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Violin, §I: The instrument, its technique and its repertory

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Violin, §I: The instrument, its technique and its repertory

I. The instrument, its technique and its repertory

1. Introduction.

The violin is one of the most perfect instruments acoustically and has extraordinary musical versatility. In beauty and emotional appeal its tone rivals that of its model, the human voice, but at the same time the violin is capable of particular agility and brilliant figuration, making possible in one instrument the expression of moods and effects that may range, depending on the will and skill of the player, from the lyric and tender to the brilliant and dramatic. Its capacity for sustained tone is remarkable, and scarcely another instrument can produce so many nuances of expression and intensity. The violin can play all the chromatic semitones or even microtones over a four-octave range, and, to a limited extent, the playing of chords is within its powers. In short, the violin represents one of the greatest triumphs of instrument making. From its earliest development in Italy the violin was adopted in all kinds of music and by all strata of society, and has since been disseminated to many cultures across the globe (see §II below). Composers, inspired by its potential, have written extensively for it as a solo instrument, accompanied and unaccompanied, and also in connection with the genres of orchestral and chamber music. Possibly no other instrument can boast a larger and musically more distinguished repertory, if one takes into account all forms of solo and ensemble music in which the violin has been assigned a part.

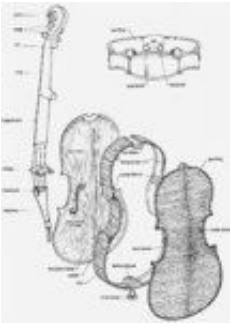
The most important defining factor of the Western orchestra, ever since it emerged during the 17th century, has been the body of 'strings' (i.e. violin-family instruments) playing together with (usually) more than one player to a part. The violin (and violin family), however, had originated well before the 17th century – the three-string violin was certainly in existence in the 1520s and perhaps even earlier – and by the early 17th century the reputation and universal use of the violins were such that Praetorius declared (*Syntagma musicum*, ii, 2/1619): 'since everyone knows about the violin family, it is unnecessary to indicate or write anything further about it'.

The present article concerns the violin as part of the heritage of Western art music.

David D. Boyden/Peter Walls

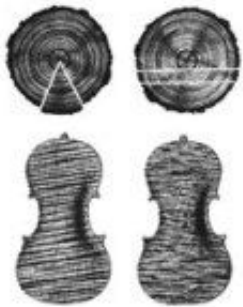
2. Structure.

(i) Components of the modern violin.



Component parts of the modern violin

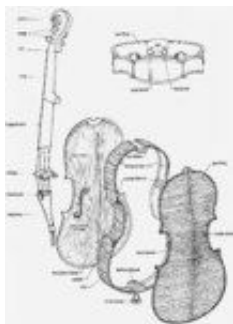
The violin gives an appearance of deceptive simplicity to the eye, but is in fact constructed of some 70 parts, which require the skill of a master craftsman to cut and assemble. Acoustically it is one of the most complex of instruments (see §2(ii) below). The body is a hollow box ([fig.1](#)) about 35.5 cm long, consisting of an arched top plate ('belly') and arched back plate, joined by sides ('ribs') of slightly varying heights (a typical Stradivari measurement is 2.8 cm at the top end of the instrument and 3.2 cm at the bottom). The edges of the belly and back are not flush with the ribs as is usual in a viol, but project beyond, overhanging the ribs slightly. The belly is made of softwood, generally European spruce, and the back and sides are fashioned of hardwood, usually maple. The neck, pegbox and scroll are also customarily of maple. The fingerboard runs along the neck and extends over the belly towards the bridge; it is now normally made of ebony. It is unfretted, a feature that distinguishes the violins from the viols.



Wood cut (a) on the quarter, and (b) on the...

Both top and back may be made of one piece of wood, or (much more usually) of two pieces joined. The wood may be cut either radially 'on the quarter' ([fig.2a](#) and [b](#)) or in layers ('on the slab'). One-piece backs (either quarter- or slab-cut; see [fig.2c](#) and [d](#)) are not uncommon but one-piece slab-cut tops are rare because for acoustical reasons they seldom give satisfactory results. Radial cutting is generally favoured, especially for tops, because the properties of the various radial sections are about the same from one piece to another. [Fig.3](#) [not available online] shows how a radial section is split from the top and the resulting two sections then glued base to base. In this way the resulting piece of wood will have the same properties relative to the join in the middle. The

appearance of the wood surface depends on which of the two methods of cutting is used. The 'waves' in the veined wood are generally called 'curls', and in the one-piece back shown in [fig.2c](#) these are seen to run continuously upwards from left to right. In two-piece backs the curls (if there are any) would not be continuous because they would be interrupted by the join in the middle (as in the 'Messiah' Stradivari violin; see [STRADIVARI](#), [not available online]). The pattern of curls is referred to as 'figure'. Highly-figured wood looks very beautiful, but it is not necessarily acoustically better than plainer maple (which has often been used by the great makers). Figure is distinct from 'grain', the latter being the arrangement of the fibres of the wood which are distributed in alternating strata of impacted resin (summer growth when the sap is rising) and paler wood (winter carbohydrate growth). In a cross-section of a tree trunk the grain is seen as annular rings, but in radial sections used for violin backs and bellies they appear as parallel lines running longitudinally from pegbox to tailpiece. The grain is generally more prominent in the spruce of the belly than in the back where the eye tends to be distracted by the figure in the maple. The distance between the parallel grain lines varies, sometimes being narrow ('close' grain), sometimes wider ('open' grain); for violins the ideal range is between 1 and 2 mm. In a typical belly the spacing of the grain lines widens symmetrically from the centre join. Grain is important acoustically since the resin lines conduct sound while the carbohydrate growth acts as a damper; the balance of these two features, especially in the belly, determines the suitability of the wood. For further information on cutting, preparation and other matters with respect to wood used in violin making, see Drescher (*MGG2*, 'Streichinstrumentenbau', §A), Leipp (A1965) and Rubio (B1984).



Component parts of the modern violin

The four strings of the violin are anchored in the upper end of the tailpiece, strung over a carefully fitted bridge of maple, then carried over and above the fingerboard to the ebony (or ivory) nut and secured by the pegs of ebony (or rosewood) in the pegbox (fig.1). The latter is crowned by an ornamental scroll. At the lower end of the violin, the tailpiece is secured by the tailgut (traditionally a heavy piece of gut but now sometimes wire or nylon) that runs over the ebony saddle (figs.1 and 4) and is looped over, and secured by, the end-button ('end pin'). The tension of the strings is regulated by turning the pegs to bring the four strings to their proper pitches: *g*, *d'*, *a'* and *e''*. In modern violins the steel E string (and sometimes the others also) is generally fine-tuned by means of a mechanical adjuster attached to the tailpiece (see fig.4).

The strings of the violin were originally all gut. From the 1660s, however, the lowest (G) string was commonly wound with silver wire to give a better response. Today violinists generally use wound strings for the D and A strings as well and also use a steel E string, the latter being far more durable. Other kinds of stringing have been developed in the 20th century; strings with a steel core (overwound with, usually, silver) or a core of synthetic material (e.g. nylon). Both types are widely used, though neither has displaced the gut-core string as the preferred choice of most professional players.

Inside the violin, the top-, bottom- and corner-blocks and the side linings (see fig.1) strengthen and stabilize the structure. The soundpost and bass-bar give additional support for the interior of the instrument. The soundpost, ordinarily of spruce, stands vertically between back and belly and is located under the right foot of the bridge – not directly under the bridge's foot but on a line with it, slightly towards the tailpiece. The position of the soundpost is a critical factor in producing the best sound from the instrument. The bridge too must be fitted exactly to the contours of the belly and is positioned in line with the notches of the f-holes. The **BASS-BAR**, also normally of spruce, is glued to the undersurface of the belly, running under the left foot of the bridge. Like the soundpost, the bass-bar helps support the top and also serves an acoustical purpose (see §2(ii) below). The **CHIN REST** is made of wood (usually ebony) or vulcanite. Many players also attach a shoulder rest to the underside of the instrument. These devices, the first invented by Spohr in about 1820 (though much improved since) and the second a 20th-century development, make it possible for players to support their instruments without any assistance from the left hand.

The beautiful design and shape of the violin are not merely ornamental but are functional to a considerable degree. The vaulting of the back and the belly is essential for strength and for acoustical reasons, the whole body being designed to furnish the best amplification of sound. The narrow waist – that is, the 'middle bouts' – permits ease of playing on the highest and lowest strings. The scroll is decorative, although the instrument may be hung up by it. The line of **PURFLING** which runs just inside the outer edge of back and belly not only emphasizes the beauty of the outline but also minimizes cracks and prevents any damage to the overhanging edges from going further into the body. Some acoustical experts (see Backus, B1969, 2/1977) think that purfling may be a factor in the fine tone of a violin. The soundholes (f-holes) and the bridge are basically acoustical in function (see §2(ii) below), though their actual forms are influenced by decorative considerations. In any case, early bridges vary in design somewhat from modern bridges.

Finally, the varnish, so beautiful in the finest violins, is functional as well as decorative, being indispensable as a preservative. Varnish cannot improve the tone, but if it is too hard, too soft or badly applied it may prevent the best tone qualities inherent in the instrument from being realized.

The composition of the Cremona varnish, which contributes so much to the visual beauty of a Stradivari and other Cremonese violins, remains something of a mystery, although there could not have been anything very mysterious about it in its time. Jacob Stainer (?1617–1683) in the Austrian Tyrol, for instance, knew all about it, and the Venetian makers used an equally fine varnish. However, easier and quicker methods of varnishing were later applied, and by 1750 or 1760 the old process had nearly disappeared, G.B. Guadagnini being one of the last (c1780) to use Cremona varnish. Nevertheless, excellent varnishes are once again being used today.

Distinctive structural characteristics of the violin from c1600 to c1785 ('Baroque violin') are

described in §4(ii) below.

(ii) Sound production and acoustics.

Any violin has a certain potential of volume, whose realization depends partly on 'accessories' – the type of strings and their tension, the type of bridge, the quality of the bow, even the type of chin and shoulder rests – and partly on the skill of the player. Fingering, vibrato, bow speed and pressure, and the relative placing of the bow between the bridge and the end of the fingerboard all have a direct bearing on the dynamic and tonal characteristics of the sound.

When the bow sets the string or strings in motion, the vibrations are transmitted to the belly and the back via the bridge and the soundpost. The soundpost renders the right foot of the bridge (the nearest to the E string) effectively immobile, leaving the left one relatively free to transmit vibrations to the bass-bar and belly (which functions as the soundboard of the instrument) and thence, through the sides to the back (whose primary function, however, is as a reflector). The total area of the soundbox then further amplifies the vibrations and transmits them eventually to the ear of the listener. The soundholes operate as a secondary and complementary acoustical system, adding considerably to the resonance.

The quality and character of the tone depend on the vibrating string and how well its fundamental pitch frequency and upper partials are received and transmitted by the wood of the violin's body. The string vibrates (for any given pitch) not only as a whole – that is, as stopped between nut and bridge by the player's finger – but also in various parts of its length so as to produce the other harmonics of the fundamental, thus giving richness and complexity to the timbre. Some individual tones are the result of the complex interaction of as many as 20 upper partials in addition to the fundamental.

The role of the violin body is to amplify and project the string vibrations to the outer air. What makes a particular violin good is the degree to which it transmits the string vibrations of the fundamental and its harmonics with equal response over the whole register of the instrument. The tone of the violin, then, depends initially on the capacity of the many resonance frequencies of the wood to respond to the string vibrations. Many makers, when adjusting the final thicknesses of the back and belly of a new violin, tap the plates (or fix them in a clamp and bow their edges) to tune them. The notes produced are known as 'tap tones'. (The natural resonance of the interior air space – the so-called 'air tone' – has a frequency normally in the area of the D string in superior violins.)

Many experiments have been made, especially in the last 50 years, to determine which factors affect the timbre of a single note or of all the notes of a particular violin, thus distinguishing one violin from another. Modern acoustics, using electronic equipment, has shown that some previously accepted theories, including the 'formant' theory, will have to be modified or even discarded. There are still major questions regarding the acoustics of the violin (not to mention related areas in the physiology of hearing) that are not yet completely or satisfactorily answered – for example, what makes a violin a 'good' one, and whether old violins are better than modern ones (at present, the best available answer to the second question is 'Not necessarily').



(a) French violinist using the typical 17th-century breast position and...

Since its origins, the violin has undergone a considerable evolution of detail to meet the changing requirements of successive generations of performers and composers. The first century and a half of the 'true' violin culminated in the magnificent 'classical' model of Antonio Stradivari shortly after 1700. But this was not the end of the instrument's evolution; in the early years of the 19th century it was altered in a number of respects to attain greater power and a more mellow tonal quality (see §5 below). It was in this era, too, that the Tourte bow gained universal acceptance. Today the violin is a more powerful instrument, supporting greater tensions and pressures thanks largely to the move away from gut strings

described above. These changes in the violin (and bow) were occasioned by new styles of music and new techniques of playing. Fig.5 juxtaposes the radically different approaches to violin playing in the 17th and 20th centuries. Whether we regard these changes as improvements is an entirely subjective matter. Many musicians now take the view that a particular repertory will be served best

by performing it with instruments set up (and played) in the way the composers of the time expected. It is in response to this approach that so many violinists have now acquired 'Baroque', 'Classical', or even 'Renaissance' violins (while some, too, perform Romantic literature on violins strung as they would have been in the 19th century).

See also [ACOUSTICS, §II, 1](#); for an account of attempts to make mechanically self-playing violins, see [VIOLIN PLAYER, AUTOMATIC](#).

David D. Boyden/Peter Walls

3. History and repertory to 1600.

(i) Antecedents and origins.

As with many instruments, the violin has traditionally been defined mainly by its shape. However, it came into being at a period of rapid change and adventurous experimentation in instrument making, and the 'classic' outline only became standard in Italy around 1550; in northern Europe non-standard variants were still in use well after 1600. For this reason studies of the early violin need to take into account the way it was played and how it was used as well as its appearance, and need to be informed by a wide understanding of the development of instruments and instrumental music in the late Middle Ages.

15th-century pictures show two main types of bowed instrument: the alto-range medieval fiddle, usually with five or more strings (one of which could be a bourdon running off the fingerboard), and the small pear-shaped rebec, with two or three strings. Both are routinely depicted with a flat bridge or no bridge at all, which means that they must have been used essentially to play monophonic music in chords – the way folk survivals such as the Greek *lira* and the Norwegian Hardanger fiddle are still played today. To play single-line polyphonic music on them would have required arched bridges of the modern type, and there is no convincing evidence of these before the second half of the 15th century, when polyphony played on pairs of soft, or *bas* instruments became fashionable. Johannes Tinctoris (*De inventione et usu musicae*, c1481–3) described a bowed *viola* with strings 'stretched in a protuberant manner so that the bow ... can touch any one string the player wills, leaving the others untouched' and reported a recent performance in Bruges of polyphonic songs played on fiddles by the brothers Jean and Charles Fernandes.

The instruments played by the Fernandes brothers probably had three strings tuned in 5ths – the most usual tuning by that time, according to Tinctoris – and must have been similar to the earliest alto/tenor members of the violin family. However, there is no indication that they, or any other bowed instrument, had been developed in more than one size as early as the 1480s. The idea of creating instruments in sets or consorts of several sizes to make them suitable for polyphonic music was first developed in the 14th century with the *bombarde*, a tenor-range shawm, and was subsequently applied to the flute, the recorder and the *douçaine*, all apparently made in sets in the 15th century. This 'consort principle', as we might call it, does not seem to have been applied to bowed instruments until the 1490s, when the earliest viol consorts were apparently developed on the orders of Isabella d'Este, wife of Francesco Gonzaga of Mantua, from a large, single-size, guitar-like drone instrument recently imported into Italy from Catalonia. Isabella ordered three viols of two sizes from an unnamed maker in Brescia in March 1495, and a letter dated 19 March 1499 reveals that her brother Alfonso was in Venice and wanted to order five 'viola da archo' made 'in all the possible sizes [modi] in the world', which suggests that the third size, the soprano, had been developed by then.

The consort principle was apparently applied about a decade later to the fiddle, producing the violin family. Circumstantial evidence suggests that it happened in Ferrara, Isabella d'Este's home town. A three-string violin-like instrument and a large four-string viola-like instrument are depicted in Ferrarese wall paintings executed between about 1505 and 1510, and two Ferrarese court documents suggest the existence of a violin consort by 1511. References to 'Una viola, zoè un basso' and 'Una viola, zoè un tenore' in an inventory of that year can be identified as violins by

a process of elimination: 'Viole da gamba', 'lauti' and 'violoni alla napolitana' (vihuelas) are also listed. On 20 December 1511 'maestro Sebastian da Verona' was paid to look for timber for making 'violette' for the Ferrara court, and for repairing its 'viole e violoni'. In 16th-century Italian, violins were usually distinguished from the larger-bodied viols by the addition of the descriptive phrases 'da braccio' and 'da gamba' to the generic term *viola*, or by qualifying it with the diminutives *violette* and *violini* and the augmentative *violoni*. It should be emphasized that these terms applied to violins and viols as a class, irrespective of the size of particular instruments. *Violino* did not specifically mean a soprano violin, or *violone* a contrabass viol, until much later.

The viol and violin families seem to have been developed as part of a humanist cultural agenda that preferred 'noble' strings to 'ignoble' winds. Isabella d'Este commissioned a cycle of allegorical paintings for her *studiolo* in which string instruments are consistently associated with virtue, spiritual love and harmony, while wind instruments are associated with vice, sensual love and strife. Isabella also followed the traditions of female patronage of music in preferring soft string instruments to loud winds, with their indecorous warlike and phallic associations. The two families should therefore be seen as complementary, and were usually played as alternatives by professional musicians in the 16th century, though the viol was also played by amateurs. The viol, soft, sonorous but rather lacking in attack, was suitable for serious contrapuntal music and for accompanying the voice, while the sprightly violin was quickly recognized as the ideal vehicle for the new composed polyphonic dance music that developed soon after 1500.

The Ferrarese wall paintings show instruments that conform surprisingly closely to the later standard shape of the violin, with four corners. However, the earliest Brescian violins may have had only two corners, connecting a broad lower half to a narrower upper half. The shape can be seen in several early pictures of viols, as well as a vihuela and a *lira da braccio* depicted in an intarsia panel made between 1506 and 1508 for the door of one of Isabella d'Este's cabinets at Mantua (see [MANTUA](#), [not available online]). We know nothing of the earliest violin makers apart from Sebastian of Verona (assuming he was the person who made the Ferrarese violin consort), although G.M. Lanfranco (*Scintille di musica*, 1533/R) mentioned the Brescians Giovanni Giacobbo dalla Corna and Zanetto da Montichiario as makers of 'Liuti, Violoni, Lyre & simili'. Zanetto's son Peregrino [Pellegrino] Micheli, Girolamo di Virchi, Gasparo da Salò [Bertolotti] and G.P. Maggini continued to make stringed instruments in Brescia, though a rival tradition was established in Venice by Francesco Linarol and his son Ventura. With Andrea Amati and his sons Antonio and Girolamo [Hieronymus] (i), the centre of Italian violin making moved to Cremona.

Peter Holman

(ii) Sizes and tunings.

According to the first detailed description of the violin family, in Lanfranco's *Scintille di musica*, there were four sizes of 'Violette da Arco senza tasti' (also called 'Violetta da Braccio, & da Arco'), 'Soprano', 'Contraalto', 'Tenore' and 'Basso', with three tunings; the alto and tenor were tuned in unison. In other words, the consort consisted of a single violin, two violas of different sizes, and a bass violin. This disposition, confirmed by later treatises, was the standard one for 16th-century violin consorts, though a third viola was added when five-part dance music became common after 1550. Scorings with two violin parts were gradually adopted in most countries during the 17th century, though the French court orchestra, the 'Vingt-quatre violons', retained the old layout until after 1700. The earliest violin consorts probably consisted entirely of three-string instruments. Sylvestro di Ganassi dal Fontego (*Letzione seconda*, 1543/R) gave the sizes pitched a 5th apart, as in wind consorts of the period: the bass was tuned *F-c-g*, the violas *c-g-d'*, and the violin *g-d'-a'*.

This simple and logical arrangement was soon complicated by the addition of a fourth string. Lanfranco's system of specifying the intervals between the strings rather than absolute pitches implies the use of a three-string violin and viola tuned as in Ganassi, but with a four-string bass tuned *B'-F-c-g*. This tuning, with the fourth string at the bottom extending the range downwards, is the one given by the majority of 16th- and 17th-century sources; given the limitations imposed by the plain gut strings of the time, it must have been used on large instruments with long string lengths, such as the two in an illustration of the banquet for the marriage in 1568 of Duke Wilhelm

to Renée of Lorraine. *C–G–d–a* and *F–c–g–d'* were specified by Praetorius (*Syntagma musicum*, ii, 1618, 2/1619/R), while Adriano Banchieri (*Conclusioni nel suono dell'organo*, 1609/R) specified *G–d–a–e'*. *F–c–g–d'* and *G–d–a–e'* were evidently arrived at by adding the fourth string at the top rather than the bottom, and were probably used on instruments made small enough to be played standing or walking along, supported, in the words of Philibert Jambe de Fer (*Epitome musical*, 1556), 'with a little hook in an iron ring, or other thing, which is attached to the back of the said instrument quite conveniently, so it does not hamper the player'.

Jambe de Fer was the first writer to record four-string violins and violas, with the fourth string placed at the top as in the modern tunings. It extended their ranges in 1st position to *c'''* and *f'* respectively, their normal top notes in ensemble music throughout the 16th and 17th centuries. However, Lodovico Zacconi (*Prattica di musica*, 1592/R), copied by Daniel Hitzler (*Extract aus der Neuen Musica oder Singkunst*, 1623), gave *F–c–g–d'* as an alternative for the viola, adding the fourth string at the bottom, and this has given rise to the modern notion of the 'tenor violin'. Large violas tuned in this way may have existed around 1600, but they are not required by the inner parts of 16th- and 17th-century violin consort music, which never go below *c*, the lowest note on the ordinary viola.

Peter Holman

(iii) Dissemination.

(a) Italy.

Little is known about how the violin consort spread outside the Este-Gonzaga circle, for there are few reliable references to it prior to the second quarter of the 16th century, by which time it was widely distributed both sides of the Alps. Northern Italy, repeatedly invaded and fought over by French and imperial armies at the time, was not a promising environment for the creation and survival of documents, and, according to Jambe de Fer, 'few persons are found who make use of it [the violin] other than those who, by their labour on it, make their living'; it was not played by the literate classes, who might have discussed it in correspondence or literature. We also have no means of knowing whether some of the many unqualified references to *viole* – such as the 'quattro suonatori di liuto, viole e altri strumenti' who appeared in a Bolognese triumphal car in 1512, or the *viole* heard in a play during the Roman carnival of 1519 – were to violins rather than viols.

The French language is less ambiguous in this respect, since the terms *viole* and *violon* seem to have been used consistently to distinguish between the viol and violin from the beginning. It is not surprising, therefore, that the largest body of unambiguous early references to the violin is in the French-language accounts of the dukes of Savoy, who ruled Savoy and Piedmont from Turin. There was a payment to a group of 'vyollons' from Vercelli as early as 1523, and dozens of professional groups across northern Italy were evidently using violins by the 1540s and 50s, often in small towns such as Abbiategrosso, Desenzano, Rovereto and Peschiera. A large town such as Milan might support several groups: one day in December 1544 four violinists entertained the Duke of Savoy during the day, and four others in the evening. In general, the Savoy accounts give the impression that by then the violin consort was the most popular choice of professional groups – wind instruments are rarely mentioned – and was being used by quite humble classes of musician.

The violin spread with remarkable rapidity during the first half of the 16th century, in part because it was often cultivated by independent, mobile family groups, who recruited their own personnel, composed or arranged their own music, often made their own instruments, and were prepared to travel great distances to work for the right patron. The largest courts employed enough musicians to allow groups to specialize in particular instruments, though most groups had to be versatile: the six-man Brescian group which Vincenzo Parabosco recommended to the Farnese court in January 1546 played *viole da brazo* as well as seven types of wind instrument. The normal practice of the time was to use the various instrumental families as alternatives on a musical menu rather than ingredients in a single dish, choosing them according to circumstances: violins were suitable for dancing, viols for serious contrapuntal music and for accompanying the voice,

loud wind instruments for playing outdoors, and so on. However, mixed ensembles became more and more common in the second half of the 16th century: Parabosco particularly recommended 'the combinations of these instruments, one type with another, and combined in various ways with vocal music' because it was 'something unusual and so new'.

(b) France and England.

A Parisian woodcut dating from 1516 shows that consorts of bowed instruments were known in France in the second decade of the century, however unlikely the situation (the players are Plato, Aristotle, Galen and Hippocrates) and fanciful the details. A six-man group described variously as 'viollons, haulxboys et sacquebuteurs' and 'violons de la bande françoise' was already established at the French court by 1529. The musicians all have French names, so they may have come into contact with the violin while accompanying the French court on its forays south of the Alps. But several groups of Italian violinists served in Paris during the 1530s and 40s, and in about 1555 a violin consort led by Balthasar de Beaujoyeux is said to have arrived there from the Milan area.

It is not clear when an orchestral violin band was established at the French court, for a number of received 'facts' seem to be no more than hearsay. For instance, the idea that Andrea Amati made a complete set of 38 instruments for Charles IX (reigned 1560–74) seems only to go back to a statement in Jean-Benjamin de La Borde's *Essai sur la musique ancienne et moderne* (1780/R), and Moens (B1998) has recently challenged the authenticity of the surviving instruments decorated with devices relating to Charles IX (see §V below). In any case, they include small- as well as large-pattern violins, which were probably made for different pitch standards and are unlikely to have been played together in a single band. However, legal agreements between members of the Paris musicians' guild, the Confrérie de St Julien-des-Ménétriers, show that groups of orchestral size were formed in the middle of the 16th century – there are instances of nine players in 1547, eight in 1551 and 11 in 1552 – and violins are always given as one of the options, usually as an alternative to cornetts, when particular instruments begin to be mentioned in the 1580s.

The violin was apparently brought to England by a group of six Jewish string players from Milan, Brescia and Venice that arrived at Henry VIII's court in the spring in 1540; the institution they founded served successive monarchs up to the beginning of the Civil War in 1642, and during the Restoration it formed the basis of the 24 Violins (see [LONDON](#), [not available online]). Surviving documents suggest that violins began to appear in English aristocratic households in the 1560s, and began to be taken up by town waits, theatre groups and the more humble classes of musician around 1600. Most violins played in 16th-century England were probably imported or made by the instrumentalists themselves. Members of the Lupo family, who served in the court violin consort between 1540 and 1642, are known to have made instruments, though the earliest English violin maker so far identified is the Cambridge University wait Benet Pryme: an inventory drawn up at his death in 1557 includes 'vii vyalles & vyolans' valued at £3, as well as 'a nest of unp[er]fyte vyal[e]s' and 'unp[er]fytt regall[e]s & oth[e]r lu[m]ber' – evidently the contents of a workshop.

(c) Germany and Poland.

The same pattern was repeated in German-speaking areas of Europe. The violin consort at Munich was founded by four members of the 'Bisutzi' family in the 1550s, and was enlarged around 1568, probably for Duke Wilhelm's marriage with Renata of Lorraine (see [MUNICH](#), [not available online]). The five newcomers, who included three members of the Morari family, may have been part of Renée's entourage; the court at Nancy acquired a set of violins as early as 1534. Italian violinists (including three members of the Ardesi family from Cremona) were at the Viennese court by the 1560s, at Weimar in 1569, at Innsbruck in the 1570s and 80s, and at Hechingen in the Black Forest from 1581. Italian instruments mentioned in inventories include a set of Brescian 'geig' at Augsburg (1566), 'Ein Italinisch Stimwerckh von Geigen, darinn ein discant, drey tenor und ein Bass' at Baden-Baden (1582), and 'Funf venedische geugen' at Hechingen (1609).

The use of the term 'Geige' presents another thorny terminological problem. Around 1400 it

seems to have been used in opposition to *Vedel* to distinguish the rebec from the medieval fiddle, just as it was used around 1600 in opposition to *Phyolen* or *Violen* to distinguish violins from viols. Early 16th-century German writers such as Sebastian Virdung (1511), Hans Gerle (1532) and Martin Agricola (1529, 5/1545) used the term *Geigen* for both instruments, qualifying it with *grossen* and *kleinen* as in Italian terminology of the period. These treatises illustrate *kleinen Geigen* with instruments shaped like rebecs, so it is not clear when the term began to be used for the violin. In 1545 Agricola described a third type, the 'Polischen Geigen'; there are no illustrations but the instrument was apparently played without frets, using fingernails to stop the strings. It had three strings; there was also a four-string bass version. Several violin makers, including Mateusz Dobrucki, Bartłomiej Kiejcher and Marcin Groblicz the elder, are known to have been active in 16th-century Poland, and some apparently 16th-century Polish violins survive, often with non-classic shapes, though not enough research has been done into them (or contemporary German instrument making for that matter) for us to be sure at present what relationship they had with Italian violin-making traditions.



Violin consort: detail from the title-page of Andreas Hammerschmidt's 'Missa'...

By 1600 the violin consort must have been one of the most familiar sounds in the courts and towns of northern Europe (fig.6). But in the northern Italian courts, its cradle, it seems to have been in decline. Regular violin consorts do not seem to have been employed at the Mantuan and Ferrarese courts in the late 16th century – Mantua hired *violini* from Parma and Casalmaggiore in 1588, presumably because it had no group of its own – and in 1608 the Florentine court recruited 12 violinists from France. Vincenzo Giustiniani wrote in about 1629 that consorts made up of a single type of instrument, 'with the uniformity of sound and of the consonances, became tiresome rather quickly and were an incentive to sleep rather than to pass the time on a hot afternoon'. He associated shawms and 'bands of violins' with unfashionable milieus such as 'festivals in small towns and country districts, and also in the great cities at the festivals of the common people'. As discussed below, the fashion in advanced musical circles in Italy was for mixed ensembles, in which the violin was often used without the other members of its family. The lead in the development of violin consorts passed to northern Europe, and it was more than half a century before Italy recovered it.

Peter Holman

(iv) Usage.

(a) Consort dance music.

It cannot have been an accident that the violin consort developed at a time of profound change in courtly dance and dance music. Soon after 1500 the pavan and its related saltarello or galliard replaced the old basse danse. The new dance music was composed rather than improvised, and was usually written in simple block chords in four, five or six parts with the tune in the soprano rather than the tenor. There are no sources of this repertory earlier than *Six gaillardes et six pavanes* and *Neuf basses dances deux branles* (both Paris, 1530), the first two books in the series of *Danceries* published by Pierre Attaingnant, though they contain italianate pieces that were probably fairly old by the time they were published; a similar repertory with slightly more antique features survives in *D-Mbs* Mus.ms.1503h.

As an increasingly popular vehicle for courtly dancing, violins must be regarded as a principal option for these and later collections of consort dance music, such as those published by Jacques Moderne (Lyons, c1542), Tylman Susato (Antwerp, 1551), Giorgio Mainerio (Venice, 1578) and Pierre Phalèse (ii) and Jean Bellère (Antwerp, 1583), though the repertory continued to be written in a neutral style, with limited ranges so that it could be played on as many different types of instruments as possible. Composers only began to specify particular instruments when they began to write in idioms that favoured one rather than another, and that did not happen until after 1600. The odd exception, such as the five-part dances printed in Beaujoyeux's *Balet comique de la Royne* (Paris, 1582/R; ed. in MSD, xv, 1971), proves the rule: the accompanying text

mentions that they were played on violins in the original performance, though there is nothing intrinsically violinistic about them.

(b) New roles.

The violin family was particularly associated with dance music throughout the 16th century, though it acquired a new role and a new repertory when it began to be used in churches. There are references to Brescian *violini* playing in church as early as 1530 and 1538, and the Venetian Scuola Grande di S Rocco employed 'sonadori di lironi' (probably violins rather than viols, for viols could not be played on the move) in 'masses and processions' from at least 1550, when the governors ordered them to play motets and *laudi* rather than canzoni and love songs. References to instrumentalists in Italian churches become common from the 1560s, and some of them were violinists: Giuseppe Maccacaro, for instance, was given a post at Verona Cathedral in 1566. They probably initially played instrumental versions of French chansons and motets – a Venetian print of motets by Gombert mentions *lyris* and *tibijs* as early as 1539 – but a repertory of ensemble canzonas soon developed. Significantly, two of the earliest composers of canzonas, Marc'Antonio Ingegneri and Florentio Maschera, were violinists, and served respectively as *maestri di cappella* at the cathedrals in Cremona and Brescia.

The four-part ensemble canzonas of the 1570s and 80s were doubtless played mostly by conventional monochrome consorts, though the development of polychoral music in the 1590s inevitably involved the creation of ensembles mixing cornetts and trombones with violins – which usually involved detaching particular sizes of violin from the rest of the consort. Most of the canzonas and sonatas in Giovanni Gabrieli's *Sacrae symphoniae* (1597) are for unspecified instruments, though an alto-range *violino* is specified with cornetts and trombones in two pieces, and there are similar specified parts in two motets of his posthumous *Symphoniae sacrae* (1615); there are also a number of soprano-range violin parts in Gabrieli's *Canzoni et sonate* (1615).

Violins were also used in secular mixed ensembles, such as the ones mentioned in the description of the 1568 Munich wedding, or the ones that accompanied *intermedi* at the Florentine court. In the 1589 *intermedia* five-part sinfonia by Luca Marenzio was played by 'dua Arpe, due Lire, un Basso di viola, due Leuti, un Violino, una Viola bastarda, & un Chitarrone', while a chorus by Cristofano Malvezzi was accompanied by 'quattro leuti, quattro viole, due bassi, quattro tromboni, due cornetti, una cetera, un salterio, una mandola, l'arcviolata lira, un violino'. A third type of mixed ensemble involving the violin was the sets of *passaggi* or variations on the soprano parts of vocal music, intended to be accompanied by a keyboard reduction of the original vocal lines; examples were published by Girolamo Dalla Casa (1584) and Giovanni Bassano (1591). This virtuoso repertory, the ancestor of the early Baroque violin sonata, was doubtless partially conceived for the agile, expressive violin, though Dalla Casa only specified 'fiato, & corda, & di voce humana' while Bassano used the standard formula 'con ogni sorte di stromenti' for the solo part.

Histories of instrumentation have traditionally focussed on Italian ad hoc ensembles, though the English mixed or broken consort was arguably more significant, since it was the first to have a scoring that was sufficiently standardized to attract a sizeable repertory that exploited its peculiar characteristics. It was developed in the 1560s and 70s, possibly at Hengrave Hall near Bury St Edmunds, and consisted of violin or treble viol, flute or recorder, bass viol, lute, cittern and bandora. The treble viol is mentioned in some of the early descriptions of the group, and is called for in the collections of mixed consort music published by Thomas Morley (1599, 2/1611) and Philip Rosseter (1609), though all the surviving pictures show a violin, and one of the manuscripts of mixed consort music at [GB-Cu](#) has pages headed 'Treble violan' and 'The treble violan parte'. Furthermore, there is some evidence that the word 'viol' in Elizabethan English could mean a violin.

Peter Holman

(v) Authenticity and surviving instruments.

The study of the early violin relies on written and iconographical sources, as well as on surviving instruments. Dozens of instruments from the violin family preserved in museums and private collections are attributed to 16th-century makers such as Zanetto di Montichiario, his son Peregrino, and Gasparo da Salò, all from Brescia, the Venetian Ventura Linarol, the Cremonese Andrea Amati, Dorigo Spilmann from Padua, and Gaspar Tieffenbrucker from Bologna and Lyons, as well as to anonymous makers. Attributions to Tieffenbrucker and a number of obscure builders are no longer taken seriously, but other instruments are still used as trustworthy evidence material. Current knowledge on the early violin is based on instruments attributed to about six Italian builders, on some anonymous examples and on a few, mainly Italian, iconographical representations. Surviving instruments of primitive (or 'rustic') form are given dates mainly in the first half of the 16th century, while instruments resembling modern violins are said to be from the second half of the century.

These widely accepted views on the early violin need to be questioned. Thorough critical examination of the instruments at stake has cast doubt on their authenticity: signatures on instruments attributed to a single maker usually differ greatly and are often poorly forged; several instruments said to be from the same maker may show substantial differences of design or construction; some components of an instrument have been shown to have different origins or to have been heavily adapted or restored, whether or not with fraudulent intent. The signature, shape and construction of many of these instruments are thus unreliable and therefore useless as evidence material for the study of the 16th-century violin. Proven historical facts uphold this conclusion. For example, while it is true that a Paris account dating from 1572 mentions a 'violin façon de Cremone', it is almost certain that the long-held belief that Andrea Amati made an extensive range of instruments for King Charles IX of France is false: close investigation of preserved instruments bearing the arms of Charles IX uncovers too many inconsistencies for them to be from a single maker.

We therefore have no clear picture of the violins made by the early famous masters. *Lire da braccio* and viols attributed to 16th-century makers have the same problems of authenticity and therefore are also unreliable as reference material.

However, a small number of little-known instruments from the 16th century or the early 17th have been preserved practically in their original form: considered together with iconographical sources and folk instruments with archaic forms from later periods, these can shed new light on the construction and shape of a representative part of late 16th-century violin making. Perhaps the most remarkable of the surviving instruments are a group of five instruments attributed to members of the Klemm family from Randeck, near Freiberg in Saxony, and now in Freiberg Cathedral (where they are held by a group of angel musicians in the roof of one of the chapels; for a detailed description, see Heyde and Liersch, B1980). The group is a rare example of an complete violin consort, consisting of a small three-string discant violin (or **VIOLINO PICCOLO**), a treble violin, a tenor violin and two bass violins (all with four strings). These instruments share characteristics that are at variance to those of the violins attributed to famous 16th-century makers, but which often recur in regional varieties of fiddle that persisted in later periods (and in some cases are still played), including the 17th-century *Allemannische* violin (then common in the Black Forest and German-speaking districts of Switzerland and France; see Adelman, B1990), the Norwegian Hardanger fiddle, the Swedish *nyckelharpa*, the Sorbian *Klarfidel* (Cz. *skřípský*) of the jihlava district of the Czech Republic (see also **HUSLA**), the Polish *mazanki*, and 18th- and early 19th-century violins from North and South America. These shared characteristics include the following: a strongly curved belly and back; long and pointed bevelled corners to the ribs; an entirely or partly flat pegbox back; a deeply-cut scroll clearly separated from the pegbox; painted inlaid decorations on the belly and back; lobe and brace forms on the tailpiece and fingerboard; the belly carved with a thickening in the inside (instead of separate bass-bar); the neck fitted directly into the body rather than into a top-block; the absence of a bottom-block; and the ribs anchored into grooves cut into the back and belly.

Karel Moens

4. History and repertory, 1600–1820.

(i) The instrument.

(a) Violin makers.

At the dawn of the 17th century, the violin was beginning to develop a role as an expressive and virtuoso solo instrument. New idiomatic repertory appeared at a rate which suggests an almost feverish excitement in its possibilities. Already two towns, Brescia and Cremona, had emerged as pre-eminent in the manufacture of the instrument. Brescia had been known for its string instruments since early in the 16th century; its reputation as a centre for violin making was established principally by two makers, Gasparo da Salò (1540–1609) and Gio Paolo Maggini (bap. 1580; *d* ?1630–31). Cremona's fame was due at first to Andrea Amati (*b* before 1511; *d* 1577) and his descendants. In the early 17th century his sons Antonio and Girolamo (i) were making superb instruments, working together as 'the brothers Amati'. The violins made by Girolamo's son Nicolò are generally considered the pinnacle of the Amatis' achievement. Although the family's traditions were carried into the next generation by Girolamo (ii), Nicolò's mantle passed to more illustrious pupils outside the family, most notably Antonio Stradivari (*b* 1644–9; *d* 1737) but also Andrea Guarneri (1623–98). Guarneri in turn founded a dynasty, the most distinguished member being his grandson Giuseppe Guarneri ('del Gesù') (1698–1744). The latter has for the past two centuries been regarded the greatest maker after Stradivari. His contemporary Carlo Bergonzi was followed into the trade by a son and grandsons. Numerous references in writings of the period point to the prestige of acquiring a Cremona violin. English court records from 1637 onwards distinguish between the purchase of Cremona and other, by implication more ordinary, violins. In the early 18th century Roger North observed that so many fine instruments had been imported 'that some say England hath dispeopled Italy of violins'.

Distinguished violin makers in other parts of Italy in the late 17th century and the 18th included Matteo Goffriller, Sanctus Seraphin and Domenico Montagnana in Venice, David Tecchler and Michael Platner (*f* 1720–50) in Rome, the Gagliano family in Naples, Giovanni Grancino and the Testore family in Milan, Camillo Camilli and Thomas Balestrieri in Mantua, Giovanni Tononi in Bologna and his son Carlo in Bologna and Venice.

One non-Italian maker was of cardinal importance in the 17th century: Jacob Stainer, who worked in Absam in the Tyrol. His characteristically high-arched violins are easily distinguished from Cremonese models and were greatly prized (and imitated) in the 17th and 18th centuries (for illustration see [STAINER, JACOB](#); see also fig.13a below). Two other centres were the source of a large number of well-made, though not especially sought-after, violins. Mittenwald in Germany became identified with violin making in the 17th and 18th centuries through the work of Mathias Klotz and his descendents, and to this day it has sustained a reputation as a centre for violin making (and for the teaching of the craft). Mirecourt in France had similar associations in the 17th and 18th centuries, though many makers who learned their skills there moved on to Paris. (The last and most famous of these was Jean-Baptiste Vuillaume, who left in 1818.) By the early 19th century Paris had in fact taken over as the violin-making capital of the world; Nicolas Lupot, especially, was thought to have absorbed the principles of Stradivari better than the makers still working in Cremona. Fine instruments were produced by his friend and business associate François-Louis Pique and by his apprentice Charles-François Gand. (Paris was also identified with bows of the most advanced design and superb craftsmanship thanks to the work of the Tourte family.)

Preferences in the late 18th century do not match up with the modern view that Stradivari represents the doyen of violin makers. The 1785 edition of the *Encyclopédie Méthodique* names Jacob Stainer as the maker of 'greatest reputation' followed by the Amatis (and principally Andrea and the brothers Amati rather than Nicolò). 'Among the skilled makers of more recent date', Stradivari is singled out as having made 'a very large number of good violins; the merit of his instruments consists in their masculine, powerful, and melodious tone'. This hierarchy was endorsed in the later 18th century by the violin makers Antonio Bagatella (1786) and Giovanni Antonio Marchi (1786) and, in a less clear-cut way, the theorist Francesco Galeazzi (1791). The change in fashion is thought to have started in France, thanks to G.B. Viotti's persuasive playing in the 1780s on Stradivari and Guarneri instruments. Michel Woldemar expressed a preference for Stradivari and Guarneri over Amati and Stainer because of their more vigorous sound but also because he considered the less pronounced arching more convenient for holding the violin when

playing virtuoso music. A history of violin making written by the Abbé Sibire (1757–1827), *La Chélonomie, ou Le parfait luthier* (Paris, 1806), culminates in a paean to Stradivari:

"I prostrate myself in front of the patriarch of violin makers. ... If in his century a competition had been staged in which all the great violin makers had been judged by their best works, the five Amatis would have obtained honourable mention, Stainer would have been runner-up, but without hesitation and unanimously, Stradivari would have been awarded the prize. ... The first six are simply admirable, each one in a particular aspect of the art, while the last is perfection itself."

That reputation remains intact: 'Stradivari' has become a byword for perfection and value.

(b) Characteristics of 'Baroque' and 'Classical' violins.

Violins of the Baroque period are distinct in a number of basic features from their modern counterparts. The neck, usually shorter than on modern instruments, projects straight out from the body so that its upper edge continues the line of the belly's rim. The neck is fixed by nails (or occasionally screws) through the top-block rather than mortised into it as in modern instruments. The fingerboard is wedge-shaped and, again, shorter than the modern fingerboard. Bridges were cut to a more open pattern and were very slightly lower. The bass-bar was shorter and lighter and the soundpost thinner. Violins (and violas) lacked chin rests. The tone of these instruments is brighter, clearer, less loud and less 'mellow' than that of their modern counterparts.

Such a summary, necessarily peppered with inexact comparative adjectives, may be useful enough; but getting beyond it is no easy matter. Throughout the period all these instruments underwent change, which took place unevenly in different parts of Europe. To acknowledge this is to recognize the term 'Baroque violin' as merely a serviceable generalization. Instruments which have never been altered are scarce and may be of dubious value as models: their survival intact may be attributable to their lack of appeal to discriminating players. Contradictions and approximations in other sorts of evidence create difficulties. The James Talbot manuscript of around 1695 (*GB-Och* Music MS 1187) gives measurements for a whole range of wind and string instruments but its laconic notes are sometimes tantalizingly inconclusive. Another late 17th-century manuscript, the violin method attributed to Sébastien de Brossard (*F-Pn* Rés.Vm), contains a few apparently detailed measurements, but these are surprising. The bridge, for example, seems thinner rather than thicker than modern bridges: 'about a *demie-ligne*' (1:125 mm) for the base, and the top should be 'thin, but not too much so or it will cut the strings'.

The term 'Classical violin' is another convenient generalization. The key features of violins that were used in the second half of the 18th century and the early years of the 19th were the size of the soundpost and bass-bar and the length of the neck and fingerboard. (Chin rests and shoulder rests still did not exist.) Not surprisingly, these dimensions on Classical instruments lie mostly somewhere between 17th-century and modern averages. This is not to say that the Classical violin should be regarded as a 'transitional' instrument, at least not without acknowledging that the violin has always been and continues to be in a state of transition.

Hardly any extant soundposts can be positively identified as late-18th-century, but the manuscript treatise on violin making completed by the Bolognese violin maker G.A. Marchi (*f* from c1755) in 1786 suggests that some makers must have been inserting soundposts as large as the modern standard (6.5 mm), with a diameter 'such that it can only just pass through the f-holes'. More substantial bass-bars were used as the century progressed – but the picture is far from simple. Surviving examples show great variation within an overall trend towards increase in mass. Compared with Baroque period models, original necks from the later 18th century tend to be longer and slightly tilted back. Fingerboards show considerable variation in length (and besides, some late-18th-century players were using instruments built long before). Mozart owned an early-18th-century Mittenwald violin which still has its original fingerboard (long enough to play up to *d'''*). An unaltered 1783 violin by Antonio Gagnani (Smithsonian, Washington, DC) allows for a range of a 12th above the open string, that is, up to *b'''*. Marchi noted that it was better to copy longer fingerboards 'because some players today are so good that they can exploit the whole

length'. Galeazzi advised that fingerboards should be long enough to produce the note two octaves above the open string.

Throughout the 19th and 20th centuries, the most sought-after violins were those made in the previous two centuries, especially Cremonese instruments. But virtually all of these have been altered to bring them into line with later ideas about tonal quality and strength in a violin. Quite a lot of updating must have taken place as an incidental by-product of repairs and more drastic alterations. Many over-confident makers and repairers took it into their heads to adjust the thicknesses of backs and bellies on instruments that came into their workshops. By Marchi's own account, he made comparatively few new instruments since he was kept very busy repairing and 'improving the quality and strength of tone' of old instruments. (He mentions in particular reducing cellos to smaller forms.)

Antonio Bagatella, in his *Regole per la costruzione de' violini* (Padua, 1786), said that he got his break as a violin maker because Tartini sent many violins to him for adjustment. He described altering a great many old violins to give them either a 'voce humana' (suitable for solos) or a 'voce argentina' (for orchestral playing). The essay gives dimensions for the neck (virtually modern length) and bass-bar (puzzingly small), and describes in detail how the soundpost should be fitted; but it never even hints that those found in older instruments would need altering. Bagatella described a gadget he had invented for ensuring that the neck is correctly aligned, and from this it is clear that he was still using the traditional way of fixing the neck to the body with nails through the top-block.

The Hills, in their pioneering study of Stradivari (B1902), quoted from the journal of Dom Vincenzo Ascensio who described alterations he made to the quintet of Stradivari instruments at the Spanish court in the 1783. In the interests of what he called 'improving the tone' Ascensio almost certainly modernized the dimensions of neck and bass-bar (though claiming to be following Stradivari's principles). But this was all mixed up with more barbaric acts; Ascensio, too, 'corrected' thicknesses, as shown by his description of repairs to the violoncello:

"I pieced the centre, replaced the bar by one adjusted to mathematical proportions based on that of Stradivari. I corrected the thicknesses, pieced the four corner-blocks, took the back off and inserted a piece in the centre, as it was too thin. I had to replace the neck, which I did in the most careful manner. I then adjusted the instrument, the tone of which was rendered excellent by all these changes."

Marchi, Bagatella and Ascensio were among many craftsmen working in the second half of the 18th century who participated (at least piecemeal) in what we now see as something of a revolution: the adaptation of old instruments to modern requirements. The nonchalance with which they write about what would now be considered fundamental transformations in an instrument suggests that much of the modernization must have been carried out with no other aim than to apply current best practice in the craft. It was only from the early 19th century onwards that the practice of replacing bass-bars and resetting necks was explicitly acknowledged. In 1806 the Abbé Sibire wrote at some length on the subject in *La Chélonomie*. He described these structural changes as a response to changes in musical expression:

"I shall confine myself hereafter to a daily occurrence It is a kind of restoration (loosely called) which is purely accessory and yet at the same time crucial. This is a process which does not imply the slightest deterioration and yet which virtually every old violin, no matter how well preserved it is in other ways, could not avoid: REBARRING. The revolution which music has experienced needs to be replicated in instrument making; when the first has set the style, the other must follow. ... Formerly it was the fashion to have necks well elevated, bridges and fingerboards extremely low, fine strings, and a moderate tone. Then the bass bar, that necessary evil in the instrument, could be short and thin because it was sufficient for it to have enough strength to sustain the weight of five to six pounds which the strings exerted on it. But since then music,

in becoming perfect, has placed a demand on violin making. The tilting back of the neck, the raising of the bridge, of the fingerboard, and the amplification in sound, necessitate increasing by a full third the resistant force. Repairers have only one choice: strengthening the old bar, or replacing it with a new one."

Vincenzo Lancetti (*Notizie biografiche*, Milan, 1823) suggested that the process of replacing necks was in full swing by the end of the 18th century and implied that this started in Paris: 'About 1800 the Brothers Mantegazza were restorers of instruments who were often entrusted by French and Italian artists to lengthen the necks of their violins, after the Paris fashion, an example which was followed by amateurs and professionals all over North Italy'.

Violin strings in the 17th and 18th centuries were usually gut, although metal stringing was known and liked for a short time at the beginning of the Baroque period. In his *Syntagma musicum*, ii (2/1619) Praetorius expressed the opinion that 'when brass and steel strings are used on these instruments they produce a softer and lovelier tone than other strings'. There were various types of gut string. Exactly what 17th-century musicians understood by such terms as 'minikins', 'gansars', 'catlines', 'Lyons' and 'Pistoy basses' is not absolutely clear, but the vehemence with which these were variously recommended or condemned indicates that the distinctions were important. The invention in the late 20th century of strings made of roped gut to which the term 'catline' has been appropriated is not based on secure historical evidence, although they can sound good. By the early 18th century gut strings wound with silver were being used on various instruments. These appear to have been invented in Bologna in the mid-17th century (see Bonta, B1977). They must have reached England by 1664 since John Playford (i) advertised them then as a 'late invention ... which sound much better and lower than common Gut Strings, either under the Bow or Finger'. Because they allowed for an increase in mass without an increase in diameter (and consequent loss of flexibility), covered strings could produce good-sounding bass notes from a shorter vibrating length than pure gut strings of the same pitch. For the violin this meant a more resonant and refined-sounding G string. There is, however, evidence that in parts of Europe (notably Italy and Germany) violinists continued using pure gut G strings until well into the 18th century. French sources mention strings which are half covered ('demi-filée' i.e. wound with a single open spiral of metal thread). The manuscript treatise attributed to Brossard recommends them for the D string. Such strings are extremely resonant and mediate well between the covered G string and a pure gut A. (See also [STRING, §3.](#))

For discussion of bows of the period see [BOW, §I, 3](#) and [4](#).

(ii) Violinists and repertory.

(a) Italy.

If violin making was virtually an Italian preserve at the beginning of the 17th century, so too was the development of an idiomatic soloistic repertory for the instrument. It is, of course, coincidence that the greatest *stile moderno* composer, Monteverdi, came from Cremona – though his realization of the violin's rhetorical power and his exploration of its technical resources in such works as *Orfeo* (1607) or *Il combattimento di Tancredi e Clorinda* (1624) may owe something to his origins. Works by other composers of the period also seem to be born of excitement at the possibilities of the instrument: notably, Tarquinio Merula, also Cremonese, G.P. Cima from Milan; Salamone Rossi from Mantua, one of Monteverdi's colleagues there; Biagio Marini, a Brescian composer and instrumentalist who also worked under Monteverdi, this time in Venice; Marco Uccellini from Modena; Maurizio Cazzati, associated primarily with Bologna; Giovanni Legrenzi, whose career took him from Bergamo to Ferrara and elsewhere; and Carlo Ambrogio Lonati, who played throughout Italy. Their contributions to the repertory, and many others, are surveyed in Apel (F1983). Their works poured from the presses in Venice (which dominated Italian music publishing in the first 60 years of the century), and then also from Bologna and, to a lesser extent, other Italian cities. Allsop (D1996) noted that the paucity of surviving manuscripts means that we are hugely dependent on printed sources for our knowledge of 17th-century Italian violin music, which may give us a distorted view of the technical achievements of these composer-violinists. It is possible that Italian violinists were just as adept at multiple stops, for example, as their

German confrères; but the limitations of movable type ensured that, if this was so, it has not been recorded.

In the early part of the century the terms 'canzona', 'sonata' and 'sinfonie' were largely interchangeable. Many pieces were based on popular songs (and were often given titles which point to their origin); others (with titles like 'Sonata sopra l'aria di Ruggerio') were variations on stock themes or bass lines (the numerous *ciaccone* and *passacaglias*). Single-movement pieces, in which contrasting sections initiated by new thematic material or different metre run on one into the next, gave way in the 1620s to single-movement sonatas with sections separated by full cadences. In the early 1640s the first sonatas divided into distinct movements appeared. (See also [SONATA, §§I–II.](#))

Almost all publications were miscellanies for different combinations of instruments, often unspecified ('per ogni sorte d'istrumenti') and often, at least until around 1640, naming cornett as an alternative to the violin. Hindsight, moulded by the way these genres developed in the early years of the 18th century, has encouraged the notion that two combinations were especially important in the violin repertory of the Baroque era: the trio sonata and the sonata for solo violin and continuo. Any examination of the full range of violin music of the period, particularly before 1650, gives a rather different picture: these were only two possibilities in a wide range of dispositions. It was not until the later 17th century that collections of pieces for any one standardized combination involving violin appeared. Corelli's orderly arrangement of *Sonate a tre* in opp.1–4 (Rome, 1681–94) was a new development in the 1680s. The inadequate modern term 'trio sonata' is used to describe music written both for two treble instruments and basso continuo and for two treble instruments with a more thematically significant bass part plus, often, a continuo part which may be identical to, or a simplification of, the melodic bass. Italian practice in the 17th century (even then not properly understood outside Italy) was to designate pieces *a2*, *a3* etc. by the number of melodic lines, disregarding any basso continuo part. A sonata *a2* may well involve two violins and basso continuo while a sonata *a3* might also require only three players, not four.

Italian virtuosity was exported as violinists and composers for violin moved around Europe. G.B. Buonamente left Mantua to work at the Viennese court. Biagio Marini spent long periods in Düsseldorf between 1623 and 1645, and Carlo Farina worked in Dresden with Schütz. The Florentine G.B. Viviani spent substantial periods between 1656 and 1676 at the court at Innsbruck. It is in the eccentricities of these composers that the connections are most easily seen; virtually every special effect (see §(iii) (e) below) in Farina's *Capriccio stravagante* (1627) is matched in J.J. Walther's *Hortulus chelicus* (1688), except *col legno*, which was, however, used by H.I.F. von Biber. However, these are obviously symptoms of a more general cross-fertilization, a shared enthusiasm for the violin's potential. Other Italian composers of violin music, not necessarily violinists themselves, who spent part of their careers north of the Alps include G.M. and G.F. Cesare, Tarquinio Merula, Massimiliano Neri, Antonio Bertali and P.A. Ziani. The violinist and composer Giuseppe Torelli, most closely associated with the orchestra at S Petronio in Bologna, was from at least 1698 to the end of 1699 *maestro di concerto* for the Margrave of Brandenburg in Ansbach.

The steady stream of musicians into Italy was another way in which the Italian style was disseminated. Schütz had two periods of study in Venice, first with Gabrieli and then with Monteverdi. Johann Rosenmüller spent more than 20 years working in Venice. As a young man Johann Jakob Walther entered the service of Cosimo III de Medici in Florence. The influx of foreign musicians seeking instruction, inspiration and good instruments in Italy reached flood proportions by the later 17th century, especially after Corelli came to prominence; notably, Georg Muffat, N.A. Strungk and J.G. Pisendel all studied in Rome.

Arcangelo Corelli had an extraordinary influence. To him more than to any other composer of the central Baroque period may be attributed the acceptance of certain instrumental genres as deserving of composers' attention: what we now call trio sonatas, continuo sonatas and concerti grossi. He thus had a classicizing role; and this extended beyond the broader structures into musical detail of all kinds. Sir John Hawkins was later to comment that 'Men remembered, and would refer to passages ... as to a classic author' (1776). Corelli's reputation as a violinist was already well established by 1686 when the Roman agent of Francesco II d'Este reported that 'There is much doubt that he would leave Rome because he is so highly esteemed, cherished, and paid here'. The op.5 violin sonatas, published in Rome in 1700, were eagerly awaited by a

European-wide audience. The collection went through a prodigious number of editions in the course of the 18th century. The edition published in Amsterdam by Roger in 1710 purporting to contain embellishments for the Adagio movements 'as M. Corelli himself plays them' (for an illustration from the third edition of 1715, see [ROGER, ESTIENNE](#)), was controversial from the outset; whether or not the ornamentation was supplied by Corelli (which seems likely), the publication provides evidence of the performing practice expectations surrounding Italianate slow movements in the period.

Corelli's op.5 provided a model for many other sonata collections. Francesco Geminiani's op.1 sonatas (London, 1716), though technically more advanced than Corelli's op.5, acknowledge a debt to them in the opening sonata, which has a first movement alternating between short *adagio* passages and brilliant *allegro* passage-work. Other works also take their points of departure from one or another of Corelli's sonatas. Tartini's *L'arte dell'arco* (1758) is a set of 38 variations on the Gavotte from op.5 no.10. The *Dissertazioni ... sopra l'opera quinta del Corelli* by Francesca Maria Veracini is a more back-handed compliment since, as J.W. Hill (*The Life and Works of Francesco Mária Veracini*, Ann Arbor, 1979) demonstrated, it consists of reworkings of the op.5 sonatas to enhance the compositional structures (tightening up the counterpoint etc.). Telemann's *Sonate metodiche* (Hamburg, 1728 and 1732) provide models (rather different in approach from the Roger edition) for playing Corelli-style Adagios, while the *Sonates corellisantes* (Hamburg, 1735) represent a more general tribute.

The violinists who either learned from Corelli or acknowledged his influence were legion. According to Roger North, 'divers young gentlemen [travelled] into Italy, and after having learnt of the best violin masters, particularly Corelli, returned with flourishing hands; and for their delicate contour of graces in the slow parts, and the *stoccata*, and spirit in other kinds of movements, they were admired and imitated'. Many Corelli disciples (both pupils and other violinists who were perceived as wearing his mantle) made their careers outside Italy. Giovanni Steffano Carbonelli (d 1752), Pietro Castrucci and his brother Prospero all, like Geminiani, ended up in London, Michele Mascitti in Paris, and P.A. Locatelli in Amsterdam. Locatelli's *L'arte del violino*, 12 concertos with written-out cadenzas and 24 virtuoso caprices for unaccompanied violin, have earned him the title 'the Paganini of the 18th century'. Corelli's pupil Giovanni Battista Somis taught Jean-Marie Leclair *l'aîné*, Louis-Gabriel Guillemain and Gaetano Pugnani, who, in turn, was Viotti's teacher. Geminiani's pupils included Matthew Dubourg, Michael Christian Festing and Charles Avison. Many of these musicians seem to have regarded the ability to perform a Corelli sonata as the touchstone of musical sensitivity. Hubert Le Blanc wrote that 'one of the most beautiful things to hear was an Adagio of Corelly played à la Geminiani'. Though Locatelli was famous primarily for the strength of his playing, his rendering of the opening Adagio of Corelli op.5 no.4 was, according to Blainville, enough to make a canary fall from its perch in a swoon of pleasure.

Unlike Corelli, Antonio Vivaldi died in reduced circumstances, and his music fell out of fashion within a few decades. Yet he had been both prolific and popular. He had a formidable technique: in 1715 Uffenbach heard him play a cadenza in which 'he brought his fingers up to only a straw's distance from the bridge, leaving no room for the bow – and that on all four strings with imitations and incredible speed'. Two enduringly important Vivaldi collections were published in Amsterdam during his lifetime: *L'estro armonico* in 1711 and *Il cimento dell'armonia e dell'inventione* (the collection which includes the 'Four Seasons' concertos) around 1725. The first is an orderly presentation of four concertos each for four, two and one solo violins (some also with cello obbligato). Forkel asserted that Bach studied these works as models, and Bach transcribed several of them as harpsichord concertos or solo organ works. Quantz (in his autobiography of 1754–5) also said that 'the magnificent ritornellos of Vivaldi served me as excellent models'. Certainly Vivaldi established a three-movement template for the solo concerto which was to become the norm during the 18th century. The 'Four Seasons' concertos prompted imitations (G.A. Guido's *Le quattro stagioni dell'anno* op.3) and arrangements (Nicolas Chédeville's *Le printemps ou Les saisons amusantes*, 1739). They became a standard part of violinists' repertory; Michel Corrette (c1782) gave fingerings for some of the more difficult passages (this is not the only work by Vivaldi to have received his attention in this way).

Giuseppe Tartini was a figure of immense importance. His early biographers insist that, after hearing F.M. Veracini play in Venice (probably in 1716), Tartini went into seclusion for several years in order to perfect his technique (which, as his more than 125 concertos reveal, was prodigious). In 1721 he became first violinist at the basilica of S Antonio in Padua. In about 1728

he founded what became known as the 'School of Nations', attracting students from all over Europe, including Pietro Nardini. Some of his teaching principles are encapsulated in the *Traité des agréments de la musique* (Paris, 1771), which also survives in various manuscript versions copied by his pupils and in the letter to Signora Maddelena Lombardini, published in Venice in 1770 and then in English (1771), French (1773) and German (1784) translations. Quantz, who had heard him in Prague around 1723, recorded his impressions in his autobiography:

Tartini is a violinist of the first order; he produces very beautiful sounds. His fingers and bow obey him equally well. He executes the greatest difficulties with ease. He does trills and double trills with all his fingers perfectly and he plays in high positions a great deal. But his performance has nothing moving about it; his taste is not noble and often it is absolutely contrary to good style.

Tartini's favourite and most illustrious pupil was Nardini, known particularly for the beauty of his tone and his expressive performance of Adagio movements. Nardini, in turn, taught or influenced many others who were to affect the development of violin performance and repertory: Thomas Linley (ii), Antonio Lolli, Pollani (the teacher of Pierre Baillot), Bartolomeo Campagnoli (whose violin method was influential) and Cambini (another author of a violin method). Nardini and Lolli were both employed at the Stuttgart court in the 1760s; Lolli subsequently toured throughout Europe.

Gaetano Pugnani was similarly influential. His playing was characterized by power and richness. He is said to have adopted a straighter, longer bow and used thicker strings. Viotti, who came to prominence at the end of a two-year European tour with his teacher, described himself as 'pupil of the famous Pugnani'.

(b) England.

In the first half of the 17th century, expert playing of the violin (as distinct from the viol) in England seems largely to have been confined to the court. The major strides in the development of violin technique in England seem to have been prompted by players from Europe. The best performers, at least until the 1630s, were such French imports as Jacques Cordier (also known as Bocan) and Stephen Nau (who was appointed composer for the violins, and effectively leader of the violin ensemble, early in the reign of Charles I). Davis Mell, one of the violinists under Nau, was the composer of twelve 'suites' (*GB-Och* Mus. 433) and various pieces in Playford miscellanies (notably *The Division Violin*, 1684). These require good left-hand facility (though never extending beyond 3rd position) and agile bowing for rapid division work. There was a new wave of French fashion after the Restoration when Charles II (who had spent his formative years in France) reconstituted the court violin band as an ensemble of 24 violins under the directorship of Louis Grabu. Foreign influences were not exclusively French. About 1656 the German violinist Thomas Baltzar came to England after the dissolution of Queen Christina's Swedish court, and about 15 years later the Italian Nicola Matteis (i) arrived. These two virtuosos revolutionized English attitudes to violin playing. The diarist John Evelyn recorded that the English had considered such players as Mell 'as excellent in that profession as any were thought in Europe' until Baltzar came on to the scene. 18 years later, he described Matteis's virtuosity with a sense of wonder, saying that he 'seem'd to be so *spiritato'd* & plaid such ravishing things on a ground as astonished us all'. A group of solo violin pieces by Baltzar (*GB-Ob*, Mus. Sch. F.573) require considerable facility in chordal playing and string crossing. Matteis's four books of airs (1676 and 1685) demonstrate a highly developed technique and a fiery imagination.

By the end of the century Italian violin composition had an enormous impact on English taste. Purcell three times acknowledged the importance of Italian models for his own work: in the prefaces to the *Sonnata's of III Parts* (1683) and *Dioclesian* (1691), and in the section on composition he contributed to the 12th edition of Playford's *An Introduction to the Skill of Music* (1694). In the 18th century London, as the largest and most cosmopolitan city in Europe, became a mecca for foreign virtuosos, many of whom (Geminiani, F.M. Veracini, Felice Giardini and Viotti) settled there at least for a time. Native English violinists seem not to have been able to hold their own against this sort of competition. Had he not died in a boating accident at the age of 22, Thomas Linley (ii) might have been an exception to this trend. Linley, an able composer, studied with Nardini in Florence (and struck up a warm friendship with Mozart whom he met there).

(c) Germany and Austria.

German violin playing in the first half of the 17th century seems, on the basis of the surviving repertory, to have been comparable to that in England. In fact, such English expatriates as Thomas Simpson and William Brade had a significant influence in the first quarter of the century, though their published works consisted essentially of non-virtuoso consort dance arrangements. Brade knew Johann Schop (i) and taught Nicolaus Bleyer, whose variations on *English Mars* (c1650) are among the earliest German pieces for violin and bass. It was the next generation of Germans who, inspired by Italian violinists, emerged as virtuosos. The progression from technically-modest consort repertory to extremely demanding soloistic showpieces can be traced through the works of a succession of violinists employed at the court of the Elector of Saxony at Dresden. J.W. Furchheim (in Dresden by 1651), J.J. Walther and J.P. von Westhoff (both there from 1674), N.A. Strungk (from 1688) and J.G. Pisendel (from 1712) might well be considered a 'Dresden school'. Of these, Walther, Westhoff and possibly Pisendel take their place alongside J.H. Schmelzer and H.I.F. von Biber in the first rank of violinist-composers of the 17th century. Schmelzer seems to have been playing at the Viennese court from around 1635, though he had to wait until 1649 (the year in which Antonio Bertali was appointed Kapellmeister) for an official appointment. In 1679 Schmelzer was himself promoted to Kapellmeister. He was the first non-Italian to hold the post, and his *Sonatae unarum fidium* (1664) were the first published sonatas for solo violin and continuo by a non-Italian. His music is extrovert and technically demanding. In 1660 Schmelzer was described by J.J. Müller as 'the most famous and nearly most distinguished violinist in all Europe'. Biber (1644–1704) may have studied with Schmelzer and was certainly well aware of his achievements; the opening of Biber's sonata 'La Pastorella' is a transcription using double stops of Schmelzer's trio sonata of the same name. A penchant for multiple stops and chordal playing (evident in both the 'Rosary' or 'Mystery' Sonatas (c1676) and the *Sonatae violino solo* of 1681) distinguish Biber's writing from Schmelzer's.

Walther seems to have taken a somewhat competitive attitude to Biber. His preface to *Hortulus chelicus* (1688) claims that the collection is based on a sound orthodox technique rather than ostentatious virtuoso tricks such as 'squeaking on two or more strings falsely tuned *ad nauseam*' – a barb clearly aimed at Biber's fondness for scordatura writing (see §(iii) (e) below). For all that, *Hortulus chelicus* and the earlier *Scherzi da violino solo* (1676) provide a compendium of virtuoso devices; they represent the technical summit of German violin playing at that time.

As a composer of violin works, J.S. Bach neglected the main genres of his age. The solo violin concertos (BWV1041 and 1042) and the concerto for two violins (BWV1043) are in the Vivaldian mould, though they far outstrip their models in musical content (especially in harmonic complexity). But with the exception of that contained in the *Musical Offering* there are no authentic trio sonatas involving violin, and there are just two continuo sonatas, dating from early in Bach's career. He did, though, invent new genres of his own. The six sonatas for harpsichord and violin (BWV1014–19) are the earliest such compositions, effectively trio sonatas in which the harpsichord acts as both second violin and bass. There is a significant repertory of unaccompanied violin music before Bach's (1720): by Thomas Baltzar (in *GB-Ob* Mus. Sch. 573), J.P. von Westhoff (a suite for violin 'sans basse', 1683, and six partitas, 1696), Biber (Passacaglia, c1676) and J.G. Pisendel (unaccompanied sonata, ?1716). But nothing approaches the Bach solo violin sonatas and partitas (BWV1001–6) either for musical architecture or for a comprehensive exploration of the technical and expressive capabilities of the violin.

Pisendel was a pivotal figure in the history of the violin in 18th-century Germany. A pupil of Giuseppe Torelli (at Ansbach) in his youth, Pisendel travelled in the entourage of the Elector of Saxony to both France and Italy where, in 1716, he took lessons from Vivaldi. His seven violin concertos show his indebtedness to this composer. Pisendel was influential in what is sometimes referred to as the Prussian school. Quantz paid tribute to his playing of Adagio movements; it may well be Pisendel's practice which is codified in Quantz's systematic account (*Versuch*, 1752) of how to decorate such movements. Pisendel taught Johann Gottlieb Graun, who in turn taught Franz Benda, a prolific composer for the violin who was also famous for his affecting performance of Adagios (some of his ornamentations survive).

The four great composers of the classical Viennese School all studied the violin. Joseph Haydn did so at St Stephen's in Vienna during his childhood, and though he was to describe himself later as 'no conjuror on any instrument', his writing for the violin shows a player's understanding.

W.A. Mozart doubtless began his instruction on the instrument with his father, whose *Versuch einer gründlichen Violinschule* (1756) was the most comprehensive work on violin playing yet to have been published. Mozart's abilities as a violinist were exceptional, even though after he settled in Vienna in 1781 he chose to concentrate as a performer on the piano (he continued to play the viola in informal chamber music gatherings). From 1789 to 1792 Beethoven was employed as a viola player in the Bonn court orchestra; Schubert, during his years as a pupil at the Imperial and Royal City College in Vienna, became leader of the first violins in Josef von Spaun's student orchestra. All four wrote works for violin and orchestra. The last three (K216, K218 and K219) of the violin concertos Mozart wrote in Salzburg in 1775 give cause to wonder what masterpieces might have ensued had he contributed to this genre during his Vienna years. The Beethoven violin concerto (op.61, 1806), a work driven by musical rather than virtuoso imperatives, has been a cornerstone of the repertory ever since Pierre Baillot and Joseph Joachim rescued it from near oblivion in the mid-19th century. Perhaps the greatest contribution of the Viennese composers to violin repertory is in chamber music. The string quartets of all four are of exceptional importance. In his violin and piano sonatas Mozart transformed the accompanied sonata into the duo sonata. This development was consolidated and extended in the ten great sonatas by Beethoven, whose 'Kreutzer' sonata (op.47, 1803) establishes a new register both technically and musically for the genre; Beethoven described it as being 'written in a very virtuoso style like a concerto'.

(d) France.

The link between dance and violin playing dominated the history of the instrument in 17th-century France. French dancing masters, for whom violin playing was essentially an ancillary skill, were in demand all over Europe and in England. The music they composed was simple, often little more than an assemblage of stock melodic formulae subsequently scored for five-part string ensemble. In this form, though, the music and their performances became the envy of Europe. The *Ballet de la délivrance de Renaud*, performed at the French court in 1617, mentions 24 violins playing together (a number which may owe less to any musical rationale than to an allusion to the courtly ensemble of 24 musicians surrounding the throne in *Revelation* v.8). Exactly when this became a fixed ensemble (as distinct from a group assembled for a particular occasion) is unclear but there seems no particular reason for specifying 1626, the date so often given. By the time Lully came to prominence at the French court, the 24 Violons du Roi were an established court orchestra; they remained an important institution into the 18th century, although under Lully the élite 'Petits Violons' (c1656–c1664), otherwise known as 'La Petite Bande', soon surpassed them.

The next generation began writing music which made virtuoso demands on performers. Elisabeth Jacquet de la Guerre composed two sonatas for violin, bass viol and continuo (c1695) which contain the first documented use of double stops in French violin music. In 1704 Michele Mascitti, who had recently settled in Paris, published the first of nine collections of violin sonatas and François Duval his first book of *Sonates*; in 1705 Jean-Féry Rebel published his *Pièces de violon avec la basse continue*. Both Rebel and Duval were members of the court orchestra, but both were influenced by Italian practices. Michel Corrette (1753) claimed that Rebel heard and was inspired by the first Paris performance of Corelli's sonatas. He also asserted that these works seemed too difficult at first for French violinists and that Duval and Baptiste, who studied with Corelli in Rome, were among the first to master them.

In the next generation of violinists two figures stand out: Jean Baptiste Senaillé and Jean-Marie Leclair *l'aîné*. Senaillé, who is thought to have studied with G.A. Piani, published five books of violin sonatas between 1710 and 1727. Senaillé's music exploits a wide range of bowstrokes and requires a well-developed left-hand technique (reaching 7th position on the fingerboard). In 1738 the *Mercure* credited him with the development of violin playing in France, claiming that his music was so attractive that violinists were keen to master its technical difficulties. Senaillé taught other important violinist-composers, notably Jacques Aubert and Louis-Gabriel Guillemain.

J.-M. Leclair *l'aîné* began as a promising dancer and violinist in Lyons. But after publishing his op.1 violin sonatas in Paris in 1723 he went to Turin, where he studied with Giovanni Battista Somis. He performed with Locatelli in Kassel in 1728 before returning to Paris where, for the next eight years or so, he was a frequent performer at the Concert Spirituel. His sonatas are demanding by any standards, ranging up to 8th position and requiring an agile left hand with such

devices as double trills in combination with a wide vocabulary of bowstrokes. His younger brother, Jean-Marie Leclair *le cadet*, spent most of his career in his native Lyons, but his set of violin sonatas, op.1 (1739) require a sophisticated technique.

Two other brothers associated with the coming-of-age of violin virtuosity in France were Louis and François Francoeur, both members of the 24 Violons. Jean-Joseph Cassenée de Mondonville further extended the technical demands of the French violin sonata, especially in his sonatas for violin and continuo (1733) and *Les sons harmoniques* (1738). His *Pièces de clavecin en sonates avec accompagnement de violon* (1734) are among the earliest examples of the accompanied sonata, and, at least from the violinist's point of view, the most musically satisfying.

While in the late 17th century and the early 18th French virtuoso violin playing and composition were dependent on Italian teachers and Italian models, by the 1740s an independent French violin school was thoroughly established. The key figures had been taught by their compatriots. L'abbé *le fils* studied with J.-M. Leclair, and at the age of 14 made his debut at the Concert Spirituel playing a Leclair duo with the 13-year-old Pierre Gaviniés. Gaviniés's *Vingt-quatre matinées* (pieces for solo violin in all keys) indicate an advanced technique. He had a huge influence on the next generation of violinists in France; he taught Marie-Alexandre Guénin, Abbé Robineau (who went on to study with Lolli in Naples), Simon Leduc and Nicolas Capron.

In the last 20 years of the 18th century Paris could lay claim to being the violin capital of Europe; the greatest makers worked there and the greatest performers gave concerts there. Most importantly, in 1782 G.B. Viotti made a spectacularly successful début at the Concert Spirituel. Viotti, who made Paris his base for ten years (until political developments forced him to leave for England), had a profound influence. His preferences for the bows of François Tourte and the violins of Stradivari made them the most sought-after. His playing was an inspiration for Rodolphe Kreutzer, Pierre Baillot and Pierre Rode. These three great violinists were professors at the Paris Conservatoire from its founding in 1795, and together in 1803 they produced the Conservatoire's official *Méthode de Violon*, which provided the basis for Baillot's encyclopedic *L'art du violon* (1834).

(iii) Technique and performing practice.

(a) Treatises.

Roger North wrote of techniques 'which may be knowne but not described'. Some subtleties are indescribable, and some, particularly in the 17th century, may have been kept as mysteries of the trade. For all that, the most obvious sources of information on technique and performing practice are treatises. A great deal of fascinating information is contained in two great encyclopedic works, Praetorius's *Syntagma musicum* and Mersenne's *Harmonie universelle* (1636–7). With these outstanding exceptions, however, most 17th-century treatises were written by generalists and directed at amateur players, and confine themselves to rudimentary matters. This tradition of what Boyden (1965), picking up on the title of a 1695 publication, called 'self-instructors' continued throughout the first half of the 18th century.

Many tutors addressed to amateurs do little more than sketch the topography of the fingerboard and provide a few simple tunes. Speer (1697) concluded his instructions for the violin with the frustrating comment: 'a true teacher will be sure to show his student what remains: how to hold the violin properly, how to place it on the breast, how to manage the bow, and how to play trills, mordents, slides and tremolos combined with other ornaments'. Where these writers did venture into technical matters their advice may be suspect. Some, like Prinner (1677) and Berlin (1744), are manifestly non-specialist since they were probably not string players and set out (like Speer) to give instruction in a whole range of musical instruments. Such volumes are, however, not entirely without interest. John Lenton's *The Gentleman's Diversion, or the Violin Explained* (London, 1693), for example, manages – despite its quite explicit targeting of hobbyists – to give us some tantalizing glimpses of the practices of advanced players in turn-of-the-century England. Even such a publication as Robert Bremner's *Compleat Tutor for the Violin* (London, after 1761) helps in an oblique way to fill out the picture. Addressed to beginners, its eight pages of instruction contain almost nothing useful about violin technique. But it includes a charming frontispiece of a violinist with portraits behind him of Corelli and Handel (an indicator of taste), a

revealing one-page dictionary of musical terms, and a fascinating advertisement for musical accessories (e.g. 'mutes or sardines') sold by Bremner.

The picture changed markedly in the mid-18th century with an explosion of treatises written by real violinists for those aspiring to be real violinists: Geminiani's *The Art of Playing on the Violin* (London, 1751), Leopold Mozart's *Violinschule* (Augsburg, 1756), Herrando's *Arte y puntual explicación del modo de tocar el violín* (Paris, 1756) and L'abbé le fils's *Principes du violon* (Paris, 1761). Two other manuals should really be included in this group: Quantz's *Versuch einer Anweisung die Flöte traversiere zu spielen* (Berlin, 1752), since it contains a great deal which is specifically relevant to violin playing, and Tartini's *Traité des agréments*, published posthumously in 1771 but circulating in manuscript for some years before that. Of the many later 18th-century manuals, probably the most significant are G.S. Löhlein's *Anweisung zum Violinspielen* (1774), the French publications of C.R. Brijon (1763), T.-J. Tarade (c1774) and Antoine Bailleux (1798), and the first volume (on violin playing) of Francesco Galeazzi's *Elementi teorico-pratici di musica* (1791).

All of these treatises must be approached with a sense of context (and hence of the limits of their applicability). Quite apart from broad differences in stylistic orientation, performers obviously had diverse ideas, then as now, on matters of technique and interpretation. Geminiani, the pupil of Corelli, is often regarded as an exponent of an Italian violin tradition, but by 1751 he had become fascinated with French music. The hybrid character of his style led John Potter to observe in 1762, 'his taste is peculiar to himself', and even his great admirer, Sir John Hawkins, doubted 'whether the talents of Geminiani were of such a kind as qualified him to give a direction to the national taste' (1776). Hence he should be regarded as a rather idiosyncratic guide to Baroque practice. It is difficult even to establish a context for some volumes. Giuseppe Tartini's precepts were published in the *Traité des agréments de la musique* (Paris, 1771) shortly after his death, but it is generally assumed that at least some of it must have been written before 1756 since Leopold Mozart referred in his *Violinschule* (1756) to Tartini's remarks on the augmented-2nd trill, and virtually plagiarized Tartini's notes on vibrato. It is not known when exactly this work was compiled or how much of it was written by pupils; nor is it clear how to reconcile, for example, Tartini's advice (in the letter to Signora Maddalena Lombardini) to 'make yourself a perfect mistress in every part of the bow' with his puzzling injunction (in the 'Rules for Bowing') never to play near the point or heel. As sources of information on performing practice, treatises must take their place alongside other invaluable (but often also equivocal) forms of evidence such as paintings, observers' accounts of performances, records of payment for instruments and musical services – and, most importantly, the music itself.

(b) Holding the violin.

Where exactly on the upper body the violin rested was not completely standardized until late in the 18th century. In the early Baroque era, violinists might hold their instruments almost as low as their waists (as some traditional fiddlers still do). When Nicola Matteis arrived in England in the 1670s, observers were struck by the way he held the violin against 'his short ribs'. Many players preferred to support the violin against their chests just beneath the collar-bone. John Playford (i) (1654), addressing amateurs, advocated this breast position, but so too did Geminiani writing nearly a century later with much more accomplished players in mind. Even in the later 17th century some chose to rest the violin on the collar-bone with the option of using their chins to steady the instrument, particularly when shifting. Lenton (C1693) advocated resting the instrument on the collar-bone but without chin pressure:

"I would have none get the habit of holding an Instrument under the Chin, so I would have them avoid placing it as low as the Girdle, which is a mongrel sort of way us'd by some in imitation of the *Italian*. ... The best way of commanding the Instrument will be to place it something higher than your Breast your fingers round and firm in stopping."

Obviously, none of these positions can be regarded as standard. G.B. Rangoni's essay on Nardini, Lolli and Pugnani published in 1790 argues that:

"Just as each person is differently built, it follows that the position of the instrument shouldn't be the same for all; and that making anyone hold the violin in a way contrary to their natural bearing (which is always related to the constitution of their limbs) would introduce obstacles in a student's progress and prevent the development of their talent."

As early as 1677, however, Prinner asserted that the violin should be held 'so firmly with your chin that there is no reason to hold it with the left hand – otherwise it would be impossible to play quick passages which go high and then low or to play in tune'. Corrette (C1738) and Berlin (C1744) both regarded chin support as essential when shifting (advice repeated by Bailleux in 1779). In 1756 Leopold Mozart offered violinists a choice between a chest-high hold (elegant, he thought, but inconvenient for shifting) and an under-the-chin method (comfortable and efficient). In the same year, Herrando stated simply that 'The tailpiece must come under the chin, being held by it there, turning the head slightly to the right'.

Various other methods in the second half of the 18th century describe the violin as being held on the collar-bone without specifying whether or not to stabilize it with the chin. In 1761 L'abbé *le fils* proposed that the chin should be on the G-string side of the instrument, but this practice was apparently still not completely accepted by the end of the 18th century. In 1796 Francesco Galeazzi attacked the idea of playing with the chin on the E-string side, and his vehemently defensive tone makes it clear that this must still have been an issue; he claimed that it looked ridiculous, necessitated unwieldy movements with the bow and numbed the left ear because of the proximity of the instrument. The Paris Conservatoire *Méthode* of 1803 states quite unequivocally that 'the violin is placed on the collar-bone, held by the chin on the left-hand side of the tailpiece, and inclined a little to the right'. By the late 18th century chin pressure on one side or the other must have been standard; but this meant something quite different from modern practice. Bartolomeo Campagnoli's treatise of 1824 stresses that the pressure exerted by the chin on the tailpiece must be light and that the head should be held as upright as possible. The inventor of the chin rest, Louis Spohr, listed among its advantages the fact that it makes it easier to hold the head upright. He claimed in his *Violinschule* (1832) that in the ten years since he had invented it, the chin rest had found favour with many violinists; but the *Méthode de violon* (1858) by the great Belgian violinist Charles-Auguste de Bériot fails to acknowledge its existence.

With the exception of Herrando, all of these writers identified shifting as the principal reason for applying pressure with the chin (see [FINGERING, §II, 2](#)). Yet it is obvious that many skilled violinists who held the instrument beneath the collar-bone (and probably others who held it on the collar-bone but without chin support; for illustration see [VERACINI, FRANCESCO MARIA](#)) were capable of playing virtuoso repertory requiring an advanced shifting technique. Even Prinner, the earliest and most vehement advocate of chin-on playing, conceded (1677): 'I have known virtuosos of repute who irrespective of this put the violin only against the chest, thinking it looks nice and decorative'. Pictorial evidence from the 17th and 18th centuries seems to reflect what must have been a genuine diversity in ways of holding the violin. A number of paintings, in fact, depict several violinists, each holding his instrument differently, playing in a single ensemble. For all that, the vast majority of violinists depicted in the art of the period use holds in which the chin could not be used to stabilize the instrument. Geminiani's instructions for shifting (described in [FINGERING, §II, 2\(i\)](#)) are predicated on such a hold and we can only assume that many virtuosos had mastered such a technique (as, in fact, a good number of period instrument players did in the later 20th century).

It may be that chin stabilization was disdained by 17th-century virtuosos but adopted by amateurs as a stratagem that got them around the most perplexing technical problem: that of shifting. In the course of the 18th century the situation reversed itself; by around 1800 professional players were unanimous in resting the chin (however lightly) on the tailpiece, while chin-off methods (especially ways of holding the violin lower than the collar-bone) were the preserve of tavern and traditional fiddlers. (There is a parallel with the adoption of the end-pin on the cello, recognized as a possibility by the early 18th century but spurned by advanced players for almost two centuries thereafter.)

For discussion of bowing technique and other aspects of performing style on the violin in this period, see [BOW, §II](#); [COL LEGNO](#); [ORNAMENTS, §§5–9](#); [PIZZICATO](#); [SCORDATURA, §1](#); and [VIBRATO](#).

David D. Boyden/Peter Walls

5. Since 1820.

(i) The instrument.

(a) The violin.

Most violins made before about 1800 have been modified to yield greater tonal power and brilliance. The flat-model Stradivari flourished as concert instruments, while the highly arched, smaller-toned Stainers and Amatis lost their former popularity. The main body of the violin remained unaltered despite further attempts at 'acoustical improvement', ranging from the construction of instruments from metals, glass, leather, plastics and ceramics to experiments with various shapes, notably Félix Savart's trapezoidal violin with straight sides and straight slits for soundholes (1817) and François Chano's guitar-shaped model with small crescent soundholes (also of 1817).

During the 1960s and 70s, Carleen Hutchins and her associates developed a 'concert violin', with a longer, revamped body and larger f-holes, and a string octet, compromising mathematical, acoustical and violin-making principles to produce instruments in different frequency ranges that possess the dynamic power and timbre of the violin family (see [NEW VIOLIN FAMILY](#)). These instruments range from the contrabass violin (body length 130 cm, tuned $E'-A'-D'-G$) to the small treble (or 'sopranino') violin (tuned an octave above the normal violin).

Experiments with building electric instruments based on the violin family, often with solid bodies and amplified usually by means of one or more sets of electromagnetic pickups or contact microphones (see [PICKUP](#)), have continued since the 1920s (see [ELECTRONIC INSTRUMENTS, §I, 2\(i\)\(c\)](#)). The kit-like Raad violin was developed in the late 1970s to dispense with the earlier primitive arrangement of surface pickups and to cultivate a more sophisticated sound. By allowing the instrument's signal to be amplified, modified or altered through changes in frequency response, rapid changes in amplitude, harmonic alteration (of overtones), echo and reverberation effects, and distortion, it has served a wide range of classical and popular musical styles.

(b) Makers.

The burgeoning concert activity and educational opportunities of the early 19th century increased demand for instruments, especially for cheaper 'factory fiddles', mass-produced in France at Mirecourt and in Germany at Mittenwald and Markneukirchen. Mirecourt is still a centre for specialist craftsmen, having a violin-making school and a small factory which produces high-quality instruments at reasonable prices by implementing some mechanized processes. Similar schools have been established in recent years in Britain (especially in London and Newark-on-Trent), the USA, Italy (Cremona), Switzerland (Brienz), Poland (Poznań) and many other countries.

Although there were some significant 19th-century Italian makers such as G.F. Pressenda (1777–1854), Giuseppe Rocca (1807–65) and Gaetano Chiocchi (1814–81), the leadership in violin making passed to the French, notably Nicolas Lupot (1758–1824), F.-L. Pique (1757–1822) and Lupot's pupils C.-F. Gand (1787–1845) and S.-P. Bernardel (1802–70). Most influential was [JEAN-BAPTISTE VUILLAUME](#) (1798–1875), who worked for François Chano and Simon Lété in Paris before establishing his own business in 1827. In 1855 he purchased Luigi Tarisio's collection of fine Italian violins. His talented workforce copied these instruments, including the 'Messiah' Stradivari, producing many high-quality violins. Most of these bear Vuillaume's label and brand, serial number and the date of manufacture. Among skilled craftsmen who worked for Vuillaume were Paul Joseph Bailly (1844–1907), Honoré Derazey (1794–1883) and Hippolyte Silvestre (1808–79).

J.F. and J.B. Cuypers, the sons of J.T. Cuypers (1724–1808), continued their father's work in The

Hague, but to a lesser standard. Central to the British violin market was the firm of W.E. Hill & Sons, formally established in 1835, as well as the family businesses of J.T. Hart, the younger Georges Chanut, Edward Withers and John Beare. Several skilled foreign luthiers also lived and worked in Britain, among them the younger B.S. Fendt (1800–52), George Craske (1795–1888) and J.F. Lott (1776–1853).

Leading 20th-century makers include C.G. Becker (1887–1975), Sergio Peresson (1913–91), Dario D'Attili (*b* 1922), David Burgess (*b* 1953) and Luiz Bellini (*b* 1935) in the USA; Annibale Fagnola (1866–1939), Giuseppe Fiorini (1861–1934), Cesare Candi (1869–1947), Fernando Sacconi (1895–1973), Vittorio Bellarosa (1907–79), Francesco Bissolotti and Giovanni Battista Morassi (*b* 1969) in Italy; Joachim Schade and Eugen Sprenger (1882–1953) in Germany; Pierre Gaggini (*b* 1903), Etienne Vatelot (*b* 1925) and Frédéric Becker in France; the Portuguese Antonio Capela (*b* 1932); and the Czechs Přemysl Špidlen (*b* 1920), Vilém Kužel, and Tomáš and Vladimír Pilař, as well as several fine Japanese craftsmen. In the postwar resurgence of violin making in Britain the work of William Luff (1904–93), Thomas Earle Hesketh (1866–1945), George Wolme-Hudson (1862–1952), Arthur Richardson (1882–1965), Maurice Bouette (1922–92), Wilfred Saunders (*b* 1927), Clifford Hoing (1903–89), Lawrence Cocker (1912–82), Roger Hargrave (*b* 1948) and Gimpel Solomon (*b* 1934) is outstanding. The early music revival has encouraged craftsmen such as Ronald Prentice (*b* 1932), Derick Sanderson (*b* 1932), Colin Irving (*b* 1945), Rowland Ross and David Rubio (*b* 1934) to make reproduction instruments to Baroque dimensions.

(c) Strings and accessories.

A report by François-Joseph Gossec presented to the Institut national, later published in *Procès-verbaux de l'Académie des beaux-arts*, i (1937), 156–61, puts forward some of the perceived disadvantages of gut stringing: the need to keep them moist; their tendency to unravel; their sensitivity to variation in atmospheric temperature and the common incidence of knots. Yet despite the increased preference for overspun D strings and these well-publicized disadvantages of gut stringing, H. Welcker von Gontershausen strongly advocated all-gut stringing (*Neu eröffnetes Magazin musikalischer Tonwerkzeuge*, Frankfurt, 1855). However, the combination of plain gut E and A, high-twist gut D and a G with copper, silver-plated copper or silver round wire close-wound on a gut core was the norm throughout the 19th century. The gut E was gradually replaced by a more durable and responsive steel variety, and the metal adjuster for greater facility in fine tuning, championed by the violinists Willy Burmester (1869–1933) and Anton Witek. Only a few performers, most notably Fritz Kreisler, persevered with a gut E string as late as 1950. Flesch (C1923) documents the use of an overspun A string, while the high-twist D was replaced by gut with aluminium winding. By the mid-20th century, flat-ribbon and flat-ground round windings (with interleaved plastic) were applied to roped steel and plastic as well as gut, for A, D and G strings; the development of more flexible woven core led to the introduction of metal strings, which have the advantages of longer wear, easier tuning with adjusters (usually on specially designed tailpieces), minimal stretching, and precise moderation of thicknesses for true 5ths. However, their perceived tonal inferiority and the additional pressures they place on the instrument have encouraged a preference for metal-wound strings with a gut or nylon core. Early music specialists employ gut strings almost exclusively; this revival of interest is prompting research into, and attempts at reconstructing, the manufacturing techniques of the late Renaissance period and the Baroque.

Mutes of various types and weight have been employed. The three-pronged clamp model (sometimes two- or five-pronged) made from wood, metal, ivory or, latterly, bakelite remained virtually unchallenged until the mid-19th century, when Vuillaume, J.F.V. Bellon and others attempted (with little success) to introduce models which could be applied more quickly and conveniently. In the 20th century, designs for mutes which are stored between the bridge and the tailpiece, notably the 'Tourte', 'Heifetz' and 'Roth-Sihon' models, have gained preference (see [MUTE, §1](#)).

The [CHIN REST](#) has become a standard accessory, ensuring the stability of the instrument and increased left-hand mobility. Invented by Spohr in about 1820, it was originally of ebony and placed directly over the tailpiece, not to the left side as later became customary. The chin rest only gradually achieved general approbation but has come to be adopted by most violinists. It is normally made from wood (usually ebony or rosewood) or vulcanite, and is available in numerous

forms and sizes.

Pierre Baillot (1834) was the first to recommend 'a thick handkerchief or a kind of cushion' for the correct and comfortable support of the instrument. The production of shoulder rests has been a growth industry since the 1950s, designs ranging from wooden models made in various sizes, to pads affixed to metal frames which grip the instrument with feet covered with rubber protectors, and to inflatable cushions. Late 20th-century pedagogical trends have largely discouraged their use, due to their perceived adverse effect on tone-quality and their causing unwanted body tensions for many violinists.

(d) The bow.

Apart from some minor 19th-century additions and unsuccessful attempts to improve the bow, Tourte's standardized design has remained unsurpassed. The most significant of his French successors worked in Paris or Mirecourt, notably Jacques Lafleur (1757–1833) and his son Joseph René (1812–74), Jacob Eury (1765–1848), Etienne Pajeot (1791–1849), Nicolas Maire (1800–78), Jean Dominique Adam (1795–1865) and his son Grand-Adam (1823–69), and François Lupot (1775–1838); their bows are generally more heavily wooded and slightly shorter than Tourte's. Lupot adopted a narrower outline for the head and probably added (c1820–30) the metal underslide to prevent wear on the nut caused by friction with the stick.

Vuillaume trained and hired countless bowmakers (among them Dominique Peccatte, Joseph Fonclause, Pierre Simon, J.P.M. Persoit and F.N. Voirin) in his workshops and disseminated the best qualities of Tourte's work, publishing in 1856 a theory that the taper of Tourte's sticks generally corresponded to a logarithmic curve. Among Vuillaume's inventions were: a tubular steel bow, which was championed by C.-A. de Bériot and Alexandre Artôt, but generally lacked the resiliency of its wooden counterpart, was deficient in balance, and kinked, dented or bent easily; and the 'self-hairing' bow with fixed frog. His other experiments achieved more lasting approbation, notably the round-edged frog or curved ferrule combined with the stepped bottom plate for a good spread of hair at the heel, the indentation of the channel and track of the frog, and the combination of rear and upper heel plates into one right-angled metal part.

Peccatte (1810–74), Joseph Henry (1823–70), Simon (1808–81) and Voirin (1833–85) also challenged the supremacy of Tourte's legacy, striving for a lighter, more elegant product. Particularly characteristic were the slimmer and less-square profile of the head and the different camber, the progression of which was moved closer to the head for additional strength in the stick. The balance was redressed by a reduction in the diameter of the lower end of the stick, with the frog appropriately in proportion.

Outstanding among Voirin's successors were Louis and Claude Thomassin and Eugène Sartory. The Thomassins were trained by Charles Bazin (1847–1915), himself an imitator of Voirin. Louis later worked for Voirin and succeeded to his business (1885), while Claude worked for Gand & Bernardel, Caressa and Caressa & Français in Paris, before opening his own workshop there (1901). Sartory's predominantly round sticks are indebted to Voirin and A.J. Lamy but are characterized by their smaller heads and greater strength and weight. Among other leading makers of the fortified Voirin model were J.A. Vigneron, Victor and Jules Fétique and E.A. Ouchard (1900–69).

French bowmaking declined during the two World Wars, but the products of André Chardon (1867–1963), Louis Gillet (1891–1970), Jacques Audinot (*b* 1922), Jean-Paul Lauerrois (*b* 1928), Jean-Jacques Millant (1928–98), B.G.L. Millant (*b* 1929) and André Richaume (1905–66), most of whom returned to the style and hatchet head of Peccatte and Tourte, are well respected. The Mirecourt bowmaking tradition was revived with the establishment of a school (1971–81) under the direction of Bernard Ouchard (1925–79) and, later, Roger-François Lotte (*b* 1922). Among its distinguished 'graduates' are Stéphane Tomachot, Jean Grunberger, Pascal Lauerrois, Benoît Rolland, Christophe Schaeffer, Martin Devillers, Sylvie Masson and Jean-Yves Matter. Along with Didier Claudel, Masson and Matter are among France's principal makers of reproduction pre-Tourte bows.

Bowmaking in 19th-century Britain was founded on the work of the Dodd and Tubbs families, who favoured functional durability over artistic craftsmanship. John Dodd (1752–1839) experimented

with various weights, shapes of head, lengths and forms of stick and mountings on the nut, his somewhat crude product approximating to the Cramer type, which, together with the bows of his father Edward Dodd (1705–1810), most likely served as his model. Many of his bows are slightly shorter and lighter than Tourte's, and his early examples lack a metal ferrule. William Tubbs (1814–78) and his son James (1835–1921) retained the robust qualities of the Dodds but softened the angularity of the earlier English style. William was the first significant maker to use silver or gold (as opposed to ivory or ebony) facings for the head.

Samuel Allen (1848–c1905) was the chief inspiration behind the 'Hill bow'. Preserving the robust English tradition, this model was developed by makers in the workshops of W.E. Hill, notably W.C. Relford (1875–1970), William Napier (1848–1932), Sydney Yeoman (1876–1948), Charles Leggatt (1880–1917) and Frank Napier (1884–1969). Among other talented trainees in Hill's workshops were Arthur Barnes (1888–1945), Edgar Bishop (1904–43), Albert Leeson (1903–46), W.R. Relford (1899–1960), Berkeley Dyer (1855–1936), A.R. Bultitude (1908–90), Malcolm Taylor (b 1933) and William Watson (b 1930). Garner Wilson (b 1930), Brian Alvey (b 1949), Michael Taylor (b 1949), John Stagg (b 1954) and John Clutterbuck (b 1949) have become leading British makers, while history reserves a niche for Lawrence Cocker's cane bows. Matthew Coltman (b 1955) and Brian Tunnicliffe (b 1934) are among the prominent British makers of reproduction pre-Tourte bows.

Germany became known during the 19th century for the mass-production of bows made from a cheaper and harder substitute for Brazil wood, sometimes called 'Braziletta'. There were few specialist bowmakers of international repute, but the work of Nikolaus Kittel (1839–70), Ludwig Bausch (1805–71), and the Knopf, Nürnberger, Pfretzchner and Weidhaas families, is well respected. Siegfried Finkel (b 1927) continued the Weidhaas tradition in Switzerland and his son Johannes (b 1947) worked in London and the USA. The roll of distinguished 20th-century American bowmakers includes John Bolander jr, William Salchow (b 1926), José da Cunha (b 1955), John Lee (b 1953) and Charles Epsey (b 1946). Christophe Landon (b 1959) is renowned for his reproduction pre-Tourte bows, as are the Netherlanders Luis-Emilio Rodríguez and Gerhard Landwehr.

20th-century inventions include the highly arched Vega (or 'Bach') bow. Promoted in the 1950s by Emil Telmányi and Albert Schweitzer to address the misconception that Bach's polyphonic violin music should be sustained precisely as written, it enabled all four strings to be sounded individually or in combination, its hair tension being controlled by a mechanical lever operated by the thumb. It had no precedent in the Baroque and made little impression. With supplies of pernambuco dwindling, bows of fibreglass, metal, graphite fibre and other materials have been introduced, but without ousting the conventional pernambuco from its favoured position.

Traditionally, bowhair comes from the tails of white horses, but some players use black horsehair or synthetic substitutes such as nylon, arguably to coarser tonal effect. Bronislaw Huberman (1882–1947) made experiments with fine-gauge wire which also yielded mixed tonal results.

(ii) Repertory.

(a) The solo concerto after Beethoven.

The violin concerto developed in three main directions during the 19th century. Spohr, Mendelssohn, Schumann, Bruch, Brahms and Saint-Saëns among others stressed traditional musical values; Paganini, Bériot, Vieuxtemps, Wieniawski and Ernst followed the virtuoso path. Some composers introduced a new type of 'national' concerto (Joachim, *Konzert in ungarischer Weise*; Lalo, *Symphonie espagnole* and *Concerto russe*; Bruch, *Schottische Fantasie*; and works by Dvořák and Tchaikovsky).

Spohr's 18 concertos are indebted to the French school in their lyrical, expressive slow movements, dramatic qualities and bravura passage-work; but their structure, texture, thematic integration and development demonstrate a Beethovenian symphonic breadth. Most characteristic is his concerto no.7. No.8, the most popular of the 18, is subtitled 'in modo di scena cantante'. Its one continuous movement comprises an instrumental da capo aria framed by dramatic recitative, with a virtuoso cabaletta-like finale. Spohr was both attracted and repelled by

Paganini, rejecting his performing 'tricks' at a time when violinists all over Europe wished to acquire them. He now seems a bulwark against the trivialization of musical taste, a man of the highest musical standards who salvaged the traditions of Corelli and Tartini and handed them down to his pupil Ferdinand David and to Joachim.

David composed five violin concertos, but he is better known as adviser for (and the first performer of) Mendelssohn's E minor Concerto op.64. More experimental in structure and symphonic in scope than his D minor Concerto (1822), it is remarkable for the soloist's entrance in the second bar, the central placement of the cadenza before the recapitulation, and the transitional section, played by the bassoon, from the first movement into the Andante. The bridge to the finale results in a through-composed design similar to that of Mendelssohn's two piano concertos.

Mendelssohn's influence on succeeding generations was made more potent through the achievements of his protégé (and David's pupil) Joseph Joachim, who became the greatest violinist-interpreter of the second half of the 19th century, and to whom concertos and sonatas were dedicated by Schumann, Bruch, Brahms, Dvořák and others. Schumann composed two concertante works for Joachim in 1853: the Concerto in D minor and the *Phantasie* op.131. Joachim's misgivings about the violin writing in the concerto along with its structural weaknesses, uneven content and miscalculations of orchestration, account for its neglect until 1937, when Schumann's great-niece Jelly d'Arányi gave its first performance. Joachim was also the catalyst for Bruch's unconventionally structured Concerto in G minor. Its large-scale Prelude comprises three principal thematic elements punctuated by solo recitatives and linked to an expressive Adagio. The finale contrasts noble melodies with virtuoso figuration. Among his other music for violin and orchestra, Bruch composed two more concertos, neither of which is often played today, and the *Schottische Fantasie* (1880).

The greatest work inspired by Joachim was Brahms's concerto, which was conceived in deliberate opposition to the virtuoso trend of the Romantic concerto. Hubert Foss described the opening Allegro as 'a song for the violin on a symphonic scale'. In the Adagio (substituted for the two original central movements) the soloist largely extends and elaborates upon an expansive oboe melody. Brahms sent Joachim a few sketches of the final rondo, which has a strong Hungarian character, so that he could 'prohibit the awkward passages right away'. Joachim answered 'It is all playable, some of it even violinistically original – but whether it will be enjoyable to play in a hot concert hall is a different question'. Even after their joint first performance of the work in 1879, Brahms urged his friend to make further changes in the violin part, but despite a considerable correspondence the composer ultimately rejected as many suggestions as he accepted. Hence the unusual difficulty of the solo part is due not to an ignorance of the instrument but to broader musical factors. Brahms's Double Concerto for violin and cello, written for Joachim and Robert Hausmann, demonstrates similar national characteristics in its finale; the first two movements give little scope for virtuoso display.

Among Russian composers only Tchaikovsky seriously pursued the concerto genre. His concerto outshines those of Anton Rubinstein (1857), Arensky (1891) and Conus (1896). Its opening movement and trepak-like finale are technically challenging, but virtuosity is subservient to musical effect. The central Canzonetta was originally published as 'Méditation' in Tchaikovsky's *Trois souvenirs d'un lieu cher* for violin and piano. Despite a disastrous criticism by Hanslick after the première in Vienna, the Tchaikovsky concerto has become a standard repertory piece. Of lesser significance are the concertos of Franz Berwald, Dvořák, Saint-Saëns, Lalo, Karl Goldmark, Richard Strauss, Chausson, Enescu and Busoni.

Paganini, whose playing became known to audiences outside Italy in 1828, was the inspiration for virtuoso concertos by Bériot, Vieuxtemps, Wieniawski, Ernst, Bull and Lipiński. A gifted melodist and a phenomenal technician, Paganini is believed to have written eight concertos, of which only six have survived. Their opening movements reveal the influence of the Viotti school, while their central slow movements are of simpler, aria-like construction with cadenzas; popular melody generally infiltrates their finales.

At the turn of the century there was a consolidation of concerto traditions, and many of the more radical composers deliberately eschewed the genre. In Scandinavia, the concertos of Sibelius, Carl Nielsen, Valen, Larsson, Saeverud, Sallinen and Tuukkanen, and Saariaho's *Graal théâtre* (1994) are most significant. Sibelius's rhapsodic opening movement, with its unusual tonal

relationships and a cadenza substituting for formal development, represents a reappraisal of the traditional form.

Much early 20th-century Russian music was broadly national in spirit, but Glazunov's concerto displays his affinity with Western European idioms, and Stravinsky's inspiration for his concerto emanated largely from J.S. Bach. Although Stravinsky enlisted the help of Samuel Dushkin in shaping the violin part, the violin writing is craggy and not very idiomatic, challenging the soloist to find solutions to new technical problems. Prokofiev's two violin concertos display various influences, ranging from the impressionistic opening movement of no.1 to the Russian rondo finale of no.2. Kabalevsky's absorption of the Russian popular song tradition is exemplified in the second movement of his concerto, while Khachaturian's concerto features Armenian folk material, and Eshpay's two concertos reflect his interest in Mari folk music. Shostakovich's two concertos represent distinct phases in his development. No.1, completed in 1948 but withheld by the composer until 1955 because the political climate was thought to be unfavourable for a work of such modernity, is a complex four-movement work with a passacaglia (including solo cadenza) as its kernel. No.2 (1967), which was received with considerable approval, is a more intimate, three-movement design with a prominent part for solo horn. Other Russian concertos of note include those of Myaskovsky, Khrennikov, Karayev, Schnittke and Sil'vestrov (*Widmung*, 1990–91).

In Germany, Reger and Pfitzner perpetuated the Romantic tradition, while Hindemith's fourth *Kammermusik* and Violin Concerto look back respectively on Bach's Brandenburg Concertos and the 19th-century symphonic concerto. The concertos of Blacher and Fortner are similarly retrospective, while those of Weill (for violin and wind orchestra), Zimmermann, Henze and H.K. Gruber (*Nebelsteinmusik*, 1988) are more experimental. Henze's Concerto no.1 dabbles with serialism, while no.2 borders between concert music and Expressionist music theatre. Schoenberg's op.36, which he said required a 'six-fingered violinist', extracts remarkable lyricism from its fundamentally serialist language, as does Berg's memorial concerto for Manon Gropius. Intended as a biographical portrait of the young woman, Berg's work concludes with a moving Adagio based on the choral *Es ist genug* in Bach's own harmonization.

German Romanticism gripped many Hungarian composers, notably Dohnányi, Hubay and Weiner. Bartók's First Concerto adopts the two-movement structure (slow–fast) of a rhapsody, but his Second, incorporating six variations on a 'Magyar' theme, represents the composer's mature style. Ligeti's five-movement concerto (1989–93) adopts a Bartókian symmetry, incorporating two slow movements, the second of which is a passacaglia on a chromatic idea. Its first movement also involves experiments with tunings, requiring one violin and one viola from the small body of orchestral strings each to adopt a different scordatura tuning, and harmonics are employed to striking effect.

Szymanowski's First Concerto (1916), which follows the programme of Miciński's poem *A Night in May*, has an oriental flavour and gives the impression of an improvisation, while the more concise no.2 incorporates Polish folk materials. Other major Polish contributors to the repertory include Panufnik, Bacewicz, Penderecki and Lutosławski (*Chain II*).

In France, Milhaud, Martinon, Françaix, Jolivet and Dutilleux (*L'arbre des songes*, 1979–85) have made significant contributions. Italy is represented chiefly by the neo-classical works of Respighi, Casella, Rieti, Pizzetti and Bucchi; however, composers such as Riccardo Nielsen, Malipiero, Donatoni, Peragallo, Maderna, and Aldo Clementi turned with varying strictness to 12-note technique.

In the USA composers cultivated a range of styles, from Austro-German dodecaphony (Krenek, Ross Lee Finney), Expressionism (*Sessions*) and neo-classicism (Piston) to neo-romanticism (Barber, Bloch, Korngold, Menotti) and home-cultivated jazz and spirituals (Gruenberg, Harris). Significant works have been written by Ben Weber, William Schuman, Peter Mennin, Benjamin Lees, William Bergsma, George Rochberg and Elliott Carter. More experimental have been Diamond, Lou Harrison (for violin, percussion and orchestra), Kirchner (violin, cello, ten wind instruments and percussion), Wuorinen (amplified violin), Schuller, Glass and John Adams. In Latin America, Allende, Chávez, Mignone and Ginastera represent their respective national styles; the microtonal experiments of Carrillo are also noteworthy.

Elgar's is in the vanguard of 20th-century British violin concertos; as with those of Delius, Walton and Britten, its unity is achieved by thematic cross-reference and recall. The works of Harty, Vaughan Williams, Bax, Moeran, Gerhard, Rawsthorne, Hamilton, Leighton, Bliss, McCabe,

Rubbra, Berkeley, Goehr, Wood, Blake, Richard Rodney Bennett, Stevenson, Maxwell Davies, Holloway, Patterson, Heath, Casken and Maw demonstrate the wealth and diversity of the British concerto repertory. Heath's *Alone at the Frontier* is a concerto for electric violin and orchestra in which the solo part is entirely improvised.

Other notable contributions to the literature include those of Henk Badings (four concertos; two double concertos for two violins, one double concerto for violin and viola), Arthur Benjamin, Martinů (two concertos; two double concertos), Skalkottas, Saburo Moroi, Rodrigo, Frank Martin, Michio Mamiya (two concertos), Akira Miyoshi, Malcolm Williamson, Don Banks, Toshi Ichianagi (*Circulation Scenery*, 1983), Maki Ishii (three concertos, including *Lost Sounds*, 1978), Takemitsu (*Far Calls, Coming Far!*, 1980) and Joji Yuasa.

(b) Sonata.

Between the violin sonatas of Beethoven, Schubert's three compact sonatas ('sonatinas') of 1816 and Schumann's two sonatas of 1851, Germany produced only minor works by Spohr, Weber and Mendelssohn. Schumann's op.121, which incorporates variations on the chorale melody *Gelobt seist du Jesu Christ*, is more ambitious than his op.105, in which the melancholy opening melody is recalled in the coda of the toccata-like finale. Schumann's Third Sonata evolved from a collaboration with Albert Dietrich and Brahms in honour of Joachim and based on Joachim's motto, 'F.A.E.' ('frei aber einsam'). Schumann originally contributed the second and fourth movements, but later composed two further movements to replace those of his collaborators.

Brahms discarded four sonata attempts before composing his op.78 in G major; much of its thematic material was inspired by his songs *Regenlied* and *Nachklang* (op.59 nos.3 and 4). His Second Sonata op.100 is more concise, its central movement serving as both slow movement and scherzo, while op.108 in D minor is of broader design, comprising four movements of symphonic proportions.

Other German works in the genre include Raff's five sonatas, and sonatas by Richard Strauss and Busoni. Busoni's Second Sonata makes extensive use of thematic cross-reference and concludes with variations on a chorale melody. Strauss's work, conceived in orchestral terms, incorporates numerous quotations, notably from Beethoven's 'Pathétique' Sonata, Wagner's *Tristan* and Schubert's *Erlkönig*. Schubert's three sonatas, published posthumously as 'sonatinas', are compact, fully developed sonatas; the first comprises three movements, but the others are four-movement structures (the third movement being a minuet). His Duo in A (1817) lacks the varied experimentation of the sonatinas but is broader in scope and more mature.

Lalo and Alkan apart, French composers showed little interest in the sonata until the establishment, after the 1870–71 war with Prussia, of the Société Nationale de Musique and various private societies devoted to chamber music performance. Fauré's two sonatas contrast in style and expression, the second being texturally less opulent and musically more concise, employing cyclical treatment of its initial motive. Of Saint-Saëns's two published sonatas, the first features thematic cross-reference, while the second is more polyphonic. The sonatas of Franck and Lekeu also exploit the cyclical principle. Franck's, which utilizes four main recurrent themes, is outstanding for its melodic inspiration and thematic integration.

Apart from the works of Pixis, Fibich and Novák, the Czech lands are represented only by Dvořák's sonata and sonatina (1893). The sonata's finale is perhaps most indicative of its Czech origins, while the sonatina blends the native music of the Americas with Dvořák's Czech heritage.

Grieg's three sonatas represent the main periods of his stylistic development: the first naive and rich in models; the second nationalistic; and the third more dramatic and cosmopolitan. Sinding's *Sonate im alten Stil* op.99 (1909) is essentially a suite in five short movements; his three other sonatas are broadly conceived three-movement works which intermingle the influences of Wagner, Liszt and Strauss with nationalistic traits. Danish interest in the genre is represented chiefly by Gade and Nielsen. Grieg's voice is predominant in Sibelius's modest sonata and sonatine.

Like much early 20th-century French chamber music, d'Indy's cyclical, four-movement sonata op.59 suffers from a somewhat stultifying intellectual approach. D'Indy's dogmatic instruction is reflected in the first of Roussel's two sonatas, while the works of Koechlin, Milhaud, Tailleferre,

Françaix (Sonatine) and Poulenc are of lesser significance. Debussy's sonata combines his impressionistic vocabulary with a rediscovered classicism and some jazz influences. Ravel's second sonata (1923–7) also incorporates jazz elements, especially in the central 'Blues', as well as bitonality.

Foremost among Russian sonatas in the early 20th century were Stravinsky's *Duo concertant* (1931–2), written in collaboration with Dushkin, and Prokofiev's two works, the second of which is an arrangement, made with the help of David Oistrakh, of his Flute Sonata. Works by Gnesin, Aram Khachaturian, Myaskovsky, Karen Khachaturian, Medtner, Rakov, Ustvol'skaya, Golubev, Shebalin and Shostakovich are also noteworthy, along with Slonimsky's response to the microtonal inflections of Russian peasant vocal style. Schnittke wrote two sonatas, the first of which he described as 'a tonal world with atonal means' including citations from popular music and Shostakovich's Second Piano Trio.

Reger's admiration of Bach, Beethoven and Brahms is reflected in most of his seven full-scale sonatas, and in his two *Kleine Sonaten* op.103b. His influence is also evident in the first two of Hindemith's four sonatas for violin and piano. Korngold (op.6), Toch (opp.23, 44), Krenek, Rathaus (opp.14, 43), Blacher, Fortner, Henze, Zimmermann, Stockhausen (Sonatine) and Klebe also made significant contributions, as did the Austrian Gottfried von Einem.

Czech national elements were perpetuated by Nedbal (op.9), Janáček and Martinů (five sonatas). Janáček's work has motivic affinities with his opera *Káťa Kabanová*, most stemming from the germ announced in the opening violin 'improvisation'. Hába's early sonata is atypical of his mature style. German influence permeates the sonatas of the Hungarians Dohnányi and Weiner. Effects suggestive of cimbalom and gamelan feature in Bartók's First Sonata, but, apart from the driving dance rhythms of the finale, this is among his least folk-orientated works. The more compact, restrained Second Sonata is a continuous two-movement structure, its rondo-like second movement adopting variation procedures and including several melodic references to its predecessor.

Foremost among the 'Young Poland' group of composers was Szymanowski, whose Romantic sonata has close affinities with Franck's. Górecki's Sonatina takes after Bartók, and Bacewicz's five sonatas are in neo-Baroque style. Skalkottas's four sonatinas and two sonatas and Enescu's three sonatas constitute the core of their violin output. Enescu's Third Sonata, composed 'dans le caractère populaire roumain', is the most individual, including parlando-rubato style and other folk influences; the violin part occasionally incorporates quarter-tones and gypsy-style music. Enescu's contemporaries Lazăr, Andricu, Drăgoi and Jora were also strongly influenced by Romanian folk idioms in their sonatas, while Constantinescu and Dumitrescu adapted folk material to contemporary international musical trends.

Each of Ives's four surviving sonatas incorporates hymns, popular tunes or dance melodies, the Fourth Sonata (*Children's Day at the Camp Meeting*) is based entirely on hymn tunes. Antheil's Second Sonata includes much percussive violin writing, as well as a part for tenor and bass drums. Bloch, Moore, Thomson, Piston, Harris and Copland (two sonatas) also made their mark, along with Quincy Porter (two sonatas), Finney (three sonatas, Duo), Sessions, Kirchner (Duo, Sonata concertante), Robert Ward, Lees (two sonatas), Samuel Adler (four sonatas), Robert Palmer, Mennin (Sonata concertante) and Bernard Rogers. More progressive were the works of Weber (two Sonatas), Diamond (two sonatas), Cowell, Riegger (op.39), Wuorinen (Duo) and Carter (Duo).

Works by 20th-century British composers range from Elgar's passionate Sonata to Bridge's dramatic, through-composed Second Sonata and the rhapsodic, lyrical works of Delius (three sonatas) and Ireland (two sonatas). Moeran's and Vaughan Williams's sonatas are inflected by English folk idioms, whether directly through melodic quotation or indirectly in phrasing, rhythm and tonality. Walton's Sonata bows towards serialism in its second movement, while Seiber's is a true serial piece and Rawsthorne's experiments with bitonality. Bax (four sonatas), Howells (opp.18, 26, 38), Rubbra (three sonatas), Lennox Berkeley (opp.1, 17), Reizenstein, Robin Orr (two sonatas), Fricker (opp.12, 94), Arnold Cooke (no.2 in A), Malcolm Arnold (opp.15, 43), Mathias (two sonatas), Hoddinott (op.63, op.73 no.1, op.78 no.1, op.89), Richard Rodney Bennett and Robert Simpson also contributed to the resurgence of the genre in Britain. Maxwell Davies's Sonatina for violin and cimbalom is an interesting novelty.

Honegger's two sonatas lean towards French idioms, while Martin's First Sonata, influenced by

Franck, contrasts with his more progressive and cosmopolitan Second Sonata. German influence is paramount in the sonatas of Conrad Beck (two sonatas), Burkhard (opp.45, 78) and Schoeck (*Albumblatt*, two sonatas). Sjögren (opp.19, 24, 32, 47, 61), Stenhammar (op.19) and Rosenberg (two sonatas) are among the principal Swedish sonata composers; Vagn Holmboe (opp.2a, 16, 89) succeeded Nielsen as the leading Danish contributor. Turina's *Sonata spagnola* and Rodrigo's *Sonata pimpanteare* the most notable Spanish contributions. In Latin America the most significant works were written by Guarnieri (six sonatas), Villa-Lobos (four), Uribe Holguín (five) and Ficher (three). Pizzetti, Respighi and Malipiero have been among the most prominent Italians. Notable among Australians are Sutherland, John Hart (opp.7, 42, 142), Arthur Benjamin and Don Banks. In Japan, Kishio Harao and Akira Miyoshi have written important works.

(c) Unaccompanied violin music.

19th-century composers showed little interest in writing for unaccompanied violin. Apart from various concert études, only Romberg's three *Études ou sonates* op.32, Jansa's *Sonate brillante*, Bull's Quartet for solo violin (1834), David's Suite and the numerous caprices and variations of Paganini are noteworthy. One of Paganini's principal successors in the 20th century was Ysaÿe, who composed imaginative variations on Paganini's 24th Caprice and six sonatas op.27, each written in the style of a celebrated violinist (Szigeti, Thibaud, Enescu, Kreisler, Crickboom and Quiroga). Kreisler composed his *Recitative and Scherzo Caprice* op.6 in homage to Ysaÿe.

Reger's 11 sonatas (op.42, op.91) and numerous short works in neo-Baroque style were imitated by Hindemith in his two sonatas op.31 and by Jarnach. Notable serialist composers who have written for unaccompanied violin include Hauer (seven *Stücke*), Klebe (opp.8, 20), Jelinek (*Sonata*) and Gruber (*Vier Stücke* op.11).

Bartók's sonata, commissioned by Yehudi Menuhin, represents the culmination of the genre in the 20th century. Its opening sonata-form *Tempo di ciaccona* is followed by a free fugue and a muted ternary-form movement, its reprise subjected to variation procedures. The mute remains in place for the beginning of the final Presto, originally written in quarter-tones, and is only removed for the contrasting parlando Hungarian melody.

Notable Russian contributions include works by Prokofiev, Stravinsky, Shebalin, Kabalevsky and Schnittke; the latter's charismatic *Prelude in Memoriam Dmitry Shostakovich* for violin and tape employs the musical monograms D–S–C–H and B–A–C–H. In the USA significant works have been written by Bloch, Krenek, Thomson, Persichetti, Sessions, Finney, Diamond, Perle (two sonatas), Harrison, Wuorinen, Rochberg, Lazarof, Carter and Kirchner. In a more experimental vein, Reich's *Violin Phase* was inspired by the sounds produced by multiples of the same instrument, either 'live' or in a mixed 'live-recorded' context. Cage's collaboration with Paul Zukofsky (*Freeman Etudes*, 1977–80, 1989–90) proved especially progressive, involving unconventional notation, microtonal inflections and specific performance directions. Glass's *Strung out* for amplified violin exposes his minimalist principles in their purest form. Xenakis's *Mikka* and *Mikka 'S'* are outstanding, the latter venturing into the language of quarter-tones. Nono's fruitful collaboration with Gidon Kremer produced *La lontananza nostalgica utopica futura* for violin and tape. Other works of note include those by Petrassi, Maderna, the ninth of Berio's *Sequenze*, von Einem, Henze (*Sonata*, *Etude philharmonique*, *Serenade*) and Gehlhaar.

(d) Other solo repertory.

The works of lasting significance from the 19th-century French and Belgian schools emanated from Berlioz (*Rêverie et caprice*), Saint-Saëns (*Introduction et rondo capriccioso* op.28; *Havanaise* op.83), Bériot (*Scène de ballet* op.100), Vieuxtemps (*Fantasia appassionata* and *Ballade et polonaise*) and Chausson (*Poème* op.25). Schubert's Rondo D438, Konzertstück D345 and Polonaise D580, all for violin and orchestra, are more idiomatic than the Rondo D895 and *Fantasia* D934 for violin and piano. Sinding's *Légende* op.46 and *Romanze* op.100, and Svendsen's *Romance* op.26, are representative of the Scandinavian input, while British composers such as Mackenzie, Coleridge-Taylor and Delius also made worthy contributions.

The *air varié* was a popular vehicle for virtuoso display in the 19th century; notable examples were written by Bériot, Vieuxtemps, Ernst, Wieniawski, Boehm, Hubay, Lipiński, Georg Hellmesberger,

Pixis, Bull and Joachim. Most of Paganini's works are based on operatic themes, 'national' tunes, dances or other popular melodies. Many fantasias on operatic themes were written by pairs of eminent virtuosos such as Lafont and Moscheles, Vieuxtemps and Anton Rubinstein, and Ernst and George Osborne. Rimsky-Korsakov's *Fantasia on Two Russian Themes* and Nápravník's *Fantasia on Russian Themes* are somewhat awkward attempts at 'nationalizing' the concerto. Szymanowski's *Three Paganini Caprices op.40*, Messiaen's *Thème et variations* and Milstein's *Paganiniana* (1954) are rare examples of independent 20th-century variation sets for violin.

The various editions and transcriptions of 17th- and 18th-century masterworks by violinists such as David (*Die Hohe Schule des Violinspiels*, Leipzig, 1867–72) were a valuable source of repertory in the 19th century, as were the exemplary arrangements by Joachim of Brahms's *Hungarian Dances*, the Schubert-Wilhelmj *Ave Maria*, the Schubert-Ernst *Erkönig*, the Bach-Wilhelmj *Air on the G String*, the Wagner-Wilhelmj *Träume*, Wilhelmj's selections from Wagner's operas and his concert paraphrases on *Siegfried* and *Parsifal*. By the end of the century, however, abuse of the genre resulted in a glut of inferior arrangements and even falsifications. Although some of Kreisler's 'transcriptions' were genuine, many were pseudo-Classical pieces that he wrote himself and ascribed falsely to composers such as Pugnani. Similarly, Dushkin arranged pieces for his own concert use, some of which were actually original compositions attributed to earlier composers. His collaboration with Stravinsky spawned a transcription from *Petrouchka* (entitled *Danse russe*) as well as more substantial works in other genres. Auer and Heifetz were also renowned for their transcriptions.

The composition of a large number of short genre pieces (with orchestra or piano) widened the repertory during the 19th century. Outstanding examples include Wieniawski's *Légende op.17* and *Scherzo-tarantelle op.16*; Hubay's *Concertstück op.20*; Dvořák's *Romance op.11* and *Four Romantic Pieces op.75*; Sarasate's *Zigeunerweisen op.20*; Bruch's *Romance op.42* and *Swedish Dances op.63*; Paganini's *Moto perpetuo op.11*; Bazzini's *La ronde des lutins*; Suk's *Four Pieces op.17* and *Fantasy op.24*; and Tchaikovsky's *Trois souvenirs d'un lieu cher op.42*. Some composers promoted their patriotic feelings, notably Lipiński (*Rondos alla polacca*), Wieniawski (*Polonaises opp.4 and 21* and *Mazurkas opp.12 and 19*), Hubay (*Szenen aus der Czarda opp.12, 30 and 60*, and *Hejre Kati op.32*), Smetana (*Fantaisie sur un air bohémien* and *Z domoviny*), Dvořák (*Mazurek op.49*) and Sarasate (*Spanish Dances opp.21–3, 26, 27, 29*).

In the 20th century the virtuoso concert rhapsodies by Ravel (*Tzigane*) and Bartók were particularly significant. *Tzigane* comprises a long, unaccompanied violin cadenza, full of heavy Magyar accents, expressive portamenti and rubati, and a traditional series of gypsy improvisations. Bartók's two rhapsodies follow the Hungarian *csárdás* plan of an introductory *lassu* followed by a more vigorous *friss*; the First Rhapsody includes a cimbalom in its orchestration. Nationalistic in another sense, Vaughan Williams's *The Lark Ascending* (1921) incorporates a folk-like episode in its evocative canvas inspired by Meredith's verse, while James MacMillan's *After the Tryst* was suggested by William Soutar's love poem, and his *Kiss on Wood* (1993) is a meditation on the Good Friday versicle 'Ecce lignum crucis'. Among other notable British works are Britten's dazzling *Reveille* and his larger-scale *Suite op.6*, a series of fantasies on a four-note motto; Gerhard's complex *Gemini* and Holloway's *Romanza*. Rihm's *Lichtzwang* is a moving piece of modern impressionism, while his *Time-Chant* exploits the violin's higher registers.

The vast repertory of 20th-century 'character' pieces includes Sibelius's *Humoresques opp.87 and 89*, Prokofiev's *Cinq mélodies op.35 bis*, Reger's neo-Baroque *Suite im alten Stil*, Schnittke's neo-classical *Suite in the Old Style*, Schoenberg's *Phantasy op.47*, Bloch's *Baal Shem*, and Webern's *Four Pieces op.7*. Copland's *Two Pieces* are jazz-inspired; other progressive American impulses came via the experiments of Cowell (*Homage to Iran; Hymn and Fuguing Tune no.16*) and Cage (*Nocturne, Six Melodies, Cheap Imitation*). Szymanowski's works include the three *Mythes op.30*, inspired by Greek mythology, and *Notturmo e tarantella*. Penderecki's *Capriccio* and *Three Miniatures*, Baird's *Espressioni varianti* and Lutosławski's microtonal *Partita* and *Subito* represent the more prominent later Polish contributions.

(iii) Technique and performing practice.

(a) Historical outline.

Giovanni Battista Viotti, the 'father of modern violin playing', was trained in the classical Italian tradition by Pugnani and first went to Paris in 1782. There he taught or inspired the founders of the French violin school (Baillot, Rode and Kreutzer), who exerted an immense influence on violin playing in the 19th century. Viotti's cantabile was based on Tartini's maxim 'per ben suonare, bisogna ben cantare'. He was also one of the first to appreciate the specific beauties of the lowest (G) string, including its high positions; and his concertos unite the singing style, the brilliance of passage-work, and such specialized bowings as the 'Viotti' stroke (see §(f) below). In addition, Viotti persuaded the Parisians of the beauty of the Stradivari violins; and he may have assisted Tourte in creating the modern bow.

The Italian school reached its final flowering in Nicolò Paganini, who aroused audiences to hysterical enthusiasm by the technical perfection and verve of his playing and by the intense projection of his hypnotic personality. His music uses practically all known technical devices in a grand, virtuoso and frequently novel manner, including glissandos, harmonics of all types, pizzicatos of both right and left hand, octave trills, the solo on the G string alone (a speciality of his), multiple stops, extensions and contractions of the hand, and the scordatura. Staccato, ricochet and mixed bowings of all sorts were also among his stock in trade.

Paganini and Pierre Baillot set the technical standard of the early 19th century. A school of violin playing similar to the Paris school was founded in Brussels in 1843 by Charles-Auguste de Bériot, who, like the Parisians, was heavily indebted to Viotti. Among Bériot's illustrious successors were Hubert Léonard, Henry Vieuxtemps, Henryk Wieniawski and Eugène Ysaÿe; the latter's bowing facility, energetic personality and golden tone became legendary.

The Germans were generally more conservative in technique and more serious in musical attitude than the French, whose virtues included great technical facility, elegance and imagination. Spohr was astonished by the accuracy of intonation of Paganini and Ole Bull but was unimpressed with such virtuoso devices as their elaborate harmonics, intense vibrato, bounding bow and the air played solely on the G string. Spohr's pupil Ferdinand David made an important contribution to the violin repertory in his *Hohe Schule des Violinspiels* (1867–72). Among David's pupils was Joseph Joachim, whose editions of such works as the Mendelssohn and Beethoven violin concertos reveal much about the technique of the 19th century and the implied ideas of expression (including the deliberate portamento slide in shifting).

Sharp distinctions in schools of instruction became less clear in the course of the 19th century. There was a strong tendency to mix the teachings of various schools, to amalgamate their styles and, under outstanding teachers, to select the best from all methods. The old Italian training was grafted on to the newer precepts in France and Belgium, and the results, in turn, to various teachings in Vienna, Prague, Leipzig and Budapest. Leopold Auer upheld the Franco-Belgian tradition at the St Petersburg Conservatory, while in Prague, Kiev and Vienna Otakar Ševčík revolutionized and systematized basic technique, especially of the left hand, by a system of numberless exercises based on the semitone system (rather than the diatonic system, as previously). Among the most distinguished teachers to appear in the course of the 20th century were Carl Flesch, Max Rostal, Lucien Capet, Pyotr Stolyarsky, Louis Persinger and Ivan Galamian.

(b) Sources of information and pedagogical literature.

Baillot's *L'art du violon* (Paris, 1834), perhaps the most influential violin treatise of the 19th century (see fig.18 below), easily surpasses in detail Baillot, Rode and Kreutzer's *Méthode de violon* (Paris, 1803), previously adopted by the Paris Conservatoire. Baillot's influence was perpetuated by his pupils François-Antoine Habeneck (*Méthode*, Paris, c1835, incorporating extracts from Viotti's unfinished treatise), Delphin Alard (*Ecole du violon*, Paris, 1844) and Charles Dancla (*Méthode élémentaire*, Paris, 1855). The celebrated études of Rode, Kreutzer and Gaviniés helped to consolidate the teachings of the French violin school. The principal contributions of the Belgian school are Bériot's *Méthode de violon* (Paris, 1858) and Léonard's *Méthode* (Paris, 1877).

Karl Guhr's *Über Paganinis Kunst die Violine zu spielen* (Mainz, 1831) focusses on specific aspects of Paganini's performing style, while Spohr's *Violinschule* (Vienna, 1832) and David's

Violinschule (Leipzig, 1863) are more comprehensive. The important three-volume *Violinschule* (Berlin, 1902–5) of Joachim appears to have been written largely by Joachim's pupil Andreas Moser.

Flesch attributed the development of technique and pedagogy in the late 19th century principally to Dont, Schrädieck, Sauret and Ševčík, although the works of Kayser and Courvoisier are also noteworthy. Flesch's *Kunst des Violin-Spiels* (Berlin, 1923–8) is a synthesis of the techniques and artistic priorities of the principal schools of violin teaching in the 19th and early 20th centuries. His *Urstudien* (1911) also contributed to the systematic development of left-hand technique, and his *Hohe Schule des Fingersatzes auf der Geige* (first published in Italian, Milan, 1960) significantly loosened traditional concepts of fingering.

Other notable 20th-century pedagogical literature includes Capet's *Technique supérieure de l'archet* (Paris, 1916), Auer's *Violin Playing as I Teach it* (New York, 1921), Demetrius Dounis's *Künstlertechnik* (Vienna, 1921), Elma and Erich Doflein's *Geigenschulwerk* (Mainz, 1931), Galamian's *Principles of Violin Playing and Teaching* (Englewood Cliffs, NJ, 1962) and various works by Menuhin and Bronstein. Kato Havas and Paul Rolland have focussed on developing relaxation, control and coordination. The 'Suzuki method' has revolutionized violin teaching in some areas, allowing pupils to develop artistic potential simultaneously with technical skills (see [SUZUKI, SHIN'ICHI](#)). However, most 20th-century sources are based on traditional methods; few account for the extended harmonic language, diversity of styles and the resultant technical and rhythmic demands of much contemporary music. Exceptions include Galamian and Neumann's *Contemporary Violin Technique* (New York, 1966) and Zukofsky's *All-Interval Scale Book* (New York, 1977), which are essentially modern approaches to scales and arpeggios, and study books by Hindemith, Adia Ghertzovici and Elizabeth Green.

(c) Posture and manner of holding the violin.

Not until the early 19th century was there general agreement on the optimum posture and manner of holding the violin. A 'noble' and relaxed position was recommended, with head upright, feet normally in line but slightly apart, and body-weight distributed slightly towards the left side. The seated position preserved the erect trunk but required the right leg to be turned inward slightly to avoid 'fouling' the bow. 20th-century attitudes have generally been more flexible, emphasizing comfort and ease while prohibiting exaggerated body movement; but Flesch (1923) stressed the importance of feet placement, recommending a 'rectangular' leg position in which the feet are close together; an 'acutangular' position in which the feet are separated, with either right or left foot advanced and the body-weight on the rear foot; and his favoured 'spread-leg' position.

Although Spohr's chin rest was originally positioned directly over the tailpiece, a chin-braced grip on the left of the tailpiece gained universal approval by the mid-19th century, affording firm support for the instrument and allowing it to be held horizontally at shoulder height and directly in front of the player at almost 90 degrees. Optimum freedom of left-hand movement and bow management was thus achieved; some violinists employed a pad to increase security and comfort and avoid raising the left shoulder. The right arm adopted a position closer to the player's side than formerly, requiring the violin to be inclined more to the right for optimum bowing facility on the lowest string. Baillot (1834) prescribed an angle of 45 degrees, Spohr (1832) 25 to 30 degrees. Flesch, Suzuki and most 20th-century teachers recommend that the violin be held parallel to the floor.

(d) Fingering and shifting.

The 'Geminiani grip' ([ex.1](#)) remained the most common guide to correct elbow, hand, wrist and finger placement (in 1st position) until well into the 20th century. The hand and fingers generally formed a curve to enable the top joints of the fingers to stop the strings from the same height. With the chin-braced violin hold, shifting proved less precarious, the left hand was able to move more as a unit than before, and a closer relationship developed between shifting and phrasing. Baillot (1834) acknowledged this interrelationship, demonstrating Kreutzer's frequent shifts for brilliance of effect and Rode's more uniform tonal objectives, incorporating *ports de voix*. Baillot's discussion of *ports de voix* and expressive fingering provides clues to the mechanics of shifting. Anticipatory notes (unsounded) indicate the method of shifting, the stopped finger sliding forwards (or backwards) in order to be substituted by another finger. Spohr (1832) endorsed this,

especially for rapid shifts involving leaps from a low to a high position in slurred bowing without glissando (ex.2), and illustrated a fast shift in which the highest note is a harmonic (ex.3). A sliding effect is clearly intended in another Spohr example (ex.4), and Habeneck (c1835) and Baillot (1834) allowed the tasteful introduction of portamento, especially in slow movements and in sustained melodies when a passage ascends or descends by step. Bériot (1858) used signs to indicate three types of *port de voix*: *vif*, *doux* and *trainé*.

Ex.1 The 'Geminiani grip'



Ex.1 The 'Geminiani grip'

Ex.2 L. Spohr, Violin Concerto no.10 op.62, 2nd movt



Ex.2 Adagio from Spohr, Violin Concerto no.10 in A op.62, 2nd movement

Ex.3 Rode, Violin Concerto no.7, 2nd movt



Ex.3 From Rode, Violin Concerto no.7, 2nd movement, quoted in Spohr, Violinschule, p.209

Ex.4 L. Spohr, Violin schule no.45 (6th position), bar 58



Ex.4 Allegro from Spohr, Violinschule, no.45 (6th position), bar 58

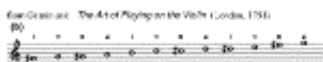
Exploitation of portamento as an 'emotional connection of two tones' (commonly in slurred bowing and with upward shifts) to articulate melodic shape and emphasize structurally important notes became so prevalent in the late 19th century that succeeding generations reacted strongly against the false accents it created, its slow execution and its use for convenience in shifting rather than expressive purpose. Flesch (1923) distinguished three portamento types: a straightforward one-finger slide; the 'B-portamento', in which the beginning finger slides to an intermediary note; and the 'L-portamento', in which the last finger slides from an intermediary note (ex.5). The first two types were commonly employed in the early 20th century, but the L-portamento was rarely used until the 1930s. Broadly speaking, the execution of portamento became faster, less frequent and less prominent as the century progressed.



Ex.5 (a) One-finger slide (b) 'B-portamento' (c) 'L-portamento'

In shifting, the odd-numbered positions began to be emphasized, and an increased use of semitone shifts facilitated achievement of the prevalent legato ideal. The higher positions were exploited more frequently for expressive reasons, particularly of sonority and uniformity of timbre. The fingered-octave technique, first discussed by Baillot (1834), gradually gained favour for its greater clarity and accuracy, and less frequent displacements of the hand. Geminiani's fingering for chromatic scales, largely ignored by his contemporaries and successors, achieved more positive recognition in the 20th century when re-introduced by Flesch (1923), due to its greater evenness, articulation and clarity. However, the diversity of systems used in 20th-century methods and studies confirms that fingering is a matter for individual decision rather than textbook regulation.

Ex.6 (a) From Baillot, L'art du violon (Paris, 1834); (b) From Geminiani, The art of playing on the violin (London, 1751)



Ex.6 (a) From Baillot, L'art du violon (Paris, 1834); (b) From Geminiani, The art of playing on the violin (London, 1751)

Many 19th-century violinists opted for a more advanced thumb-position to achieve greater mobility and facility in extensions, sometimes avoiding formal shifts between positions. Some of Paganini's fingerings, for example, anticipate the flexible left-hand usage of 20th-century violin technique, in which contractions, extensions and 'creeping fingerings' liberate the hand from its customary position-sense and the traditional diatonic framework. In 20th-century music this was

demanding by increased chromaticism, whole-tone, microtone and other scale patterns, and non-consonant double and multiple stopping. The increased use of glissandos (by, for example, Xenakis: *Pithoprakta*, 1956; *Syrmos*, 1959; and *Aroura*, 1971) and Feldman's experiments with intonation systems are also significant (e.g. *Violin Concerto*, 1979; *For John Cage*, 1982; *Piano, Violin, Viola, Cello*, 1987). The general application to violin fingering of Cage's concept of a 'gamut' of sounds, in which a specific string is assigned for a specific pitch (e.g. *Six Melodies for Violin and Keyboard*, 1950), has revealed new possibilities of structural and timbral organization.

(e) Vibrato.

Up to the early 20th century vibrato was employed sparingly as an expressive ornament linked with the inflections of the bow. It served to articulate melodic shape and assist in cantabile playing and was employed particularly on sustained or final notes in a phrase, at a speed and intensity appropriate to the music's dynamic, tempo and character.

Spoehr (1832) described four kinds of vibrato: fast, for sharply accentuated notes; slow, for sustained notes in impassioned melodies; accelerating, for crescendos; and decelerating, for decrescendos. Like Baillot (1834), he emphasized that deviation from the note should be scarcely perceptible. Baillot expanded the vibrato concept to include three types of 'undulated sounds': left-hand vibrato; a wavering effect caused by variation of pressure on the bowstick; and a combination of the two. He recommended that notes should be begun and terminated without vibrato to achieve accuracy of intonation and provided examples of Viotti's vibrato usage, some of which link the device with the 'swell' effect.

Joachim (1902–5) and Auer (1921), among others, recommended selective use of vibrato; Ysaÿe's vibrato, though more perceptible, was restricted to long notes. Flesch (1923) attributed the reintroduction of continuous vibrato (previously practised in the second half of the 18th century; see [VIBRATO, §3](#)) to Kreisler, though it should probably be accredited to Lambert Massart, Kreisler's teacher. By the late 1920s vibrato was considered more a constituent of a pleasing tone than an embellishment. Most theorists advocated a combination of finger, hand and arm movements for optimum vibrato production, but Rolland also included the shoulder.

Several 20th-century composers prescribed extreme applications of vibrato, even reversing traditional usages by demanding intense, fast vibrato in soft passages, or a slow, wobbly vibrato in loud passages; others employed the ornamental vibrato-glissando in which the finger slides up and down the string, creating a siren-like sound (e.g. Penderecki, *String Quartet no.1*). By contrast, the *senza vibrato* indication has been used increasingly for contrast or special effect.

(f) Special effects.

Universal acceptance of harmonics was slow to materialize, but interest was eventually aroused by virtuosos such as Jakob Scheller and Paganini. Paganini introduced the technique of artificial harmonics (see [HARMONICS, §3](#)) in double stopping, and, by using harmonics, extended the range of the G string to at least three octaves. Chromatic slides, single trills, trills in double stopping, double trills, all in harmonics, and some pseudo-harmonic effects were incorporated into his vocabulary.

The use of the index finger for pizzicato was customary in the 19th century, but the right-hand thumb was occasionally employed, the instrument sometimes being held guitar-fashion for sonorous arpeggiation of chords or for soft passages. Berlioz (1843) recommended the second finger for most pizzicatos but suggested using the thumb and first three fingers in appropriate rapid passages. Left-hand pizzicato was employed by Paganini and later composers such as Bartók and Penderecki, sometimes in combination with right-hand pizzicato or simultaneously with bowed notes (e.g. Bartók's *Contrasts*). Paganini's *Introduction and Variations on Paisiello's 'Nel cor più non mi sento'*, for example, employs left-hand pizzicato in accompanying, melodic and decorative roles, and the 15th variation of his *Carnaval de Venise* involves pizzicato for both left and right hands. Sculthorpe also employs left-hand pizzicato extensively (e.g. in *Requiem*).

Pizzicato techniques demanded by composers in the 20th century included the prescription of various pizzicato locations (e.g. mid-point of the string, at or behind the bridge, or either side of the

stopping finger) or specific plucking agents (e.g. with the nail or the fleshy pad of the finger), requiring strings to be stopped with the fingernail for pizzicato, perpendicular strumming and oblique strumming of chords, or specifying pizzicato with alternating fingers (e.g. Crumb, *Four Nocturnes*). A 'scooping' technique was developed to obtain mellow, resonant pizzicatos in single and double stopping. Other effects involved 'flicking' the string with the nail, pizzicato glissando using the finger or peg (Crumb), pizzicato tremolo (Bartók), 'snap' pizzicatos (introduced by Biber but popularized by Bartók), pizzicato natural harmonics (Crumb) and pizzicato with vibrato in varying degrees.

Scordatura gradually lost popularity during the 19th century, although it never became obsolete; Mazas, Spohr, Paganini, Bériot, Prume, Winter, Baillot, Bartók, Mahler, Scelsi and Ligeti are among those who have employed it. Ligeti's *Ramifications* (1968–9) for 12 solo strings, which requires half the ensemble to be tuned a quarter-tone higher than normal pitch, reflects 20th-century interest in microtones, initiated by Julián Carrillo's experimental 'sonido 13' system (of equal-tempered quarter-tones) of the 1890s. Among others who experimented with microtonal effects for expressive purposes or as an integral compositional device were Ives (*Quarter-tone Chorale* op.36), Bartók (*Sonata*, 1944), Hába, Vishnegradsky, Penderecki, Cage, Boulez, Husa, Szymanowski, Takemitsu and Crumb.

Sculthorpe and other 20th-century composers have prescribed unconventional violin sounds, including tapping on various parts of the instrument or on the strings with the fingers or with a wood, metal, glass or plastic beater. Others have exploited sounds extraneous to the violin, using percussion, sounds such as floor stamping or finger snapping, or vocal sounds in combination with violin playing. Pre-recorded tape has further expanded the range of texture and effect, notably in Reich's *Violin Phase*.

Robin Stowell

6. Jazz and blues.

(i) Jazz.

The earliest use of the violin in a jazz-related context was as a solo instrument in the ragtime orchestras of the early 20th century. Most orchestral arrangements of ragtime included parts for one or two violins, which were of equal melodic and structural importance to that of the clarinet or trumpet, but gradually the violin became subservient to the brass and woodwind instruments in the ensemble. A recording such as A.J. Piron's *Lou'siana Swing* (1924, OK) provides a late example of the violin being employed as a full and equal member of the front line. Territory bands often included a violin in their instrumentation; most notably Stuff Smith developed an innovative horn-like approach and experimented with acoustic and electric amplification while with Trent in the late 1920s. Eddie South first rose to prominence in the 1920s in Chicago as musical director of Jimmy Wade's orchestra. Multi-instrumentalist Juice Wilson, by all accounts an accomplished violinist, worked with South in Freddie Keppard's band and later recorded with Noble Sissle in London in 1929 before drifting into obscurity. Other early multi-instrumental pioneers were Darnell Howard and Edgar Sampson. Howard first recorded as a member of a three-violin section with W.C. Handy's Orchestra of Memphis in 1917 and later as a soloist with Earl Hines. Some big bands of the mid-1920s incorporated violin sections, the principal example being that of Paul Whiteman, where the section was led by Matty Malneck.

Gradually the violin reasserted its position as a solo instrument, particularly owing to the work of four musicians – Joe Venuti, Eddie South, **STEPHANE GRAPPELLI** and Stuff Smith. Venuti established his reputation through his duet recordings with the guitarist Eddie Lang in the mid-1920s. Similarly, Grappelli formed an association with the guitarist Django Reinhardt in the Quintette du Hot Club de France. Smith played an important role from the mid-1930s as a leader and risk-taking soloist in small swing groups. South, a classically trained swing musician with a fine technique, was influenced by gypsy music (he recorded with Reinhardt and Grappelli).

Other significant violinists of the swing era were Svend Asmussen, Ray Perry and the rhapsodic

Ray Nance. Nance's best work was as a member of Duke Ellington's orchestra. During the 1940s Perry became a transitional figure between the harmonic invention of Smith and the new bop style. But despite the influence exerted by Smith on the bop trumpet virtuoso Dizzy Gillespie, bop violin lacked solid representation on record until the work of Dick Wetmore and Harry Lookofsky in the 1950s. Lookofsky, who had played in the NBC Symphony Orchestra under Toscanini for 12 years, recorded brilliant bop in which his solos, as well as his multitrack section work, bear all the hallmarks of convincing improvisation but were executed almost entirely from written arrangements. Inspired by Smith, the early explorations of the Frenchman [JEAN-LUC PONTY](#) and the Polish Michał Urbaniak in the 1960s were in a bop vein, before they turned to free jazz and fusion. The classically trained Hungarian, Elek Bacsik, recorded virtuoso bop improvisations in the USA in the 1970s. In the 1980s Max Roach developed convincing bop arrangements for strings in his double quartet.

Different approaches to violin technique have led to a wide range of styles among jazz players: some have drawn on the techniques of classical and traditional music players, while others have invented original methods. Grappelli retained the tonal aesthetic of the classical violin tradition, and his precise, light sensitivity was itself an influence on virtuoso concert violinists such as Paul Zukofsky. Venuti and Asmussen made more use of the instrument's harmonic resources and employed the bow in a percussive manner. Smith revolutionized the vocabulary of jazz violinists with his wild, biting attack, wide vibrato, unorthodox fingerings and expressive intonation. Venuti devised a novel bowing technique that involved wrapping the bow hair around all four strings, and holding the stick of the bow beneath the body of the violin. Perry introduced the idea of singing in unison with the violin, a device quickly taken up by several double bass players and by Asmussen.

The acoustical and musical demands of many types of modern jazz and rock have led to modifications in the way in which the violin is played. Jazz musicians have always found that the relatively quiet sound of the instrument has placed them at a disadvantage. Following early acoustic-amplified designs, such as the [STROH VIOLIN](#), Smith from the late 1930s and Perry in the 40s favoured conventionally built, electrically amplified violins, while Ginger Smock recorded in 1946 on a solid-bodied electric instrument. Since the 1980s the majority of jazz violinists have relied on amplification, making use of a microphone, a transducer or a purpose-built instrument with integral transducer. Electronic enhancement devices are also common.

Players have shown great stylistic flexibility in jazz. Zbigniew Seifert, for example, executed fast trills as a substitute for vibrato, while Lookofsky and Ponty virtually abandoned vibrato altogether. Others, such as Michael White and John Blake, have experimented with non-Western tonal systems or have made extensive use of sliding pitch. Early free-jazz violinists, often classically trained, such as Michel Sampson and Ramsey Ameen, took their cue mainly from the explorations of Ornette Coleman. Coleman is self-taught on the instrument, and performs in an intense, percussive manner using unorthodox fingerings and bowing positions, but uses the violin mainly for colouristic purposes. Two violinists who came to the fore in the immediate wake of Coleman are Leroy Jenkins and Billy Bang, both of whom consistently play outside the equal-tempered system. Bang traces his lineage to Stuff Smith while Jenkins traces his primarily to Eddie South, bringing to the idiom a virtuoso classical technique. Coleman and Jenkins have both written concert pieces for string quartets.

A resurgence of interest in the improvisational possibilities of the violin has spawned a number of exceptionally gifted violinists who have successfully combined free playing and organized structures in individualistic ways during the 1990s. India Cooke displays lyrical sensitivity and imaginative strength, free from cliché. Mat Maneri's enquiring work is by turns pointillistic and arching, on a variety of acoustic and electric instruments. Jim Nolet displays wonderfully controlled dynamics and stylistic shifts. Examples of more conventional approaches to improvisation are heard in the playing of Mark Feldman and Regina Carter. Feldman epitomizes what might be termed a flash-classical approach. Malcolm Goldstein is an example of a radical improvising violinist who has recorded works by such composers as Ornette Coleman and John Cage.

Efforts by non-improvising concert violinists to record as soloists with jazz musicians have almost invariably resulted in violinistic compromise and musical failure. An exception might be made for the *Suite for Violin and Jazz Trio* released in 1977 by Pinchas Zukerman with the composer Claude Bolling. Similarly, the French, classically trained jazz violinist Michel Warlop recorded

some of his best playing in his ambitious *Swing Concerto* (1942), parts of which are Gershwin-inspired. A number of 1940s recordings by Heifetz of pieces by Gershwin and others are successful examples of jazz-tinged performances by a virtuoso concert violinist.

Some musicians have sought ways of expanding the range of the violin downwards. Ponty, Urbaniak and Bacsik played the violectra, an electric instrument sounding an octave below the conventional violin. Ponty and Urbaniak later took up a five-string electric violin (the lowest string on which was tuned to c) and Urbaniak performs on a six-string model (with the addition of a string tuned to F). The acoustic tenor violin, pitched an octave below the violin, has been used in jazz to best effect by Lookofsky. Leroy Jenkins and Jim Nolet double on viola. Lakshminarayana Shankar plays a ten-string violin with two necks, an instrument that he designed himself.

(ii) Blues.

During the 1920s and 30s many African-American violinists, either self-taught or legitimately trained, played obligatos on Chicago and New York recordings by blues and vaudeville vocalists and, to a lesser extent on instrumentals. These included Leon Abbey, Clarence Black, Leroy Parker with Mamie Smith, Leroy Pickett, Robert Robbins with Bessie Smith, and Cordy Williams. The remarkable classically trained Angelina Rivera was the first black woman to record in the genre, with Josephine Baker in Paris in 1926. This tradition differed somewhat from the raw blues of string band fiddlers such as Eddie Anthony or Will Batts. Nevertheless, urban as well as country styles may trace their origins to 19th-century plantation fiddling, often on home-made instruments. Several guitarists, most notably Lonnie Johnson, doubled on violin, as did the electric blues guitarist Clarence Gatemouth Brown from the 1940s. Later electric blues violinists included Papa John Creach and Don Sugar cane Harris, both of whom enjoyed second careers in rock bands. Remo [Ray] Biondi, who doubled on swing guitar and violin, is a rare example of a white American violinist who recorded raw, authentic blues with black Americans, such as Roosevelt Sykes and Jimmy Reed, in the 1950s. Like many jazz musicians, the urbane Eddie South recorded a number of blues instrumentals, while Stuff Smith frequently turned his attention to the form to incisive effect. From the 1970s, Leroy Jenkins, in particular, has used the structure and emotion of the blues in several of his improvisations and compositions.

Anthony Barnett, Matt Glaser, Alyn Shipton

Bibliography

A Catalogues, bibliographies, general histories. B Makers, aspects of violin making. C Treatises, methods. D Commentaries on technique. E To 1600. F After 1600. G Performers. H Jazz and Blues.

A: Catalogues, bibliographies, general histories

MoserGV

F. Regli: *Storia del violino in Piemonte* (Turin, 1863)

W. Sandys and S.A. Forster: *The History of the Violin* (London, 1864)

J.W. von Wasielew ski: *Die Violine und ihre Meister* (Leipzig, 1869, rev. 8/1927/R by W. von Wasielew ski)

A.K. Tottmann: *Führer durch den Violinunterricht* (Leipzig, 1873, rev. 4/1935 as *Führer durch die Violinliterature*)

G. Hart: *The Violin and its Music* (London, 1881/R)

E. Heron-Allen: *De fidiculis bibliographia: being an Attempt towards a Bibliography of the Violin and all Other Instruments played with a Bow in Ancient and Modern Times* (London, 1890–94/R)

A. Pougin: *Le violon, les violonistes et la musique du violon du XVIe au XVIIIe siècle* (Paris, 1924)

- A. Bachmann: *An Encyclopedia of the Violin*, ed. A.E. Wier (New York and London, 1925/R)
- A. Bonaventura: *Storia del violino, dei violinisti e della musica per violino* (Milan, 1925, 2/1933)
- F. von Reuter: *Führer durch die Solo-Violinmusik* (Berlin, 1926)
- M. Pincherle: *Feuillets d'histoire du violon* (Paris, 1927)
- G.R. Hayes: *Musical Instruments and their Music, 1500–1750*, ii: *The Viols, and Other Bowed Instrumentns* (London, 1930/R)
- E. van der Straeten: *The History of the Violin* (London, 1933/R)
- F. Farga: *Geigen und Geiger* (Zürich, 1940, rev. 7/1983 by K.F. Mages, W. Wendel and U. Dühlberg; Eng. trans., 1950, rev. 2/1969)
- S. Babitz: *The Violin: Views and Reviews* (Urbana, IL, 1955, 3/1980)
- E. Leipp: *Le violon: histoire, esthétique, facture et acoustique* (Paris, 1965; Eng. trans., 1969)
- B.G. Seagrave and J. Berman: *The A.S.T.A. Dictionary of Bowing Terms for String Instruments* (Urbana, IL, 1968)
- Violinspiel und Violinmusik: Graz 1972*
- W. Kolneder: *Das Buch der Violine: Bau, Geschichte, Spiel, Pädagogik, Komposition* (Zürich, 1972, 3/1984; Eng. trans., 1998)
- A. Loft: *Violin and Keyboard, the Duo Repertoire* (New York, 1973/R)
- E. Melkus: *Die Violine: eine Einführung in die Geschichte der Violine und des Violinspiels* (Berne, 1973/R, enlarged 2/1997)
- P. Marcan: *Music for Solo Violin Unaccompanied: a Performer's Guide to the Published Literature of the Seventeenth, Eighteenth, Nineteenth and Twentieth Centuries* (High Wycombe, 1983)
- B.R. Toskey: *Concertos for Violin and Viola: a Comprehensive Encyclopedia* (Seattle, 1983)
- D. Gill, ed.: *The Book of the Violin* (Oxford and New York, 1984)
- K. Osse: *Violine: Klangwerkzeug und Kunstgegenstand: ein Leitfaden für Spieler und Liebhaber von Streichinstrumenten* (Wiesbaden, 1985)
- H. Edlund: *Music for Solo Violin Unaccompanied: a Catalogue of Published and Unpublished Works from the Seventeenth Century to 1989* (High Wycombe, 1989)
- R. Stowell, ed.: *The Cambridge Companion to the Violin* (Cambridge, 1992)
- R. Dawes, ed.: *The Violin Book* (London, 1999)

B: Makers, aspects of violin making

LütgendorffGL

MGG2 ('Streichinstrumentenbau', §A; T. Drescher)

VannesE

- A. Bagatella: *Regole per la costruzione de' violini, viole, violoncelli e violoni* (Padua, 1786/R; Eng. trans., 1995)
- G.A. Marchi: *Il manoscritto liutario di G.A. Marchi* (Bologna, 1786); ed. and Eng. trans. as *The Manuscript on Violin Making/Il manoscritto liutario*, ed. R. Regazzi (Bologna, 1986)
- F.-J. Fétis: *Antoine Stradivari, luthier célèbre* (Paris, 1856; Eng. trans., 1864/R)
- E. Heron-Allen: *Violin-Making, as it was and is* (London, 1884, 2/1885/R)
- W.H. , A.F. and A.E. Hill: *Antonio Stradivari: his Life and Work (1644-1737)* (London, 1902, 2/1909)
- G. Fry: *The Varnishes of the Italian Violin-Makers* (London, 1904)

W.M. Morris: *British Violin-Makers, Classical and Modern* (London, 1904, 2/1920 as *British Violin-Makers*)

O. Möckel: *Die Kunst des Geigenbaues* (Leipzig, 1930, 6/1984)

F. Hamma: *Meisterwerke italienischer Geigenbaukunst* (Stuttgart, 1931, rev. 2/1964 by W. Hamma as *Meister italienischer Geigenbaukunst*, with Eng. trans., rev. 4/1976)

W.H. , A.F. and A.E. Hill: *The Violin Makers of the Guarneri Family* (London, 1931)

C. Bonetti: *La genealogia degli Amati liutai e il primato della scuola liutistica cremonese* (Cremona, 1938; Eng. trans., 1989, as *A Genealogy of the Amati Family of Violin Makers, 1500–1740*)

J.H. Fairfield: *Known Violin Makers* (New York, 1942, 5/1988)

E.N. Doring: *How Many Strads? Our Heritage from the Master* (Chicago, 1945, 2/1998)

J. Michelman: *Violin Varnish: a Plausible Re-Creation of the Varnish Used by the Italian Violin Makers between the Years 1550 and 1750* (Cincinnati, 1946)

J.W. Reiss: *Polskie skrzypce i polscy skrzypkowie* [Polish violins and violinists] (Warsaw , 1946)

F. Hamma: *Meister deutscher Geigenbaukunst* (Stuttgart, 1948, 2/1961; Eng. trans., 1961 as *German Violin Makers*)

E.N. Doring: *The Guadagnini Family of Violin Makers* (Chicago, 1949)

W. Senn: *Jakob Stainer, der Geigenmacher zu Absam: die Lebengeschichte nach urkundlichen Quellen* (Innsbruck, 1951)

K. Jalovec: *Italští houslaři/Italian Violin Makers* (Prague, 1952; edn in Eng. only, 1957, 2/1964)

R. and M. Millant: *Manuel pratique de lutherie* (Paris, 1952/R)

Z. Szulc: *Słownik lutników polskich* [Dictionary of Polish violin-makers] (Poznań, 1953)

W. Henley and C. Woodcock: *Universal Dictionary of Violin and Bow Makers* (Brighton, 1959–69)

K. Jalovec: *Čeští houslaři* [Czech violinists] (Prague, 1959; Eng. trans., 1959)

C.M. Hutchins: 'The Physics of Violins', *Scientific American*, ccvii/5 (1962), 78–84, 87–93

J. Backus: *The Acoustical Foundations of Music* (New York, 1969, 2/1977)

S. Milliot: *Documents inédits sur les luthiers parisiens du XVIIIe siècle* (Paris, 1970)

H.K. Goodkind: *Violin Iconography of Antonio Stradivari, 1644–1737* (Larchmont, NY, 1972)

D. Abbott and E. Segerman: 'Strings in the 16th and 17th Centuries', *G&S*, xxvii (1974), 48–73

S. Bonta: 'From Violone to Violoncello: a Question of Strings', *JAMIS*, iii (1977), 64–99

A. Gauge: "'La lutherie" at Mirecourt', *Journal of the Violin Society of America*, iii/3 (1977), 68–79

M. Brinser: *Dictionary of Twentieth Century Violin Making* (Irvington, NJ, 1978)

C. Taylor: 'The New Violin Family and its Scientific Background', *Soundings*, vii (1978), 101–16

F. Prochart: *Der Wiener Geigenbau im 19. und 20. Jahrhundert* (Tutzing, 1979)

F. Mele: '19th- and 20th-Century Violin Makers', *The Strad*, xc (1979–80), 912–15

R.B. Nevin: 'Violin Varnish', *The Strad*, xc (1979–80), 446–8

P.L. Shirtcliff: 'The Violin-Making Schools of Europe', *The Strad*, xc (1979–80), 442–5

H. Heyde and P. Liersch: 'Studien zum sächsischen Musikinstrumentenbau des 16./17. Jahrhunderts', *Jb Peters*, ii (1980), 230–59

C. Vettori: *Linee classiche della liuteria italiana/The Classic Lines of Italian Violin Making* (Pisa, 1980)

G. Tumminello: *Arte, artigianato, società: dall' albero al violino, lavoro e creatività* (Cremona, 1981)

W. Prizer: 'Isabella d'Este and Lorenzo da Pavia, "Master Instrument Maker"', *EMH*, ii (1982), 87–127

- J.S. and W.R. Robinson: *The Guarneri Mold and Modern Violin Making* (Oklahoma City, OK, 1982)
- I. Vigdorchik: *The Acoustical Systems of Violins of Stradivarius and other Cremona Makers* (Westbury, NY, 1982)
- L.C. Witten: 'The Surviving Instruments of Andrea Amati', *EMC*, x (1982), 487–94
- A. Cohen: 'A Cache of 18th Century Strings', *GJSJ*, xxxvi (1983), 37–48
- A. Lolov: 'Bent Plates in Violin Construction', *GJSJ*, xxxvii (1984), 10–15
- D. Rubio: 'The Anatomy of the Violin', *The Book of the Violin*, ed. D. Gill (Oxford and New York, 1984), 17–47
- E.J. Ward: *The Strad Facsimile: an Illustrated Guide to Violin Making* (Kaneoho, HI, 1984)
- K. Coates: *Geometry, Proportion, and the Art of Lutherie* (Oxford, 1985)
- R. Doerr: *Violin Maker's Handbook* (Battle Creek, MI, 1985)
- K.D. Marshall: 'Modal Analysis of a Violin', *JASA*, lxxvii (1985), 695–709
- P.L. Polato: 'Liutai veneziani nei secoli XVI, XVII e XVIII: ricerca documentaria nell'Archivio di Stato di Venezia', *Flauto dolce*, no.12 (1985), 6–15
- W.S. Gorrill and N. Pickering: 'Strings: Facts and Fallacies', *Journal of the Violin Society of America*, viii/1 (1986), 27–40
- W. Hamma: *Geigenbauer der deutschen Schule des 17. bis 19. Jahrhunderts/Violin-Makers of the German School from the 17th to the 19th Century* (Tutzing, 1986)
- R. Hargrave: 'Safety Pins', 'Tried and Tested', 'Keeping Fit', *The Strad*, xcvi (1986–7), 116–18, 194–9, 257–8
- A. Dipper and D. Woodrow, ed. and trans.: *Ignazio Alessandro Cozio di Salabue: Observations on the Construction of Stringed Instruments and their Adjustment, 1804, 1805, 1809, 1810, 1816* (Taynton, 1987)
- K. Moens: 'Der frühe Geigenbau in Süddeutschland', *Studia organologica: Festschrift für John Henry van der Meer*, ed. F. Hellwig (Tutzing, 1987), 349–88
- S. Bonta: 'Catline Strings Revisited', *JAMIS*, xiv (1988), 38–60
- D. Draley: 'The Transition of the Amati Workshop into the Hands of Stradivari, 1660–1684', *Journal of the Violin Society of America*, ix/3 (1988), 71–97
- H.M. Brown: 'The Trecento Fiddle and its Bridges', *EMC*, xvii (1989), 311–29
- Liuteria e musica strumentale a Brescia tra Cinque e Seicento: Salò 1990*
- O. Adelman: *Die alemannische Schule: archaischer Geigenbau des 17. Jahrhunderts im südlichen Schwarzwald und in der Schweiz* (Berlin, 1990)
- F. Dassenno and U. Ravasio: *Gasparo da Salò e la liuteria bresciana tra Rinascimento e Barocco* (Brescia and Cremona, 1990)
- T. Drescher: *Die Geigen- und Lautmacher vom Mittelalter bis zur Gegenwart* (Tutzing, 1990)
- P. Kass: 'The stati d'anime of S. Faustino in Cremona: Tracing the Amati Family, 1641 to 1686', *Journal of the Violin Society of America*, xii/1 (1992), 3–85
- D. Rosengard: 'Cremona after Stradivari: the Bergonzi and Storioni Families', *Journal of the Violin Society of America*, xii/1 (1992), 91–162
- C. Beare and B. Carlson: *Antonio Stradivari: the Cremona Exhibition of 1987* (London, 1993)
- P. Biddulph: *The Violin Masterpieces of Guarneri del Gesù* (London, 1994)
- D.G. Plowright: *Dictionary of British Violin and Bow Makers* (Exmouth, 1994)
- B.W. Harvey: *The Violin Family and its Makers in the British Isles* (Oxford, 1995)
- J. Jaskulski, J. Podbielski and R.J. Wiecek: *Polakowi tylko boga a skrypic: dzieje lutnictwa na ziemiach polskich do II wojny światowej* [To a Pole, the almighty and a violin: history of the violin-making art in Poland until the Second World War] (Poznań, 1996)

J. Beament: *The Violin Explained: Components, Mechanism, and Sound* (Oxford, 1997)

K. Moens: 'Vuillaume et les premiers luthiers/Vuillaume and the First Violin Makers', *Violons, Vuillaume, 1798–1875: un maître luthier français du XIXe siècle/Violins, Vuillaume, 1798–1875: a Great French Violin Maker of the 19th Century*, Musée de la Musique, 23 Oct 1998 – 31 Jan 1999 (Paris, 1998), 130–38, 160–62 [exhibition catalogue]

C: Treatises, methods

PraetoriusSM, ii

PraetoriusTI

VirdungMG

M. Agricola: *Musica instrumentalis deudsch* (Wittenberg, 1529/R, enlarged 5/1545; Eng. trans., ed. W. Hettrick, 1994)

H. Gerle: *Musica teusch* (Nuremberg, 1532/R, rev. 3/1546/R as *Musica und Tabulatur*)

G.M. Lanfranco: *Scintille di musica* (Brescia, 1533/R); Eng. trans. in B. Lee: *Giovanni Maria Lanfranco's 'Scintille di musica' and its Relation to 16th-Century Music Theory* (diss., Cornell U., 1961)

S. di Ganassi dal Fontego: *Regola rubertina* (Venice, 1542/R); ed. W. Eggers (Kassel, 1974); Eng. trans. in JVdGSA, xviii (1981), 13–66

S. di Ganassi dal Fontego: *Letzione seconda* (Venice, 1543/R); ed. W. Eggers (Kassel, 1974)

P. Jambe de Fer: *Epitome musical* (Lyons, 1556); repr. in F. Lesure: 'L'epitome musical de Philibert Jambe de Fer', AnnM, vi (1958–63), 341–86

R. Rognoni: *Passaggi per potersi essarcitare* (Venice, 1592)

L. Zacconi: *Prattica di musica* (Venice, 1592/R)

F. Rognoni: *Selva de varii passaggi* (Milan, 1620/R)

G. Zanetti: *Il scolaro* (Milan, 1645)

J.J. Prinner: *Musicalischer Schlissl* (MS, 1677, US-Wc)

J. Lenton: *The Gentleman's Diversion, or the Violin Explained* (London, 1693, 2/1702 as *The Useful Instructor on the Violin*)

Nolens volens, or You Shall Learn to Play on the Violin Whether You Will or Not (London, 1695)

The Self-Instructor on the Violin (London, 1695, 2/1700 as *The First, Second and Third Books of the Self-Instructor on the Violin*)

D. Merck: *Compendium musicae instrumentalis chelicae, das ist: kurtza Begriff, welcher Gestalten die Instrumental-Music auf der Violin, Pratschen, Viola da Gamba, und Bass gründlich und leicht zu erlernen seye* (Augsburg, 1695)

G. Muffat: *Florilegium secundum* (Passau, 1698; ed. in DTÖ, iv, Jg.2/ii, 1895/R)

M. Corrette: *L'école d'Orphée, méthode pour apprendre facilement à jouer du violon dans le goût françois et italien avec des principes de musique et beaucoup de leçons* (Paris, 1738/R, enlarged 2/1779)

J.-J.C. de Mondonville: Introduction to *Les sons harmoniques*, op.4 (Paris and Lille, 1738)

H. Le Blanc: *Défense de la basse de viole contre les entreprises du violon et les prétentions du violoncel* (Amsterdam, 1740/R)

J.D. Berlin: *Musikalske elementer* (Trondheim, 1744); ed. B. Korsten (Bergen, 1977)

R. Crome: *The Fiddle New Model'd, or a Useful Introduction for the Violin* (London, c1750)

F. Geminiani: *The Art of Playing on the Violin* (London, 1751/R1952 with introduction by D.D. Boyden)

L. Mozart: *Versuch einer gründlichen Violinschule* (Augsburg, 1756/R, 3/1787/R; Eng. trans., 1948, as *A Treatise on the Fundamental Principles of Violin Playing*, 2/1951/R)

G. Tartini: *L'arte del arco* (Paris, 1758); repr. in J.B. Cartier: *L'art du violon* (Paris, 1798, enlarged 3/c1803/R)

The Compleat Tutor for the Violin: Containing the Best and Easiest Instructions for Learners to Obtain a Proficiency on that Instrument (London, after 1761)

L'abbé le fils [J.-B. Saint-Sévin] *Principes du violon* (Paris, 1761/R, 2/1772)

C.R. Brijon: *Reflexions sur la musique et la vraie manière de l'exécuter sur le violon* (Paris, 1763/R)

G. Tartini: *Lettera* [dated 1760] *del defonto Signor Giuseppe Tartini alla Signora Maddalena Lombardini inserviente ad una importante lezione per i suonatori di violone*, *L'Europa letteraria*, v/2 (Venice, 1770; Eng. trans., 1771, 2/1779/R) [It., Eng., Fr. and Ger. edns repr. in E.R. Jacobi, ed. G. Tartini: *Traité des agréments de la musique* (Celle, 1961)]

G. Löhlein: *Anweisung zum Violinspielen* (Leipzig and Züllichau, 1774, enlarged 3/1797 by J.F. Reichardt)

T.-J. Tarade: *Traité du violon* (Paris, c1774/R)

M. Corrette: *L'art de se perfectionner dans le violon ... suite de L'école d'Orphée* (Paris, 1782/R)

A. Lolli: *L'école du violon en quatuor* (Berlin and Amsterdam, c1784)

I. Schw eigl: *Verbesserte Grundlehre der Violin* (Vienna, 1786, 2/1795 as *Grundlehre der Violin*)

F. Galeazzi: *Elementi teorico-pratici di musica con un saggio sopra l'arte di suonare il violino analizzata, ed a dimostrabili principi ridotta*, i (Rome, 1791, enlarged 2/1817), Eng. trans., ed. A. Franscarelli (DMA diss., U. of Rochester, 1968); ii (Rome, 1796), Eng. trans. of pt 4, section 2, ed. G.W. Harwood (M.A. thesis, Brigham Young U., 1980)

J.A. Hiller: *Anweisung zum Violinspielen für Schulen und zum Selbstunterrichte* (Leipzig, 1792)

M. Woldemar: *Méthode pour le violon* (Paris, 1795–8)

A. Bailleux: *Méthode raisonnée pour apprendre à jouer du violon* (Paris, 1798/R)

J.-B. Cartier: *L'art du violon* (Paris, 1798, enlarged 3/c1803/R) [incl. G. Tartini: *L'arte del arco*]

M. Woldemar: *Grande méthode ou étude élémentaire pour le violon* (Paris, 1798–9, 2/1802–3)

G.G. Cambini: *Nouvelle méthode théorique et pratique pour le violon* (Paris, c1800/R)

P. Baillot, P. Rode and R. Kreutzer: *Méthode de violon* (Paris, 1803/R)

B. Campagnoli: *Nouvelle méthode de la mécanique progressive du jeu de violon ... op.21* (Leipzig, 1824; It. trans., n.d.; Eng. trans., 1856)

K. Guhr: *Über Paganinis Kunst die Violine zu spielen* (Mainz, 1831; Eng. trans., rev., 1915; new Eng. trans., 1982, ed. J. Gold)

L. Spohr: *Violinschule* (Vienna, 1832; Eng. trans., 1843)

P. Baillot: *L'art du violon: nouvelle méthode* (Paris, 1834)

G. Dubourg: *The Violin* (London, 1836, rev. 5/1887 by J. Bishop)

J.-D. Alard: *Ecole du violon: méthode complète et progressive* (Paris, 1844)

H. Wieniawski: *L'école moderne op.10* (Bonn, 1854)

C.-A. de Bériot: *Méthode de violon op.102* (Paris, 1858)

F. David: *Violinschule* (Leipzig, 1863)

F. David: *Die hohe Schule des Violinspiels* (Leipzig, 1867–72, 2/1903)

O. Ševčík: *Schule der Violin-Technik op.1* (Prague, 1881)

O. Ševčík: *Schule der Bogentechnik op.2* (Leipzig, 1895)

J. Joachim and A. Moser: *Violinschule* (Berlin, 1902–5; Eng. trans., c1907; trilingual edn, 1959, rev. M. Jacobsen)

O. Ševčík: *Violinschule für Anfänger op.6* (Leipzig, 1904–8)

- C. Flesch: *Urstudien für Violine* (Berlin, 1911)
- L. Capet: *La technique supérieure de l'archet* (Paris, 1916)
- D. Fryklund: *Studien über die Pochette* (Sundsvall, 1917)
- L. Auer: *Violin Playing as I Teach it* (New York, 1921/R)
- D.C. Dounis: *Die Künstlertechnik des Violinspiels/The Artist's Technique of Violin Playing* op.12 (Vienna, 1921)
- A. Jarosy: *Die Grundlagen des violinistischen Fingersatzes* (Berlin, 1921; Fr. orig., Paris, 1924, as *Nouvelle théorie du doigté*; Eng. trans., 1933, as *A New Theory of Fingering*)
- C. Flesch: *Die Kunst des Violin-Spiels*, i (Berlin, 1923, 2/1929; Eng. trans., 1924, 2/1939; new Eng. trans., 2000); ii (Berlin, 1928; Eng. trans., 1930)
- L. Auer: *Violin Master-Works and their Interpretation* (New York, 1925/R)
- L. Auer: *Graded Course of Violin Playing* (New York, 1926)
- E. and E. Doflein: *Geigenschulwerk* (Mainz, 1931, 2/1951; Eng. trans., 1957)
- I.M. Yampol'sky: *Osnovi skripichnoy applikaturī* [The principles of violin fingering] (Moscow, 1933, enlarged 3/1955; Eng. trans., 1967)
- S. Babitz: *Principles of Extensions in Violin Fingering* (Philadelphia, 1947; enlarged 2/1974 as *Violin Fingering*)
- C. Flesch: *Alta scuola di diteggiatura violinistica* (Milan, 1960; Eng. trans., rev., 1966/R, as *Violin Fingering: its Theory and Practice*; Ger. orig., ed. K. Rebling, Frankfurt, 1995, as *Die hohe Schule des Fingersatzes auf der Geige*)
- W. Primrose: *Technique is Memory: a Method for Violin and Viola Players Based on Finger Patterns* (Oxford, 1960)
- I. Galamian: *Principles of Violin Playing and Teaching* (Englewood Cliffs, NJ, 1962, 2/1985)
- I. Galamian and F. Neumann: *Contemporary Violin Technique* (New York, 1966)
- Y. Menuhin: *Violin: six lessons with Yehudi Menuhin* (London, 1971/R)
- R. Gerle: *The Art of Practising the Violin: with Useful Hints for All String Players* (London, 1983)

D: Commentaries on technique

BoydenH

- A. Pouglin: *Viotti et l'école moderne de violon* (Paris, 1888)
- M. Pincherle: 'La technique du violon chez les premiers sonatistes français (1695–1723)', BSIM, vii (1911), no.8, pp.1–32; no.9, pp.19–35; no.10, pp.10–23
- G. Beckmann: *Das Violinspiel in Deutschland vor 1700* (Leipzig, 1918, music suppl. 1921)
- A. Moser: 'Die Violin-Skordatur', AMw, i (1918–19), 573–89
- E. Lesser: 'Zur Scordatura der Streichinstrumente', AcM, iv (1932), 123–7, 148–60
- T. Russell: 'The Violin "Scordatura"', MQ, xxiv (1938), 84–96
- P.G. Gelrud: *A Critical Study of the French Violin School (1782–1882)* (diss., Cornell U., 1941)
- I.M. Yampol'sky: *Russkoye skripichnoye iskusstvo: ocherki i materialī* [Russian violin playing: essays and materials] (Moscow, 1951)
- A. Wirsta: *Ecoles de violon au XVIIIème siècle d'après les ouvrages didactiques* (diss., U. of Paris, 1955)
- S. Babitz: 'Differences between 18th-Century and Modern Violin Bowing', *The Score*, no.19 (1957), 34–55; rev., pubd separately (Los Angeles, 1970, enlarged, 2/1975)

- B. Seagrave: *The French Style of Violin Bowing and Phrasing from Lully to Jacques Aubert (1650–1730)* (diss., Stanford U., 1958)
- G.J. Kinney: 'Viols and Violins in the *Epitome Musical* (Lyon, 1556) of Philibert Jambe de Fer', *JVdGSA*, iv (1967), 14–20
- E. Winternitz: *Gaudenzio Ferrari: his School and the Early History of the Violin* (Milan, 1967)
- F. Neumann: *Violin Left Hand Technique: a Survey of Related Literature* (Urbana, IL, 1969)
- A. Silbiger: 'The First Viol Tutor: Hans Gerle's *Musica Teusch*', *JVdGSA*, vi (1969), 34–48
- A. Wirsta: *L'enseignement du violon au XIXième siècle* (diss., U. of Paris, 1971, addenda, 1974)
- R. Donington: *String Playing in Baroque Music* (London, 1977)
- R. Stowell: 'Violin Bowing in Transition', *EMc*, xii (1984), 316–27
- P. Walls: 'Violin Fingering in the 18th Century', *EMc*, xii (1984), 300–15
- S. Monosoff: 'Violin Fingering', *EMc*, xiii (1985), 76–9
- R. Stowell: *Violin Technique and Performance Practice in the Late Eighteenth and Early Nineteenth Centuries* (Cambridge, 1985)
- M.W. Riley: *The Teaching of Bowed Instruments from 1511 to 1756* (Ann Arbor, 1986)
- G. Moens-Haenen: *Das Vibrato in der Musik des Barok: ein Handbuch zur Aufführungspraxis für Vokalisten und Instrumentalisten* (Graz, 1988)
- P. Walls: 'The Influence of the Italian Violin School in 17th-Century England', *EMc*, xviii (1990), 575–87
- R. Philip: *Early Recordings and Musical Style: Changing Tastes in Instrumental Performance, 1900–1950* (Cambridge, 1992)
- P. Allsop: 'Violinistic Virtuosity in the Seventeenth Century: Italian Supremacy or Austro-German Hegemony?', *Il saggiatore musicale*, iii (1996), 233–58

E: To 1600

- B. de Beaujoyeux: *Le balet comique de la Royne* (Paris, 1582/R)
- H. Prunières: 'La musique de la chambre et de l'écurie sous la règne de François Ier (1516–1547)', *Année musicale*, i (1912), 215–51
- F. Lesure: 'La communauté des joueurs d'instruments au XV^e siècle', *Revue historique de droit français et étranger*, 4th ser., xxxi (1953), 79–109
- W.L. Woodfill: *Musicians in English Society from Elizabeth to Charles I* (Princeton, NJ, 1953/R)
- F. Lesure: 'Les orchestres populaires à Paris vers la fin du XV^e siècle', *RdM*, xxxvi (1954), 39–54
- D.D. Boyden: 'The Tenor Violin: Myth, Mystery or Misnomer?', *Festschrift Otto Erich Deutsch*, ed. W. Gerstenberg, J. LaRue and W. Rehm (Kassel, 1963), 273–9
- D. Kämper: *Studien zur instrumentalen Ensemblesmusik des 16. Jahrhunderts in Italien*, *AnMc*, no.10 (1970)
- H.M. Brown: *Sixteenth-Century Instrumentation: the Music for the Florentine Intermedii*, *MSD*, xxx (1973)
- B. Geiser: *Studien zur Frühgeschichte der Violine* (Berne, 1974)
- K. Moens: 'Problems of Authenticity of Sixteenth Century Stringed Instruments', *CIMCIM Newsletter*, xiv (1989), 41–9
- K. Polk: 'Vedel und Geige – Fiddle and Viol: German String Traditions in the Fifteenth Century', *JAMS*, xlii (1989), 504–46
- L. Libin: 'Early Violins: Problems and Issues', *EMc*, xix (1991), 5–6
- K. Polk: *German Instrumental Music of the Late Middle Ages* (Cambridge, 1992)

- P. Holman: *Four and Twenty Fiddlers: the Violin at the English Court 1540–1690* (Oxford, 1993, 2/1995)
- K. Moens: 'De viool in de 16de eeuw', *Musica antiqua*, x (1993), 177–83; xi (1994), 5–12
- K. Moens: 'La "nascita" del violino nei Paesi Bassi del sud: alla ricerca di un luogo dove collocare l'inizio della storia del violino', *Monteverdi: imperatore della musica*, ed. M. Tiella (Rovereto, 1993), 84–131
- R. Baroncini: 'Contributo alla storia del violino nel sedicesimo secolo: i "sonadori di violini" della Scuola Grande di San Rocco a Venezia', *Rececare*, vi (1994), 61–190
- K. Moens: 'De eerste violisten in Antwerpen, 1554–1560', *Musica antiqua*, xi (1994), 170–3
- K. Moens: 'De vroege viool in Brussel', *Musica antiqua*, xi (1994), 53–9
- K. Moens: 'De viool in Antwerpen op het einde van 16de eeuw', *Musica antiqua*, xii (1995), 16–20
- K. Moens: 'Geiger in der Münchner Hopfkapelle zur Zeit Lassos und ihre Bedeutung für die Frühgeschichte der Violine', *Yearbook of the Alamire Foundation*, (1995), 383–413
- K. Moens: 'Renaissancegamba's in het Brussels Instrumentenmuseum', *Bulletin van de Koninklijke Musea voor Kunst en Geschiedenis*, lxxvi (1995), 161–237
- J.W. Hill: 'The Emergence of Violin Playing into the Sphere of Art Music in Italy: *Compagnie di Suonatori* in Brescia during the Sixteenth Century', *Musica Franca: Essays in Honor of Frank D'Accone*, ed. I. Alm, A. McLamore and C. Reardon (Stuyvesant, NY, 1996), 333–66
- K. Moens: 'Violes ou violons?', *Musique - images - instruments*, no.2 (1996), 18–38
- P. Holman: *Dowland: Lachrimae (1604)* (Cambridge, 1999)

F: After 1600

La LaurencieEF

- B. Studeny: *Beiträge zur Geschichte der Violinsonate im 18. Jahrhundert* (Munich, 1911)
- S. Cordero di Pamparato: 'Emanuele Filiberto di Savoia, protettore dei musicisti', *RMI*, xxxiv (1927), 229–47, 555–78; xxxv (1928), 29–49
- E. Reeser: *De klaviersonate met vioolbegeleiding in het Parijsche muziekleven ten tijde van Mozart* (Rotterdam, 1939)
- B.F. Swalin: *The Violin Concerto: a Study in German Romanticism* (Chapel Hill, NC, 1941/R)
- D.D. Boyden: 'Monteverdi's *Violini Piccoli alla Francese* and *Viole da Brazzo*', *AnnM*, vi (1958–63), 387–402
- R. Aschmann: *Das deutsche polyphone Violinspiel im 17. Jahrhundert* (Zürich, 1962)
- K.M. Stolba: *A History of the Violin Etude to about 1800* (Hays, KS, 1968–9)
- E. Dann: 'The Second Revolution in the History of the Violin: a Twentieth-Century Phenomenon', *Journal of the Violin Society of America*, iv/1 (1977–8), 48–56; repr. in *College Music Symposium*, xvii/2 (1977), 64–71
- S. Bonta: 'Terminology for the Bass Violin in Seventeenth-Century Italy', *JAMIS*, iv (1978), 5–42
- W. Apel: *Die italienische Violinmusik im 17. Jahrhundert* (Wiesbaden, 1983; Eng. trans., 1990)
- D. Johnson: *Scottish Fiddle Music in the 18th Century: a Musical Collection and Historical Study* (Edinburgh, 1984)
- D. Fox: 'The Baroque Violin', *Journal of the Violin Society of America*, viii/1 (1986), 57–70
- N. Zaslav: 'When is an Orchestra not an Orchestra?', *EMc*, xvi (1988), 483–95
- S. McVeigh: *The Violinist in London's Concert Life, 1750–1784: Felice Giardini and his Contemporaries* (New York, 1989)
- S. Bonta: 'The Use of Instruments in Sacred Music in Italy 1560–1700', *EMc*, xviii (1990), 519–35
- A. Pople: *Berg: Violin Concerto* (Cambridge, 1991)

- P. Allsop: *The Italian 'Trio' Sonata: from its Origins until Corelli* (Oxford, 1992)
- P. Walls: 'Mozart and the Violin', *EMc*, xx (1992), 7–29
- C. White: *From Vivaldi to Viotti: a History of the Early Classical Violin Concerto* (Philadelphia, 1992)
- P. Holman: *Four and Twenty Fiddlers: the Violin at the English Court 1540–1690* (Oxford, 1993, 2/1995)
- R. Stowell, ed.: *Performing Beethoven* (Cambridge, 1994) [incl. C. Brown: 'Ferdinand David's Editions of Beethoven', 117–49; R. Stowell: 'The Violin Concerto op.61: Text and Editions', 150–94]
- C. Bordas: 'Les relations entre Paris et Madrid dans le domaine des instruments à cordes (1800–1850)', *Musique - images - instruments*, no.1 (1995), 84–97
- R. Stowell: *Beethoven: Violin Concerto* (Cambridge, 1998)

G: Performers

- A. Bachmann: *Les grands violonistes du passé* (Paris, 1913)
- M. Pincherle: *Les violonistes, compositeurs et virtuoses* (Paris, 1922/R)
- C. Flesch: *Memoirs* (London, 1957/R, 2/1958; Ger. orig., Freiburg, 1960, 2/1961)
- J. Szigeti: *A Violinist's Notebook* (London, 1964)
- J. Szigeti: *Szigeti on the Violin* (London, 1969/R)
- M. Campbell: *The Great Violinists* (London, 1980)
- H. Roth: *Master Violinists in Performance* (Neptune City, NJ, 1982)
- B. Schwarz: *Great Masters of the Violin: from Corelli and Vivaldi to Stern, Zukerman, and Perlman* (New York, 1983)
- Y. Menuhin: *The Complete Violinist: Thoughts, Exercises, Reflections of an Itinerant Violinist* (New York, 1986)
- Y. Menuhin: *La légende du violon* (Paris, 1996)
- H. Roth: *Violin Virtuosos: from Paganini to the 21st Century* (Los Angeles, 1997)

H: Jazz and blues

- J.-E. Berendt: *Das Jazzbuch: Entwicklung und Bedeutung der Jazzmusik* (Frankfurt, 1953, rev. and enlarged 5/1981 as *Das grosse Jazzbuch: von New Orleans bis Jazz Rock*; Eng. trans., 1982, as *The Jazz Book: from New Orleans to Fusion and Beyond*), 288ff
- D. Morgenstern: 'Jazz Fiddle', *Down Beat*, xxxiv/3 (1967), 16–19, 38 only
- E. Jost: *Free Jazz* (Graz, 1974/R)
- M. Glaser and S. Grappelli: *Jazz Violin* (New York, 1981) [incl. transcrs.]
- G. Lowinger: *Jazz Violin: Roots and Branches* (New York and London, 1981) [incl. transcrs.]
- J. Lyon Lieberman: *Blues Fiddle* (New York, 1986) [incl. transcrs.]
- S. Glass: *Die Rolle der Geige im Jazz* (Berne, 1991 [recte 1992]) [incl. transcrs.]
- Fable Bulletin: Violin Improvisation Studies* (1st ser., 1993–9)
- A. Barnett: *Desert Sands: the Recordings and Performances of Stuff Smith: an Annotated Discography and Biographical Source Book* (Lewes, 1995, suppl., *Up Jumped the Devil*, 1998) [incl. transcrs.]
- J. Lyon Lieberman: *Improvising Violin* (New York, 1995)
- H. Grässer: *Der Jazzgeiger Stéphane Grappelli: Untersuchen zur Entwicklung seines Personalstils und zur seiner Violintechnik* (Regensburg, 1996) [incl. transcrs.]

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Violin, §I: The instrument, its techniq...

H. Grässer and A. Holliman: *Design und Technik der elektrischen Streichinstrumente/Design and Technique of Electric Bowed String Instruments* (Frankfurt, 1998)

D. Lockwood and F. Darizcuren: *Cordes & âme: méthode d'improvisation et de violin jazz* (Paris, 1998) [incl. transcrs.]

A. Barnett: *Black Gypsy: the Recordings of Eddie South: an Annotated Discography and Itinerary* (Lewes, 1999) [incl. transcrs.]

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