected woodwind and brass. Chamber orchestras represented in part a response to the cost of large orchestras, in part a modernist reaction to what had come to be seen in some circles as the overblown rhetoric of the late Romantic repertory. Chamber orchestras tend to play a bifurcated repertory, comprising old music, much of it from the 18th century, plus specially commissioned works by such composers as Stravinsky, Bartók, Hindemith, Milhaud, Honegger and Britten. A few chamber orchestras maintain themselves as independent ensembles, for example the Basle Chamber Orchestra (founded in 1926), the English Chamber Orchestra (1948), I Musici (1952), the Moscow Chamber Orchestra (1955) and the St Paul Chamber Orchestra (1959). Some chamber orchestras returned to the 18th-century practice of performing without a baton conductor, either out of historicizing motives (I Musici) or for political reasons (Moscow 'Persimfans', 1922–33).

Beginning in the 1970s, a new kind of chamber orchestra made its appearance: the 'early music' or 'period-instrument' orchestra. These orchestras attempt to revive the instruments, the playing techniques and the repertoires of the 17th and 18th centuries. Since they use different instruments from most modern orchestras ('Baroque' violins and bows, two-key clarinets, one-key wooden flutes, harpsichords etc.) and different playing techniques (no or very little vibrato, keyboard or violin ornamentation etc.), period-instrument orchestras tend not to share personnel



Many early music orchestras are ad hoc ensembles, assembled for a recording session or a concert series. However a few, like the Concentus Musicus (Vienna), the Philharmonia Baroque Orchestra (San Francisco) or Tafelmusik (Toronto) have achieved a more stable institutional existence.

Modern symphony orchestras perpetuate the organizational and institutional structures established in the second half of the 19th century. Two basic patterns obtain, one descended from the court orchestra, the other from the concert series. In the first, the orchestra is owned and managed by the state, the municipality or another public entity. Often the sponsor is a state-owned radio station, as for example with the BBC Symphony Orchestra (London) or the Norddeutscher Rundfunk Sinfonieorchester (Hamburg). The musicians have civil service jobs; managers are government or civic functionaries; the instrumentalists often exercise a considerable degree of self-governance. This pattern is typical of continental Europe, Latin America and to some extent Great Britain. The second type of organization prevails in the USA and to a lesser extent in Great Britain. Here the orchestra is an independent, non-profit corporation, run by a lay board of directors and by professional managers who are responsible for day-to-day operations. Under this system government agencies often provide modest subsidies. Orchestras may also be subsidized by private, non-profit foundations, like the Ford Foundation, which between 1966 and 1976 distributed over \$80 million to 61 American orchestras (Hart, 1973). A few orchestras are organized as cooperatives, for example, the Vienna Philharmonic, the London Philharmonic, the London Symphony and the Israel Philharmonic. Here the orchestra is owned and administered by the musicians themselves, though often with a state subsidy and considerable input from professional managers. Under all three systems labour unions play an important role; in almost every major professional orchestra in Europe and North America the musicians are members of a union. The union represents the players in negotiations over wages, hiring practices, job security and working conditions. Rehearsal and concert schedules, recording sessions, travel arrangements, seating order, the hiring of supernumeraries or substitutes, audition protocols and the prerogatives of the conductor are all governed by the provisions of the union regulations or contract.

Most modern orchestra musicians are trained at music conservatories, usually specializing on a primary instrument by their teen years. Upon graduation young instrumentalists may work for a while as freelancers or hold a series of positions in smaller orchestras, attempting with each job change to move up either to a better orchestra or a better position in the section (Faulkner, 1973). However, they tend to settle down at a relatively early age compared with other professions and to play in the same orchestra for the remainder of a career that can last until the age of 70 or older. Although a career as an orchestra musician is not dangerous or physically taxing, surveys of orchestra musicians often find them to be dissatisfied with their profession, their jobs and their careers. This dissatisfaction has been attributed to a variety of factors, including stress of performance, limited scope for individual expression, frustration of soloistic ambitions and hostile relations between players, conductors and management (Schulz, 1981; Faulkner, 1973).

One of the most important developments in the second half of the 20th century has been the entry of women into orchestras. Before that time, although many women were trained as instrumentalists, the only opportunity they had to play in symphony orchestras (except for harpists) was in all-woman orchestras (Neuls-Bates, 1986). During World War II women players in the USA took the places of absent men, and after the war some of them remained, particularly in the string sections and in less famous, less well-paid orchestras. The numbers of women in American and British orchestras increased slowly during the 1950s and 60s, more rapidly in the last quarter of the century. Women entered later into continental orchestras and encountered even more obstacles. Most major German orchestras did not accept women until the 1980s, the Vienna Philharmonic not until the late 1990s. In the mid-1990s, the median proportion of women in major USA orchestras was 36%, in Great Britain and France 30% and in Germany 16% (Dupuis, 1993; Allmendinger and Hackman, 1995). Given the number of women instrumentalists in conservatories and the increasing numbers of women in the workforce, these percentages can be expected to increase.

Another important development in the second half of the 20th century has been the expansion of orchestras and orchestral culture to East Asia. Already in the late 19th century the European community in Hong Kong sponsored concerts by an amateur orchestra, and Shanghai maintained a Municipal Orchestra, staffed exclusively by European instrumentalists. Orchestral music was introduced to Japan as part of the westernizing programme of the Meiji Restoration. The first

concert is said to have been a performance of Beethoven's First Symphony at the School



Orchestra) was founded in Tokyo in 1926. Korean musicians, trained in Japan on Western instruments, gave a few orchestral concerts in Seoul during the 1920s, and in the 1930s an orchestra of Chinese musicians gave concerts in Shanghai. The great period of growth, however, came after World War II, encouraged by Asian musicians studying at European and American conservatories, tours of Western orchestras in Asia and especially by broadcasts and recordings of Western orchestras. By the 1970s there were at least eight professional symphony orchestras in Tokyo, some of them owned by the government, others by private entities, like the Japan Broadcasting Company (NHK) or the Yomiuri Nippon publishing group. The Seoul Philharmonic was founded in 1957; the Taipei City Symphony in 1969; the Hong Kong Philharmonic in 1973; the Singapore Symphony in 1979. In mainland China the Shanghai Philharmonic was reorganized with Chinese personnel, and the Central Philharmonic (Beijing) was founded in 1956. Orchestras were also established at several music conservatories. Although their artistic and social goals were the subject of intense debate and conflict, and although Western works were banned from their repertory during the Cultural Revolution (1966–76), Chinese orchestras survived as institutions. By the 1990s there were Western-style orchestras in most of the major cities of China, with multiple orchestras in Beijing, Shanghai and Hong Kong. In 1987 the Central Philharmonic toured the USA with a programme that included works by Berlioz, Dvořák, Ravel and Shostakovich, as well as works by Chinese composers. In Japan, Korea, Taiwan and even mainland China the orchestral repertory is dominated by the same 'classics' that European and American orchestras play, enriched with a smattering of works by modern Asian composers. A few of these introduce traditional instruments, such as *shakuhaci* (flute), *biwa* (lute), *pipa* (lute) and *erhu* (fiddle) into the orchestra, usually in a solo role rather than as orchestral instruments. It does not seem likely that the expansion into Asia will fundamentally alter the instrumentation or the performing practices of the orchestra. Many Asian instrumentalists, however, have joined European and American orchestras, particularly from the 1960s on and particularly in the string sections.

Contemplation of the future and the fate of the orchestra as an institution has generated a good deal of anguish in the last quarter of the 20th century. The disappearance of orchestras from many venues and contexts where they once played, the concentration of the repertory on a limited number of works composed long ago, the aging of concert audiences, the dependence of orchestras on support from the state or from foundations: all these have led critics to proclaim that the orchestra is dying. On the other hand, the health and vitality of chamber orchestras and period-instrument orchestras, the expansion of orchestras into Asian countries, and the power of recordings to expand the audience and the market for orchestral music all suggest that the orchestra may have a few more years left in it as an institution, perhaps a few more centuries.

Bibliography

General

- A. Carse : *The History of Orchestration* (London, 1925/R)
- P. Bekker : *The Story of the Orchestra* (New York, 1936/R)
- O. Schreiber : *Orchester und Orchesterpraxis in Deutschland zwischen 1780 und 1850* (Berlin, 1938/R)
- R. Nettel : *The Orchestra in England: a Social History* (London, 1946/R)
- S. Borris : *Die grossen Orchester: eine Kulturgeschichte* (Hamburg, 1969)
- H. Raynor : *The Orchestra* (London, 1978)
- J. Peyser, ed.: *The Orchestra: Origins and Transformations* (New York, 1986)
- E.A. Bowles : *Musical Ensembles in Festival Books, 1500–1800: an Iconographical and Documentary Survey* (Ann Arbor, 1989)

- M. Staehelin : 'Orchester', *Handwörterbuch der musicalischen Terminologie*, ed. H.H. Eggebrecht (Wiesbaden, 1972)
- A.C. Keys : 'Names for an Orchestra', *SMA*, ix (1975), 54–63
- H. Rösing : 'Zum Begriff "Orchester" in europäischer und aussereuropäischer Musik', *AcM*, xlvii (1975), 134–43
- N. Zaslaw : 'When is an Orchestra not an Orchestra?', *EMc*, xvi (1988), 483–95 [with extensive bibliography]
- N. Zaslaw : 'The Origins of the Classical Orchestra', *Basler Jb für historisches Musikpraxis*, xvii (1993), 9–40
- G. Strahle : *An Early Music Dictionary: Musical Terms from British Sources, 1500–1740* (Cambridge, 1995)

Pre- and proto-orchestras

MersenneHU

- H. Prunières : *Le ballet de cour en France avant Benserade et Lully* (Paris, 1914/R)
- F. Lesure : 'Die "Terpsichore" von Michael Praetorius und die französische Instrumentalmusik unter Heinrich IV', *Mf*, v (1952), 7–17
- F. Lesure : 'Les Orchestres populaires à Paris vers la fin du XVIe siècle', *RdM*, xxxvi (1954), 39–54
- R. Weaver : 'Sixteenth-Century Instrumentation', *MQ*, xlvii (1961), 363–78
- M. Ruhnke : *Beiträge zu einer Geschichte der deutschen Hofmusikkollegien im 16. Jahrhundert* (Berlin, 1963)
- F. Ghisi, J. Jacquot and D.P. Walker, eds.: *Les fêtes du mariage de Ferdinand de Médicis et de Christine de Lorraine, Florence, 1589, i: Musique des intermèdes de 'La pellegrina'* (Paris, 1963)
- R.L. Weaver : 'The Orchestra in Early Italian Opera', *JAMS*, xvii (1964), 83–9
- M. Lefkowitz : *Trois masques à la cour de Charles Ier d'Angleterre* (Paris, 1970)
- H.M. Brown : *Sixteenth-Century Instrumentation: the Music for the Florentine Intermedii*, MSD, xxx (1973)
- E. Selfridge-Field : *Venetian Instrumental Music from Gabrieli to Vivaldi* (London, 1975, 3/1994)
- E. Enrico : *The Orchestra at San Petronio in the Baroque Era* (Washington DC, 1976)
- D. Bryant : 'The "cori spezzati" of St. Mark's: Myth and Reality', *EMH*, i (1981), 165–86
- J. Roche : *North Italian Church Music in the Age of Monteverdi* (Oxford, 1984)
- O. Gambassi : *La cappella musicale di S. Petronio: maestri, organisti, cantori e strumentisti dal 1436 al 1920* (Florence, 1987)
- T.F. Kelly : "'Orfeo da Camera": Estimating Performing Forces in Early Opera', *Historical Performance*, i (1988), 3–9
- N. Zaslaw : 'Three Notes on the Early History of the Orchestra', *Historical Performance*, i (1988), 63–7
- B. Bardet : 'Violons, vingt-quatre', *Dictionnaire de la musique en France aux XVIIe et XVIIIe siècles*, ed. M. Benoit (Paris, 1992), 724–8
- P. Holman : *Four and Twenty Fiddlers: the Violin at the English Court, 1540–1690* (Oxford, 1993)
- V. Coehlo : 'Public Works and Private Contexts: Lorenzo Allegri and the Florentine Intermedi of 1608', *Les luths en occident: Paris 1998*, 101–12

Lully and Corelli



About the Index



Show related links



Search across all sour

- E. Wellesz : 'Zwei Studien zur Geschichte der Oper im XVII. Jahrhundert', *SIMG*, xv (1913–14), 124–33
- J. Eppelsheim : *Das Orchester in den Werken Jean-Baptiste Lullys* (Tutzing, 1961)
- S. Hansell : 'Orchestral Practice at the Court of Cardinal Pietro Ottoboni', *JAMS*, xix (1966), 398–403
- O. Jander : 'Concerto Grosso Instrumentation in Rome in the 1660's and 1670's', *JAMS*, xxi (1968), 168–80
- H.J. Marx : 'Die Musik am Hofe Pietro Kardinal Ottobonis unter Arcangelo Corelli', *AnMc*, no.5 (1968), 104–77
- W. Kolneder : *Georg Muffat zur Aufführungspraxis* (Strasbourg, 1970)
- M. Benoit : *Versailles et les musiciens du roi, 1661–1733* (Paris, 1971)
- S. Bonta : 'From Violone to Violoncello: a Question of Strings?', *JAMIS*, iii (1977), 64–99
- F. Piperno : 'Anfione in Campidoglio: presenza Corelliana alle feste per i concorsi dell'Accademia del disegno di San Luca', *Nuovissimi studi corelliani: Fusignano 1980*, 151–208
- R. Pfeiffer : 'Der französische, insbesondere Lullysche Orchesterstil und sein Walten in der deutschen Musikkultur des ausgehenden 17. Jahrhunderts', *Der Einfluss der französischen Musik auf die Komponisten der ersten Hälfte des 18. Jahrhunderts: Blankenburg, Harz, 1981*, 15–20
- H.J. Marx : 'Die "Giustificazioni della Casa Pamphilj" als musikgeschichtliche Quelle', *Studi musicali*, xxi (1983), 121–87
- N. Zaslav : 'Lully's Orchestra', *Jean-Baptiste Lully: Saint Germain-en-Laye and Heidelberg 1987*, 539–79
- H.J. Marx : 'The Instrumentation of Handel's Early Italian Works', *EMc*, xvi (1988), 496–505
- J. de La Gorce : 'Some Notes on Lully's Orchestra', *Jean-Baptiste Lully and the Music of the French Baroque: Essays in Honor of James R. Anthony*, ed. J.H. Heyer and others (Cambridge, 1989), 99–112
- E. Lemaître : 'Les sources des "Plaisirs de l'Isle enchantée"', *RdM*, lxxvii (1991), 187–200
- J. Spitzer : 'The Birth of the Orchestra in Rome: an Iconographic Study', *EMc*, xix (1991), 9–28

The birth of the orchestra

PierreH

- J. Mattheson : *Der vollkommene Capellmeister* (Hamburg, 1739/R; Eng. trans., 1981)
- J.J. Quantz : *Versuch einer Anweisung die Flöte traversiere zu spielen* (Berlin, 1752/R, 3/1789/R; Eng. trans., 1966)
- J.-B. Durey de Noinville : *Histoire du théâtre de l'Académie royale de musique* (Paris, 2/1757/R)
- C.S. Terry : *Bach's Orchestra* (London, 1932, 2/1961/R)
- E. Winternitz : 'The Evolution of the Baroque Orchestra', *Metropolitan Museum of Art Bulletin*, xii (1954), 258–75
- A.D. McCredie : *Instrumentarium and Instrumentation in the North German Baroque Opera* (diss., U. of Hamburg, 1964)
- D. Arnold : 'Orchestras in Eighteenth-Century Venice', *GSJ*, xix (1966), 3–19
- A. Schnoebelen : 'Performance Practices at San Petronio in the Baroque', *AcM*, xli (1969), 37–55
- W. Salmen : *Der Sozialstatus des Berufsmusikers vom 17. bis zum 19. Jahrhunderts* (Kassel, 1971; Eng. trans., 1983)
- E.H. Tarr and T. Walker : "'Bellici carmi, festivo fragor": die Verwendung der Trompete in der italienischen Oper des 17. Jahrhunderts', *HJbMw*, iii (1978), 143–203
- J. de La Gorce : 'L'Académie de musique en 1704, d'après des documents inédits conservés dans les archives notariales', *RdM*, lxxv (1979), 160–91

- G. Sadler : 'The Role of the Keyboard Continuo in French Opera, 1673–1776', *EMC*, viii (1980), 148–57
- C. Wood : 'Orchestra and Spectacle in the *tragédie en musique*, 1673–1715: Oracle, *sommeil* and *tempête*', *PRMA*, cviii (1981–2), 25–46
- L. Bianconi and T. Walker : 'Production, Consumption and Political Function of Seventeenth-Century Opera', *EMH*, iv (1984), 209–96
- D. Burrows : 'Handel's London Theatre Orchestra', *EMC*, xiii (1985), 349–57
- J. Spitzer and N. Zaslav : 'Improvised Ornamentation in Eighteenth-Century Orchestras', *JAMS*, xxxix (1986), 524–77
- E. Selfridge-Field : 'The Viennese Court Orchestra in the Time of Caldara', *Antonio Caldara: Essays on his Life and Times*, ed. B.W. Pritchard (Aldershot, 1987), 115–52
- O. Landmann : 'Die Dresdener Hofkapelle zur Zeit Johann Sebastian Bachs', *Concerto*, no.51 (1990), 7–16
- S.K. Owens : *The Württemberg Hofkapelle c.1680–1721* (diss. Victoria U. of Wellington, 1995)
- J. Spitzer : 'Metaphors of the Orchestra: the Orchestra as a Metaphor', *MQ*, lxxx (1996), 234–64
- M.W. Stahura : 'Handel and the Orchestra', *The Cambridge Companion to Handel*, ed. D. Burrows (Cambridge, 1997), 238–48

The Classical orchestra

BurneyFI

BurneyGN

- C.P.E. Bach : *Versuch über die wahre Art das Clavier zu spielen* (Berlin, 1753/R, 2/1787; Eng. trans. 1949)
- J.F. Reichardt : *Über die Pflichten des Ripien-Violinisten* (Berlin and Leipzig, 1776)
- Wahrheiten die Musik betreffend, gerade herausgesagt von einem teutschen Biedermann* (Frankfurt, 1779)
- F. Galeazzi : *Elementi teorico-pratici di musica* (Rome, 1791–6)
- I.F. Arnold : *Der angehende Musikdirektor* (Erfurt, 1806)
- G. Scaramelli : *Saggio sopra i doveri di un primo violino direttore d'orchestra* (Trieste, 1811)
- M. Brenet[M. Bobillier]: *Les concerts en France sous l'Ancien Régime* (Paris, 1900/R)
- O. Sonneck : *Early Concert-Life in America* (Leipzig, 1907/R)
- U. Prota-Giurleo : *La grande orchestra del R. Teatro San Carlo nel Settecento* (Naples, 1927)
- A. Carse : *The Orchestra in the Eighteenth Century* (Cambridge, 1940/R)
- S. Sadie : 'Concert Life in Eighteenth-Century England', *PRMA*, lxxxv (1958–9), 17–30
- C. Cudworth : 'The Vauxhall "Lists"', *GSJ*, xx (1967), 24–42
- C.-H. Mahling : *Orchester und Orchestermusik in Deutschland von 1700 bis 1850* (diss., U. of Saarbrücken, 1971)
- N. Zaslav : 'Toward the Revival of the Classical Orchestra', *PRMA*, ciii (1976–7), 158–87
- O. Biba : 'Concert Life in Beethoven's Vienna', *Beethoven, Performers, and Critics: Detroit 1977*, 77–93
- L.F. Ferguson : *Col Basso and Generalbass in Mozart's Keyboard Concertos: Notation, Performance, Theory, and Practice* (diss., Princeton U., 1983)
- F. Ferguson : 'Mozart's Keyboard Concertos: Tutti Notations and Performance Models', *MJb* 1984–5, 32–9
- D. Charlton : 'Orchestra and Chorus at the Comédie-Italienne (Opéra-Comique), 1755–99', *Slavonic and Western Music: Essays for Gerald Abraham*, ed. M.H. Brown and R.J. Wiley (Ann Arbor and Oxford, 1985),

- E. Segerman : 'Strings Through the Ages', *The Strad*, ic (1988), 52–5, 195–200, 295–8
- R. Stowell : "'Good Execution and Other Necessary Skills": the Role of the Concertmaster in the Late 18th Century', *EMc*, xvi (1988), 21–33
- S. McVeigh : 'The Professional Concert and Rival Subscription Series in London, 1783–1793', *RMARC*, no.22 (1989), 1–135
- N. Zaslav : *Mozart's Symphonies: Context, Performance Practice, Reception* (Oxford, 1989)
- J. de La Gorce : 'L'orchestre de l'Opéra et son évolution de Campra à Rameau', *RdM*, lxxvi (1990), 23–43
- J. Webster : 'On the Absence of Keyboard Continuo in Haydn's Symphonies', *EMc*, xviii (1990), 599–608
- L.A. McLamore : *Symphonic Conventions in London's Concert Rooms, c.1755–90* (diss., UCLA, 1991)
- N. Zaslav : 'Mozart's Orchestral Flutes and Oboes', *Mozart Studies*, ed. C. Eisen (Oxford, 1991), 201–11
- Orchesterpraxis in klassischer Zeit: Basle 1992 [Basler Jb für historische Musikpraxis*, xvii (1991)] incl. [extensive bibliography]
- D. Edge : 'Mozart's Viennese Orchestras', *EMc*, xx (1992), 64–88
- C. Eisen : 'Mozart's Salzburg Orchestras', *EMc*, xx (1992), 89–103
- L. Finscher, ed.: *Die Mannheimer Hofkapelle im Zeitalter Carl Theodors* (Mannheim, 1992)
- C. Brown : 'String Playing Practices in the Classical Orchestra', *Basler Jb für historische Musikpraxis*, xvii (1993), 41–64
- D. Charlton : "'A maître d'orchestre ... conducts": New and Old Evidence on French Practice', *EMc*, xxi (1993), 340–53
- S. McVeigh : *Concert Life in London from Mozart to Haydn* (Cambridge, 1993)
- E.K. Wolf : 'On the Composition of the Mannheim Orchestra, ca.1740–1778', *Basler Jb für historisches Musikpraxis*, xvii (1993), 113–38
- N. Zaslav : 'Mozart's European Orchestras', *Musicology Australia*, xvii (1994), 13–18
- B. Haynes : *Pitch Standards in the Baroque and Classical Periods* (diss., U. of Montreal, 1995)
- M. Peruffo : 'Italian Violin Strings in the Eighteenth and Nineteenth Centuries: Typologies, Manufacturing Techniques and Principles of Stringing', *Recercare*, ix (1997), 157–203

The Romantic orchestra

- C. Burney : *An Account of the Musical Performances in Westminster Abbey and the Pantheon ... in Commemoration of Handel* (London, 1785/R)
- 'On the Revolutions of the Orchestra', *The Harmonicon*, vi (1828), 194–7
- H. Berlioz : *Grand traité d'instrumentation et d'orchestration modernes* (Paris, 1843, 2/1855/R; Eng. trans., 1856, rev. 2/1882/R by J. Bennett)
- G. Schilling : *Musikalische Dynamik, oder Die Lehre vom Vortrage in der Musik* (Kassel, 1843)
- F. Gassner : *Dirigent und Ripienist* (Karlsruhe, 1844/R)
- A. Elwart : *Histoire de la Société des Concerts du Conservatoire impériale de musique* (Paris, 1860, enlarged 2/1864)
- A. Elwart : *Histoire des Concerts populaires de musique classique* (Paris, 1864)
- E. Hanslick : *Geschichte des Concertwesens in Wien* (Vienna, 1869–70/R)
- R. Wagner : *Über das Dirigieren* (1869; Eng. trans., 1887, 4/1940/R)
- H. Berlioz : *Mémoires* (Paris, 1870/R; Eng. trans. 1969, 2/1970)

- F. Göthel, ed.: *L. Spohr Lebenserinnerungen* (Tutzing, 1968)
- E. Bernard : 'Jules Pasdeloup et les Concerts Populaires', *RdM*, lvii (1971), 150–78
- M. Conati and M. Pavarani, eds.: *Orchestra in Emilia-Romagna nell'ottocento e novecento* (Parma, 1982)
- J. Cooper : *The Rise of Instrumental Music and Concert Series in Paris, 1828–1871* (Ann Arbor, 1983)
- C. Ehrlich : *The Music Profession in Britain since the Eighteenth Century* (Oxford, 1985)
- J. Maehder : "'Banda sul palco": Variable Besetzungen in der Bühnenmusik der italienischen Oper des 19. Jahrhunderts als Relikte alter Besetzungstraditionen?', *Alte Musik als ästhetische Gegenwart: Bach Händel, Schütz: Stuttgart 1985*, 293–310
- H.E. Smither : 'Messiah and Progress in Victorian England', *EMc*, xiii (1985), 339–48
- D.J. Koury : *Orchestral Performance Practices in the Nineteenth Century: Size, Proportions, and Seating* (Ann Arbor, 1986)
- W. Weber : 'The Rise of the Classical Repertoire in Nineteenth-Century Orchestral Concerts', *The Orchestra: Origins and Transformations*, ed. J. Peyser (New York, 1986), 361–86
- G.W. Harwood : 'Verdi's Reform of the Italian Opera Orchestra', *19CM*, x (1986–7), 108–34
- R. Meucci : 'La trasformazione dell'orchestra in Italia al tempo di Rossini', *Gioacchino Rossini: Pesaro 1992*, 431–64
- C. Ehrlich : *First Philharmonic: a History of the Royal Philharmonic Society* (Oxford, 1995)
- R. Meucci : 'The *cimbasso* and Related Instruments in 19th-Century Italy', *GSJ*, xlix (1996), 143–79
- K.W. Niemöller : 'Die Entwicklung des Orchesters bei den Musikfesten des 19. Jahrhunderts', *Festschrift Christoph-Hellmut Mahling*, ed. A. Beer, K. Pfarr and W. Ruf (Tutzing, 1997), 1009–22

The Modern orchestra

- Hiao-Ts'iun Ma : *La musique chinoise de style européen* (Paris, 1941)
- M. Pincherle : *L'orchestre de chambre* (Paris, 1948)
- J.H. Mueller : *The American Symphony Orchestra: a Social History of Musical Taste* (Bloomington, IN, 1951/R)
- H. Taubman : *The Symphony Orchestra Abroad* (Vienna, VA, 1970)
- R.R. Faulkner : 'Career Concerns and Mobility Motivations of Orchestra Musicians', *Sociological Quarterly*, xiv (1973), 334–49
- P. Hart : *Orpheus in the New World: the Symphony Orchestra as an American Cultural Institution* (New York, 1973)
- K.H. Mueller : *Twenty-Seven Major American Symphony Orchestras: a History and Analysis of their Repertoires, Seasons 1842–43 through 1969–70* (Bloomington, IN, 1973)
- R.R. Faulkner : 'Coming of Age in Organizations: a Comparative Study of Career Contingencies and Adult Socialization', *Sociology of Work and Occupations*, i (1974), 131–73
- D. Mark : *Zur Bestandaufnahme des Wiener Orchesterrepertoires* (Vienna, 1979)
- W. Schulz : 'Analysis of a Symphony Orchestra: Sociological and Sociopsychological Aspects', *Stress and Music: Medical, Psychological, Sociological and Legal Strain Factors in a Symphony-Orchestra Musician's Profession*, ed. M. Piperek (Vienna, 1981), 35–56
- R. Günther, ed.: *Die Musikkulturen Lateinamerikas im 19. Jahrhundert* (Regensburg, 1982)
- S. Schwarz : 'The Economics of the Performing Arts: a Case Study of the Major Orchestras', *Performers & Performances: the Social Organization of Artistic Work*, ed. J.B. Kamerman and R. Martorella (New York, 1983), 269–79

- Transformations*, ed. J. Peyser (New York, 1986), 409–33
- R.R. Craven, ed.: *Symphony Orchestras of the United States: Selected Profiles* (New York, 1986)
- C. Neuls-Bates : 'Women's Orchestras in the United States, 1925–45', *Women Making Music: the Western Art Tradition, 1150–1950*, ed. J. Bowers and J. Tick (Urbana, IL, and Chicago, 1986), 349–69
- R.R. Craven : *Symphony Orchestras of the World: Selected Profiles* (New York, 1987) [incl. Y. Obata: 'NHK Symphony Orchestra', 226–30]
- R.C. Kraus : *Pianos and Politics in China: Middle-Class Ambitions and the Struggle over Western Music* (New York, 1989)
- R. Philip : *Early Recordings and Musical Style* (Cambridge, 1992)
- X. Dupuis : *Les musiciens professionnels d'orchestre: étude d'une profession artistique* (Paris, 1993)
- J.P. Kraft : 'The "Pit" Musicians: Mechanization in the Movie Theaters, 1926–1934', *Labor History*, xxxv (1994), 66–89
- J. Allmendinger and J.R. Hackman : 'The More, the Better? A Four-Nation Study of the Inclusion of Women in Symphony Orchestras', *Social Forces*, lxxiv (1995), 423–60
- R. Grotjahn : 'Classiker und Novitäten: zur Entwicklung des Konzertrepertoires im 19. Jahrhundert', *Zwischen Wissenschaft und Kunst: Festgabe für Richard Jakoby*, ed. P. Becker, A. Edler and B. Schneider (Mainz, 1995), 211–25
- P.R. Judy : 'The Uniqueness and Commonality of American Symphony Orchestra Organizations', *Harmony*, no.1 (1995), 11–36
- J. Allmendinger and J.R. Hackman : 'Organizations in Changing Environments: the Case of East German Symphony Orchestras', *Administrative Science Quarterly*, xl (1996), 337–69
- J. Allmendinger, J.R. Hackman and E.V. Lehman : 'Life and Work in Symphony Orchestras', *MQ*, lxxx (1996), 194–219
- S. Maitlis : 'Decision Making in British Symphony Orchestras: Formal Structures, Informal Systems, and the Role of Players', *Harmony*, no.4 (1997), 45–55
- G. Schubert : 'Zur Geschichte des Kammerorchesters im 20. Jahrhundert', *Festschrift Christoph-Hellmut Mahling*, ed. A. Beer, K. Pfarr and W. Ruf (Tutzing, 1997), 1235–50
- A. Willener : *La pyramide symphonique: exécuter, créer? Une sociologie des instrumentistes d'orchestres* (Zürich, 1997)
- E. John : 'Orchester ohne Dirigent', *Das Orchester*, xlv/11 (1997), 15–20; xlvi/1 (1998), 11–15
- D. Mark : *Wem gehört der Konzertsaal? Das Wiener Orchesterrepertoire im internationalen Vergleich: zur Frage des musikalischen Geschmacks bei John H. Mueller* (Vienna, 1998)

John Spitzer, Neal Zaslaw

Copyright © Oxford University Press 2007 — 2013.