THE EVOLUTION OF VIOLIN Technique FROM
MONTEVERDI TO PAGANINI

THESIS

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by

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INTRODUCTION

Bowed instruments of various kinds have existed since the thirteenth century, but the violin in its present form came into general use about the middle of the sixteenth century. At that time violins appeared in ensemble with voices, sometimes doubling the voices, sometimes replacing them. On the other hand, it was the exception for an orchestra (that included violins) to play compositions especially written for the instruments. Giovanni Gabrielli and Claudio Monteverdi were pioneers among those who composed for the violin in such a manner as to give it an individuality of its own among other instruments.

The period covered in the thesis is from the time of Monteverdi's introduction of the violin as an individual instrument in the orchestra (1607). However, the earliest notice we have found of the orchestral use of the violin appears in the Tragedy of Gorbude performed before Queen Elizabeth in 1561: here "the Musicke of Violinze" preceded the first act, in which "wild men . . . clad in leaves" graced the scene.
The purpose of this thesis is to show through the presentation and analysis of authoritative information, and opinions drawn from the information and analysis, the development of violin technique from its basic rudiments as an accompanying instrument to the plane of a brilliant solo instrument, a position that it still maintains today. Many books on the history of the violin have been written, but none have dealt exclusively with the technical evolution of the instrument, and it is hoped that the material in this thesis will constitute a contribution to this field.

The results of this investigation are presented in four principal sections: (1) Monteverdi to Heinrich Biber (1600-1675); (2) Corelli and Vivaldi (1675-1748); (3) The pupils of the first violin schools; (4) The beginning era of modern violin playing (up to the death of Nicolo Paganini, 1840).
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CHAPTER I

MONTEVERDI TO HEINRICH BIBER (1600-1675)

Once the violin was generally accepted as an instrument of the orchestra,¹ its technique appears soon to have made considerable progress.

Claudio Monteverdi's Orfeo (1607) is the first work to specify independent violin passages² apart from mere duplication of the part.³ In this score, little in violin technique is called for. There are no bowing marks whatsoever,⁴ no dynamic markings, no rapid passages,⁵ and the entire score


³At that time (1580), most frequently instruments and voices were combined, the instruments doubling the voices, sometimes replacing them. On the other hand, it was the exception for an orchestra to play compositions especially written for instruments. Henry Prunières, Monteverdi, p. 11.

⁴While the instruments (Violin, Viola, Cello, Bass) were brought to perfection within a short time, the bow of the sixteenth century (and most of the seventeenth century) was comparatively primitive and clumsy. It was short, heavy, inelastic (the stick was of convex nature), and without proper mechanism for adjusting the tension of the hair. Adam Carse, The History of Musical Instruments, p. 11.

⁵The fastest passages in the score are the sixteenth notes in the "Ritornello," Act II, Tempo: allegro non troppo, G. F. Malipiero Edition, Asolo, 1926.
can be played without shifting or even extending from the first position. The most outstanding feature, however, is that Monteverdi completely avoids the use of the G string, the entire range of the part being from $D_1$ to $B_2$ as shown in Figure 1.

![Diagram of violin part range]

Fig. 1--Range of violin part in Monteverdi's *Orfeo*

However, Monteverdi was quick to extend the boundaries of the position. In a score of 1610 he has passages going up to the fifth position.

Later, Monteverdi takes another step in the evolution of violin technique. In his *Combattimento di Tancredi e Clorinda* (Venice, 1624), we find two modern violin effects

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6 The Sonata for three violins and bass by Giovanni Gabrieli (published in 1615), "... never exceeds the first position, in which the highest note, $G_1$, can be played by the extension of the fourth finger..." Edmund van der Straeten, *The History of the Violin*, Vol. I, p. 47.

7 Until the beginning of the seventeenth century, only the first position was used on the violin, and the use of the G string was avoided by all the early composers, probably because of the manner of holding the instrument at that period. Straeten, op. cit., pp. 46-47.

8 Colles, Prunières, Schrade, and Redlich do not specify which one. The outstanding important works of this period are the great Mass *In illo tempore* and the *Vespers of the Virgin Mary* with the two *Magnificats* which Monteverdi put together in a volume of impressive sacred music. Hans Ferdinand Redlich, *Claudio Monteverdi: Life and Works*, p. 20.
introduced in a still more remarkable way. Here we have recitatives accompanied by tremolo and also pizzicato.

In discussing the former effect, we can say that the power to reiterate any note at almost unlimited speed is a feature of the bowed string technique and is a device shared to that extent by neither wind nor keyboard instruments. 9

The following extract (Figure 2) by Donati 10 dated 1599 shows that this feature of string playing was not absolutely unknown before the time of Combattimento 11 but Monteverdi was undoubtedly the first to make full use of the effect of continuous reiteration of notes as an accompaniment.

![Fig. 2--B. Donati, Guidizio d'Amore (1599)](image)

9Adam Carse, The History of Orchestration, p. 49.
10Ibid., p. 30, Example 4.
11"The tremolo, which appeared first in 1628 in the sonatas of Biagio Marini [Arnold Schering, Geschichte der Musik in Beispielen, Nos. 182 and 183]... was frequently suggested by the characteristic term affetti." Manfred F. Bukofzer, Music in the Baroque Era, p. 52.
Monteverdi's tremolo, however, is a measured repetition of sixteenth notes, and it is in effect, very different from the continuous buzz of the modern tremolo. It was nevertheless a novel and essentially orchestral device,\textsuperscript{12} one which could only have been discovered by a string player.\textsuperscript{13}

From the following figure (Figure 3) we can see that Monteverdi's symbol for tremolo is much the same symbol\textsuperscript{14} that is in use today for the unmeasured tremolo.\textsuperscript{15}

\begin{quote}
\textsuperscript{12}"... used as a pictorial means to express excitement and danger..." Willi Apel, \textit{Harvard Dictionary of Music}.
\end{quote}

\begin{quote}
\textsuperscript{13}"Monteverdi's reputation was equally great as organist and as violist and under his (M. A. Ingegnari) direction Monteverdi soon attained a high degree of technical skill in playing several instruments." Henry Punineses, \textit{Monteverdi, His Life and Work}, p. 6.
\end{quote}

\begin{quote}
\textsuperscript{14}"The use of the sixteenth notes or thirty-second notes, even though taken in conjunction with the tempo of the music, is very often inclined to be ambiguous, and shows no clear distinction between these two entirely different effects... Operatic composers of the early Nineteenth Century often made it quite clear when they wanted an unmeasured tremolo, either putting the matter beyond doubt by a more careful choice of note value, or by the use of such terms as tremolo, tremendo, or tremolando." \textit{Ibid.}, p. 227.
\end{quote}

\begin{quote}
\textsuperscript{15}"Even though the modern bow tremolo is essentially an early Nineteenth Century texture, its first use arises in the latter part of the Eighteenth Century in Piccini's (Iphigène 1781)." \textit{Ibid.}, p. 162.
\end{quote}
When the music was printed in 1638 Monteverdi took the opportunity of relating how the players received the innovation. It seems that they hardly took it seriously and could not understand why they should move their bows up and down sixteen times in a bar only to produce repetitions of the same note. At first they played one long note instead of sixteen short notes, and apparently required some persuasion before they could be induced to play the passage exactly as Monteverdi had written it.  

Continuing on through the score we come to the second effect, the pizzicato. Both are now the common property of all orchestral composers and arrangers, but early in the seventeenth century they could not have been other than startling, even bewildering, novelties to ears unaccustomed to anything but a polyphonic movement of parts. Carse

16Carse, History of Orchestration, p. 50.
remarks that even at that time everybody must have heard string players accidentally twang the strings of their instruments with the fingers, but only Monteverdi thought of using this as an orchestral effect. While the fight between Tancredi and Clorinda is in progress he directs the players to discard their bows and to strike the strings with two fingers\textsuperscript{17} (see Figure 4), in short he creates the pizzicato effect.

![Sheet music](image)

**Fig. 4--Example of the use of pizzicato in Monteverdi's *Combattimento di Tancredi e Clorinda* (1624).**

\textsuperscript{17}Monteverdi's request for pizzicato was marked thus: "Qui sì lascia l'arco, e sì strappano de corde con due dite," and cancelled by "Qui sì ripiglia l'arco." H. C. Colles, "Pizzicato," *Grove's Dictionary of Music and Musicians.*
If his notation is not quite logical, the effect is there all the same.\textsuperscript{18}

It is also interesting to note that Monteverdi increases the range\textsuperscript{19} of the violin by giving the violins, in several passages throughout the score, a more liberal use of the G string.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{example.png}
\caption{Fig. 5, a through f—Examples of the use of the G string in Monteverdi's \textit{Combattimento}.}
\end{figure}

The notes to be played on the G string, however, contain a relatively simple rhythmical pattern.

\textsuperscript{18}The example on the preceding page (Figure 4) is Monteverdi's original notation; however, to see it with correct modern rhythmic interpretation, see \textit{Combattimento di Tancredi e Clorinda} as edited by G. Francesco Malipiero, p. 20.

\textsuperscript{19}The range of the violin in this score is from a'' to G''; note also that he has refrained from the use of the open G string.
From this we may assume one of three things. First, that the left hand technique of the players improved to such an extent that an occasional note could be played on the G string without any strain. Secondly, that the players' manner of holding the violin on the right side, below the neck, began to move the grip position a little to the left. Thirdly, that Monteverdi, who is famous for having introduced new practical things in violin technique, might have written the score before the above mentioned changes and in turn forced a change of position on the players.

Plate 1--Mid-seventeenth century violinist (Musical Quarterly, January 1950).
Still another item of importance must be considered: the bow. Approximately four years before the introduction of *Combattimento di Tancredi e Clorinda*, a great evolution in the shape of the bow took place.

The *Harmonicorum Libri* of Mersenne\(^21\) is the earliest known record, 1620, to show the changing of the bow from its ancestral convex nature\(^22\) by means of lowering the arch and bringing the horse hair more into line with the bow.\(^23\)

\(^{20}\)Cecil Forsyth, *Orchestration*, p. 335. "... one may mention that the violin technique has always originated from and been dependent on the shape of the bow and not the violin."

\(^{21}\)Mersenne (1588-1648), was a Minorite priest, theologian, mathematician, philosopher, and musician. He wrote several treatises on universal harmony. F. J. Fétis, "Mersenne," *Biographic Universelle Des Musiciens*.

\(^{22}\)Albert Lavignac, "Instrumente de la Archet," *Technique Instrumentale*, *Encyclopedia De La Musique*, p. 1766.

A contemporary of Monteverdi was Carlo Farina, who can justly be called the father of violin technique. His works were foremost on the stage of violin technique at that time.

Straeten, in The History of the Violin, states:

Farina was no master of polyphonic writing, and contented himself with four parts at most. His style testifies to ease and fluency in his productive talent, though it is not free from the faulty progressions, impure harmonies, and unsymmetrical periods, frequently met with in the works of that time. Farina's works form important links in the evolution of instrumental music. His sonatas show that his technique as an executant was in advance not only of his contemporaries but even of later players. His figuration was varied and he already introduces rapid passages, double stopping and the occasional use of the G string which was generally avoided by most violinist composers. The Kurzweiliges Quodlibet (Merry Quodlibet), better known as the Capriccio Stravagante, has been severely criticized by some writers as a proof that Farina was a charlatan. But one must not forget that in the

Farina was born in Mantua, towards the end of the sixteenth century. He was violinist at the Saxon's Court at Dresden from 1625 to circa 1632, and in the band of the town council of Danzig from 1636 to 1637, returning afterwards to Italy, according to Nerici. That is all we know about one of the most important figures in the early history of the violin. Edmund van der Straeten, The History of the Violin, Vol. I, p. 50.


Robert Eitner, in his Quellen Lexicon, mentions a copy in the Berlin Library (1627); Paul Stoewing, in The Story of the Violin, mentions a copy in Dresden.

"A collection of old dance-tunes, arias, originally set for four parts (although the solo violin part alone has been preserved)," Paul Stoewing, The Story of the Violin, p. 262.
early stages of the art of violin playing, many eminent virtuosi tried to find out the possibilities of the violin in all directions, and naturally the sounds of nature were drawn into the scheme, and could not fail to entertain, especially as the possibility of expressing the inner life had not yet come under serious consideration. Even if we may smile at his imitation of the mewing and spitting of cats, barking of dogs, cocks and hens, the drum of the trumpet and many others which do not belong to the domain of music, and for the production of which he gives minute instructions at the end of the capriccio in all seriousness, we must not forget that they led him to the discovery of the use of harmonics, staccato, pizzicato, tremolo, double stops, col legno, which more than a hundred years later found their place in the legitimate art of violin playing.

It is reasonable to assume that from the aforementioned discoveries of violin technique new problems in bowing technique developed.

28 gives explicit directions as to the rendition of his opus, including rules for going into the third position (which is twice employed), for playing double stops, the tremolo, the shake (trill), etc., as well as for the proper execution of such caterwauling, dog-barking, the drum, fife, and Spanish guitar, all contained in his remarkable work. Stoeving, The Story of the Violin, p. 262.

29 To what extent this technique was developed by Farina is not stated by the authorities. However, Straeten states in The History of the Violin, Vol. I, that Tarquino Merula, about 1640, in one canzona, "La Cancellaria," already has sequences of octaves moving from the first to the third position.

30 While Farina's 'tour de force' has lasting value as a reliable record of early Seventeenth Century technical attainment its sensational success inspired a generation of misguided fiddle-composers to devote undue effort to the imitation of the cuckoo, rooster, nightingale, etc. Thus artistic progress on the instrument was retarded for half a century." Gabriel Engel, "Violin Playing and Violin Music," The International Cyclopedia of Music and Musicians, edited by Oscar Thompson, p. 1983.

31 Franz Farga, Violins and Violinists, p. 122.
Up to the middle of the seventeenth century the violin plays but an unimportant role as a solo instrument. It was only with the development of the sonata that the violin assumes a position of importance in the history of music.

Towards the year 1630 we find the first compositions containing rudimentally the form of the classical violin sonata.

32The earliest known composition for solo violin is a Romanesca per Violino Solo e Basso se Fiaci, and some dances by Biagio Marini (1620), found in Willi Apel and Archibald T. Davison, Historical Anthology of Music, Vol. II, p. 30.

33George Hart, The Violin and Its Music, p. 171.

34"At first the term Sonata was used loosely for any kind of instrumental composition which could not otherwise be classified. Gradually, however, the name was restricted to those continuous works which consisted of several distinct movements. And hence came a distinction. If the movements were all derived from the instrumental Canzona and its variants, the work was known as a Sonata da Chiesa; if they were all dance tunes, as a Sonata da Ballo; if they were partly the one and partly the other, as a Sonata da Camera. Then, in course of time, the Sonata da Camera began to drop out of use [it certainly influenced the early concertos and probably the early clavier sonatas], and the other two came to be known respectively as Suites and Partitas." W. H. Hadow, Sonata Form, p. 10.

35The early sonatas were for strings, with figured bass for harpsichord (Bach being the first to provide a fully written out keyboard part); in fact, the sonata is, in origin, a string form. Percy Scholes, The Oxford Companion to Music.

Among the earliest specimens may be counted the sonatas of Giovanni Battista Fontana (1630), canzoni by Tarquino Merula (1639). There were also other contributors to the evolution of the sonata form, such as Massimiliano Neri (n.d.) who appears to have been the first to make a distinction between sonata da chiesa and sonata da camera. Also Giovanni Battista Vitali (1644-1692) cultivated chiefly the sonata da camera and greatly contributed to the development of form. These "formats" that were mastered by Giovanni Vitali, remained until the time of Corelli (1653-1713).

During this time the technical resources of the instrument were being perfected by outstanding virtuosi such as

39Apel and Davison, op. cit., p. 51; Schering, Geschichte der Musik in Beispielen, No. 184.
40Straeten, op. cit., pp. 128-129.
42The father of Tommaso Antonio Vitali (1665-1747), who is well known for his violin ciacona.
43Percy Scholes, The Oxford Companion to Music. Scholes states that Vitali's Sonatas 2 and 2 are indicative of these changes.
44Manfred Bukofzer, Music in the Baroque Era, p. 115.
Thomas Baltzer (1630-1663), John Jacob Walther (1650-ca. 1695), and Heinrich Biber (1644-1704) not only with regard to range, high positions, and bowing, but especially with regard to multiple stopping. Furthermore, they most ingeniously exhausted the possibilities of scordatura.

The scordatura originated in the lute and the viol which were tuned in various ways to suit the key of the music. In old lute music the proper tuning is indicated at the beginning.

45 Schering, Geschichte der Musik in Beispielen, No. 237.
46 Ibid., No. 239.
47 Ibid., No. 238.
48 Colles, in "Violin Playing," Grove's Dictionary of Music and Musicians, states that J. J. Walther was the German Farina with a technique much further developed. He ascends to the sixth position and writes difficult double stops, arpeggios and chords.

The only addition to bowing technique of this time, as indicated in the Schering, Geschichte der Musik der Beispiele, No. 238 by H. Franz Biber, was the slurring of more than two notes in one bow. Several physical changes had taken place, however; the head was becoming very elongated and ended in a point which turned back a little, and the stick was getting more or less bent. This bow was known as the Castrovillari bow. F. J. Fétis, A Theoretical Analysis of the Bow, p. 111.

Fig. 8--Castrovillari bow

50 Bukofzer, Music in the Baroque Era, p. 115.
51 "Tuned in a manner deviating from the ordinary one... an alteration of the ordinary accordatura of a stringed instrument for the attainment of special effects." Thomas Baker, A Dictionary of Musical Terms.
of the piece. This practice still remains in the guitar.\(^{52}\) M. Bachmann states;\(^ {53}\) that in a Sonata No. 2, Opus 7, by Biagio Marini (1629) there arises a curious example that gives the violinist a few measures silence in the course of the work to adjust the scordatura, and on completion of the passage gives the player a new silence to adjust back to normal tuning.

The scordatura, as used by H. Franz Biber in his violin sonata *Christi Gebet auf dem Olberg* (1675),\(^ {54}\) indicates that he has raised the lower two strings one-half step and lowered the upper two strings one-half step (see Figures 9 and 10).

![Fig. 9--Accordatura](image1)

![Fig. 10--Scordatura](image2)

By doing this he adjusts the instruments to the key of the sonata which is E\(^b\).

\(^{52}\)Frank Kidson, "Scordatura," *Grove's Dictionary of Music and Musicians*.

\(^{53}\)Albert Lavignac, "Scordatura," *Encyclopedia De La Musique*.

The violin music of the middle baroque era (1675) found its consummation in Heinrich Biber. His works pose many technical problems but never allow virtuosity to become an end in itself.

His monumental passagaglia in G minor for unaccompanied solo violin is built on the first type of chaconne bass. This model of systematic yet imaginative use of the patterned variation was surpassed only by the solo violin sonatas of Bach. Biber fully absorbed the diversified national styles, but merged them in a highly personal stylistic unity. His music is equally far removed from the experimental harmonies of early baroque and the fully developed tonality of the late baroque style.

A place of honor is also due to Giuseppe Torelli (1660-1709), who greatly enhanced the development of violin technique, introducing a new style of playing which was rich in chords, double stops, and runs. One of Torelli's concertos from Opus 8 is found in Augener's edition arranged

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55 Biber's complete works for violin may be found in Denkmaler der tonkunst in Ostereich Publikationen, 1905.

56 "Biber's eight solo sonatas (1681) combine ... a variety of national influences. French are the highly embellished double of the dance movements, Italian the numerous arias with variations and the frequent ostinati, English or German, the consistent patterns of his variations." Bukofzer, Music in the Baroque Era, p. 116.

57 Ibid.

58 Recorded for Concert Hall Limited Recorded Series by Max Arson, violinist. A complete copy of the Passacaglia may be found in Appendix I.

59 Bukofzer, op. cit.

60 Franz Farga, Violins and Violinists, p. 122.
for two violins and piano. It consists of three movements—Allegro ma non troppo, in 3/4 time; Adagio, 4/4 time (three measures long); Allegro, 4/4 time—all in G major. The most outstanding technical passage comes near the end of the first movement where there are a few lines of arpeggios. Most of these start from the high note with up bows, but change four measures from the end to the usual variety. All of these, except one-half measure, require the use of only three strings.

"Torelli forms a link between the dignified style of the seventeenth century and the freer and more melodious style of the eighteenth century. He combined both with consummate mastery." Straeten goes on to say that if Torelli's works were better known and more easily accessible, one would soon find them in concert programs side by side with the great concertos of J. S. Bach. Torelli in his concerti da camera and concerti grossi has preserved the form of the sonata da chiesa, but the solo violins (one or two) are accompanied not only by a bass, as in the earlier sonatas, but also by a stringed group (two orchestral or ripieno violins, viola, and bass), to which a lute or organ part was sometimes


62 He goes no higher than the fourth position and introduces no new bowing techniques.
added. Ernst Praetorius states that the real significance of Torelli's solo concertos lies in the fact that in these for the first time soloist and orchestra are afforded complete equality. They cleared a path for the violin concertos; without them Vivaldi would be unthinkable, and they very much influenced Corelli and Handel.


64 Foreword to Torelli's Concerto Grosso for Solo Violin and String Orchestra, Opus 8, No. 8.

65 The solo Concerto in C minor, Opus 8, for violin and strings, bears out this fact. The ripieno part requires as much technique for performance as does the concertino part. In all cases when the concertino and Violin I are playing, their parts are doubled. Only five times throughout the entire concerto does the concertino play alone with basso accompanying, and in each case the solos last for only eight measures with the exception of the last which goes for twelve measures.
CHAPTER II

CORELLI AND VIVALDI (1675-1748)

We have now arrived at a period where most musicians were not only talented famous violinists, but were outstanding composers as well. The most eminent in this category of composer-violinist is Arcangelo Corelli (1653-1713).¹ His works are laid out in the forms of his predecessors, and, as technique goes, are kept within modest limits,² as compared to our present level of violin technique. Nevertheless, they mark an era in both musical composition and violin playing.

Corelli was not so much an innovator as a consolidator who synthesized the most valuable achievements of his predecessors and, guided by his unfailing artistic instinct, perfected and formed them into an organic and well articulated structure which remained the basis of all further


²The most outstanding work of Corelli is the chamber sonata La Folia with twenty-three variations. This work would, therefore, more than others, reveal to us the state of Corelli's violin technique. We note almost a total absence of virtuoso display, which accounts for the fact that he rarely exceeds the third position. In the nineteenth variation of La Folia he goes once up to e³ (third position with extended fourth finger) in a broken chord.
development not only of violin playing, but also of the sonata. His greatest care was bestowed upon the production of a beautiful tone, variety and elegance of bowing, great expression in slow movements, and a well developed technique of the left hand in the lower positions.

In the following Figure 12 are examples of some outstanding rhythmic and bowing passages as used by Corelli in his Violin Sonatas da Chiesa, Sonatas da Camera, Solo Sonatas, and Concerti Grossi.


4"During this period the bow takes a less curved form; the head is clearly developed, the nut and the stick are no longer cut from the same piece of wood, the nut forming a second piece fastened to the stick by a piece of wire and at the end of the stick is an indented piece of metal with which the wire is drawn in and out, and the hair slackened or tightened to the desired degree. This mechanism was known as the crémaillère / Figure 11 is the Bassani bow, equipped with the aforementioned device / Corelli and Antonio Vivaldi (1670?-1743) used bows of this kind." John Broadhouse, The Violin, p. 114. It is a remarkable thing that about this time bowed instruments were reaching their highest point of perfection, while the bow itself was still in a rudimentary state.

Fig. 11--The Bassani bow (1680)

From the above examples we can see the amount of technique demanded by the left hand, particularly in the wide skips. After discussing Heinrich Biber's monumental Passacaglia it can be assumed that such technique is of German influence. However, to the higher technique of the Germans Corelli is a total stranger; and because he was not familiar with German virtuosity, he was greatly astonished at the
violin playing of Nicolas Amanda Strunk (particularly in the scordatura).  

On the other hand, in the development of the bow and the art of bowing, Corelli is far ahead of all predecessors. Almost every conceivable bowing pattern used today can be found in the works of Corelli. The most outstanding examples of bowing technique appear in the Grave Adagio sections of his violin solo sonatas. The great art of improvisation is practised here by the performer and calls for great facility in left hand technique as well as bowing. Some improvised graces as played by Corelli are shown in the following examples (Figures 14 and 15).


6"About 1700 Corelli introduced a new type of bow. The curve of the stick has become more subtle at the tip and the frog takes on an entirely new shape as compared to the previous Bassani bow of approximately 1680 [see Figure 11, p. 20]. The most notable change is that the crêmaillère has been removed and the notches and grip mechanism have been placed in the area between the frog and stick." David Boyden, "The Violin and Its Technique in the Eighteenth Century," Musical Quarterly, January, 1950. Undoubtedly Vivaldi sooner or later adopted this kind of bow in preference to the old, clumsy, external crêmaillère.

Fig. 13--Corelli bow (1700)
Fig. 14--Example of an improvised grace by Corelli found in Sonata in D major, Op. 5, Grave.

Fig. 15--Example of an improvised grace by Corelli found in Sonata in D major, Op. 5, Adagio.

The first reprint seems to have been made in Holland, (circa 1700) where the engraving of music on copper plates was then brought to its greatest perfection by Pierce Mortier of Amsterdam. To the fourth edition of this reprint we owe those additions which give the present edition a special value. These consist of the ornaments in the Adagios which are by Corelli himself, for the title of Mortier's edition bears the words "Quatrième édition, où l'on a joint les agréemens des Adagio de cet ouvrage, composez par Mr. A. Corelli, comme il les jouâ". It is to be inferred that the publisher obtained them from the composer direct or through the mediation of an artist friend.  

Still absent from the bowing of Corelli are the varied shades of expression of more modern times: staccato, sul tasto, spiccato, and marcato.

In tracing the further progress of violin technique it is only fitting to mention a contemporary of Corelli, Antonio Vivaldi. According to Edmund van der Straeten\(^8\) he was one of the most remarkable figures, not only in the history of the violin, but also in the development of the concerto as to form, technique, and instrumentation.

In regard to musical form, Vivaldi brought the sonata a considerable step farther on the road towards Haydn and Mozart.\(^9\) The "Grave" introductions that appear in the sonatas of Biber, Waltham, Strunk, Torelli, and Corelli almost disappear in the sonatas of Vivaldi. In the Italian instrumental concerto he exerted an undoubted influence on the further development of the concerto form.\(^10\) While in the concerti grossi of Torelli and Corelli the solo violins share the same amount of technical responsibility as the orchestral violins—the solo passages usually being accompanied by the bass alone—Vivaldi not only gives to the solo violins an entirely distinct set of passages, at once more brilliant and more demanding in technique, but also adds to his orchestra oboes, flutes, and horns. The wind instruments do not

\(^9\) Ibid.
\(^10\) Ibid.
merely double the other string parts, but have independent passages and phrases.

Vivaldi not only enlarged the form and instrumentation of the concerti, but added expression marks. He made use of accents, of "piano" and "forte" (his only two dynamic markings), and gave bowing instructions to violinists when to execute a passage détaché, staccato, or martelé. These instructions on bowing were always applied to arpeggio passages of no smaller value than sixteenth notes, of which Vivaldi made prolific use in all his compositions

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11 Vivaldi used words or phrases to cite the expression desired and not the symbols as we know them today. For example, instead of using for martelé Vivaldi writes the words "Colpi di arco," (see page 27).

12 An occasional use of the accent was made and indicated in Vivaldi's scores by the symbol .

13 Corelli and Vivaldi had not yet experienced the necessity of rendering the stick flexible, because they had no idea of imparting to their music the varied shades of expression. They were acquainted with but one sort of conventional effect, which consisted in repeating a phrase "piano" after it had been played "forte." F. J. Fétis, Notice of Stradivari and a Theoretical Analysis of the Bow, p. 111.

14 One of the arpeggio techniques used by Vivaldi was the "bariolage." According to Hugo Norden it is a special effect of violin playing obtained by quickly shifting back and forth from open strings to stopped strings, and he gives the following example (Figure 16). Willi Apel, Harvard Dictionary of Music.

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Fig. 16--Bariolage
scored for strings. The martele stroke is used in the solo concerti when passages are marked "forte." In the concerti grossi a separate stroke, détaché, was used when one of the concertino had a prominent melodic arpeggio. The staccato bowing on the other hand was used by Vivaldi more often in "piano" than in "forte" passages, and only for the solo instruments.

Vivaldi's term for staccato bowing was "scioltò" (lit: untied, separate, loose). It is interesting to consider whether the staccato was played on the string or off the string. Because Vivaldi and Corelli used bows that were not elastic or flexible we can assume that the staccato was played on the string. In the following examples (Figure 18), calling for a single bow staccato of twenty-two and twenty-four notes respectively, there can be no doubt that the staccato is to be played on the string.

\[\text{\textsuperscript{15}}\text{Vivaldi used a symbol for détaché which is the same as that of the present day. Détaché is a broad vigorous stroke in which the notes are bowed singly with a slight articulation, due to the rapid change of the bow.}\]

\[\text{\textsuperscript{15}}\]

Fig. 17--Détaché bowing
In the further discussion of bowing we come upon another type of shading in the Vivaldi scores known as the martelé. This is literally a "hammered" stroke, played with very short bows at the point, generally found in loud passages. This bowing effect, because of its character must have influenced a change in the grip of the bow. With a smaller frog and the hair closer to the stick and with a hidden crémaillère in place of the external crémaillère, the violinist had a chance to improve his grip and apply, without too great strain on the wrist, the proper amount of pressure for the martelé stroke.

16 These titles are quoted directly from Marc Pincherle, Antonio Vivaldi et La Musique Instrumentale, p. 232, and indicate that they are taken from collections of Mauro Foa and Giordano and found in La Bibliothèque National de Turin.

17 Vivaldi's indication for this effect was "Colpi di arco" and the symbol used in our present day music is 2. The use of this stroke may be found in the Concerto in E for Violin, String Orchestra and Organ, 1st movement, bar 26. Francesco Malipiero, Li Opere di Antonio Vivaldi, Vol. CXV-CXXV.
Even though Vivaldi was not a product of the Roman school, he nevertheless adopted the techniques from the exponents of the school and developed them in his own way to the highest degree of perfection. Such was the case in the art of improvisation. Vivaldi did not limit himself to the improvisation of the Grave sections that are found at the beginning of the introductory movements in the violin sonatas of Corelli, but makes frequent use of it also in his concerti and concerti grossi. He made use of improvisation in two different manners. First in the manner much like Corelli: the writing of a simple melody and leaving the realization of the ornamentation to the performer. The following Figure 19 is an example of this type of improvisation:18

Fig. 19--Vivaldi, Concerto Op. 4, No. 6, Larghetto

18Marc Pincherle, op. cit., pp. 75-76.
This practice is found, for the most part, in the Adagio and Largo movements.

The second manner in which Vivaldi, and other composers of the period, employ this technique is harmonic rather than melodic. By writing chords in half-notes or dotted half-notes they indicate an improvisation in the manner of rolling arpeggios. It was traditionally understood that the "roll" start from the lower to the higher register and back. Figures 20, 21, and 22 show realizations of this sort.¹⁹

Fig. 20--Vivaldi, Concerto Op. 8, No. 8

Fig. 21--Vivaldi, Concerto Op. 2, No. 6

¹⁹Pincherle, Antonio Vivaldi et La Musique Instrumentali, p. 72.
Fig. 22--Vivaldi, Concerto Op. 11, No. 5

However, when these notations that normally prescribe improvisation appeared in the four solo violin parts in the Larghetto movement of his Concerto Grosso in B minor, Vivaldi realized that some control was needed lest confusion result. Instead of leaving the ornamentation up to each individual player, Vivaldi indicated in the first measure of the movement the manner of execution and expression for each soloist, as is illustrated in the following example:

20Marc Pincherle, Antonio Vivaldi et La Musique Instrumentale, p. 112.
Vivaldi is also credited by Quantz\textsuperscript{21} with having been one of the inventors (about 1722) of the "Lombardian Manner," which is based upon this figure: \textsuperscript{21}J. J. Quantz, Essai d'\'une Methode pour apprendre a jouer de la Flute Transviere, paragraph 58, quoted in Marc Pincherle, \textit{op. cit.}, p. 139. However, according to Apel, "Dotted Notes," Harvard Dictionary of Music, this effect was known in art music to have appeared first in French songs of the late sixteenth century as a means of correct pronunciation. Another Italian term for Lombardian manner is "alla zoppa" (villanous and limping).
major for three solo violins whereas, though still used as an accompanying device, it is executed by one of the solo instruments and not one of the ripieno. The writer also believes that thirty-second notes played pizzicato are rare, for any period, even though the tempo is only andante (see Figure 24).

![Musical score](image)

**Fig. 24**—Vivaldi, *Concerto in F major* for three violins, 2nd movement, Andante.

Muting also appears in Vivaldi's scores, but his use of this device is exceptionally rare. However, when this device is employed it is not applied to the solo instrument.

Even though Vivaldi had made great contributions to violin technique and in his lifetime remained unsurpassed

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22The first evidence of such a device is in Renaud's air in the second act of Lully's opera *Armide* (1686), "Plus j'observe ces lieux." There all parts of the string orchestra bear the direction "se faunt jouer cecy avec des sourdines." Curt Sachs, *The History of Musical Instruments*, p. 354.
in writing for the instrument, Johann Sebastian Bach (1685-1750), a contemporary, contributed one of the greatest monuments to violin art in his three solo sonatas and three solo partitas for the violin. In the whole literature of the violin we do not find anything resembling them. One often wonders how an organist, like Bach, could have written compositions for the violin which are so extremely difficult, and at the same time highly adapted to the instrument.23

His sonatas, Nos. 1, 3, and 5 are based on the sonata da chiesa of the old Italian masters, elaborating on them extensively. There are also indications of the song-like Italian Canzone; in the first the Siciliana, in the third a flowing yet sharply rhythmical Andante, in the fifth a moving Largo. His partitas, Nos. 2, 4, and 6, are based on dance tunes. Here is displayed Bach's genius in building up a single dance tune into a wonderful musical edifice; in the second a melodious Sarabande and a Corrente, adorned with the arabesques of a Double followed by the temperamental stamping of a Bourrée; in the fourth, the famous Chaconne which has no match in the entire world of violin composition; in the sixth we have the introduction, Allegro, which also may be interpreted as a moto perpetuo.

23 According to Albert Schweitzer, "knowledge of Bach's violin playing is little known. However, this much is certain, he had thoroughly studied the technique of the instrument, or he would not have written the sonatas for solo violin in the way he did." Albert Schweitzer, J. S. Bach, p. 209.
The method used in playing the violin in Germany during Bach's period is not exactly known. It seems to be more and more certain that at that time the hairs of the violin bow were fastened without screws to the wood, and were stretched by the thumb of the right hand tighter or looser as one wanted. The following figure (Plate 2) illustrates the manner in which this was executed.

Plate 2--Illustration of the bow of Bach's time

Spiccato bowing was thus out of the question, whereas double stopping was comparatively easy. The chord sequences of the Chaconne (see Figure 25), which we laboriously accomplish now by applying the bow over four strings with such
swiftness that the impression of playing four notes simultaneously is given, but actually played in an arpeggio manner, presented no difficulties at that time. The player relaxed the bow for a moment so that it could curve over the four strings. We can hardly imagine now the special tone-effects made possible by this technique. For echo effects the player suddenly loosened the hairs, thus obtaining a murmuring ethereal tone.\footnote{David Boyden, "The Violin and Its Technique in the 18th Century," \textit{Musical Quarterly}, January, 1951.}

Fig. 25--Bach, Chaconne, D minor Partita
CHAPTER III

THE PUPILS OF THE EARLY ITALIAN SCHOOL

The younger generation of the Corelli-Vivaldi era was represented by Giovanni Battista Somis (1676-1763), Francesco Geminiani (1680?-1761), and Pietro Antonio Locatelli (1693?-1764). Locatelli and Geminiani were pupils of Corelli and Somis a pupil of both Corelli and Vivaldi.

Because Somis studied under Corelli and Vivaldi he was able to combine the teaching of both masters, and formed a style of his own, thereby marking a forward step in the art of violin playing. Hubert Le Blanc in his Defense de la Viole (1740) states: "that Somis has the most beautiful stroke of the bow in Europe and that he can play a whole note in one bow that it takes one's breath away when he thinks of it." Le Blanc considers this the great achievement on the violin.\(^1\) Somis passed on these teachings to his numerous pupils;\(^2\) among them were Chabran (1723-1751), Leclair (1687-1764), Guillemain (1705-1770), Giardini, (1716-1796), Friz (n.d.), and Pugnani (1727-1803), the master of Viotti, who is the father of modern violin playing

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\(^2\)Somis was the founder of the Piedmontese School of Violin Playing at Turin, Italy. Paul Stoeving, The Story of the Violin, p. 172.
and the modern French school. Somis is therefore the link between the old school and the new.

Locatelli is spoken of by Wasielewski as the great-grandfather of our modern "Fingerheroes" (Fingerhelden). He turned the modern concerto in a highly personal manner into a vehicle of stupendous virtuosity. The technical demands of his 24 Capricci (1733), which are actually optional cadenzas for the solo concertos, have hardly been surpassed even by composers of the classic period. Paganini owed a great deal of his art to his cognizance of Locatelli's 24 Caprices, which are really studies in transcendental technique, and as such have often been misjudged because of their non-adherence to the etude pattern.

Paul David states that

... not content with legitimately developing the natural resources of the instrument, he oversteps all reasonable limits, and aims at effects which, being adverse to the very nature of the violin, are neither beautiful nor musical, but ludicrous and absurd. A striking example of this tendency of his is to be found in a caprice entitled, "Le Labyrinthe," where the following arpeggiando passages occur:

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It is rather astonishing to find this direct pupil of Corelli attempting to enlarge the powers of execution on the violin to such a degree.

Geminiani, on the other hand, was a little more conservative in his musical performance and composition. However, Geminiani's great contribution was his famous violin method, *The Art of Playing on the Violin* (Opus 9, London, 1751), which epitomized the essence of Corelli's teaching, and was one of the earliest, and at that time the best instruction books of its kind. Within the scope of its relatively few pages is covered quite completely the technical groundwork necessary to cope with almost any

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violinistic problem of its time except special effects requiring an exceptional virtuosity such as the Locatelli caprices.

It is curious that David Boyden should mention the Locatelli caprices as the only opus, of that period, that The Art of Playing on the Violin does not fully prepare one to perform. He says nothing of the Six Solo Sonatas and Partitas of Bach (circa 1720) for violin alone, which are probably the most outstanding pieces of violin literature of the entire Baroque period. Geminiani devotes an entire exercise to double stops from the prime to the octave (Exercise XXII) and also two compositions in double stops (Exercise XXIII). However, no exercises in triple or quadruple stops, as required in the Bach Sonatas, are contained therein. The nearest resemblance to such a technical preparation or problem is in Exercise XXI, where there are arpeggios or chords.

In the preface to The Art of Playing on the Violin Geminiani has this to say about special effects: "... as to imitating the Cock, Cuckoo, and other birds ... and also sudden shifts of the Hand from one extremity of the fingerboard to the other, accompanied with contortions of the head and body ... belong [more] to the Professors of Legerdemain and posture masters than to the art of music; the lovers of that art are not to expect to find anything of that sort in this book."

From these limitations we can only assume that Geminiani was preserving and furthering the Corelli tradition. In a broader sense, it is probable that *The Art of Playing on the Violin* of 1734 furnishes the key to the expressive and technical performance of Italian violin music of the first part of the eighteenth century. This assumption can be further justified by the fact that Geminiani says nothing about harmonics (generally accepted as a French innovation).  

Geminiani's manner of positioning the violin under the chin was controversial as shown by other methods of his predecessors and contemporaries. In *The Art of Playing on the Violin*, Geminiani states:

The Violin must be rested just below the collar-bone, turning the right-hand side of the Violin a little downwards, so that there may be no necessity of raising the bow very high, when the fourth string (G) is to be struck. Observe also, that the Head of the Violin must be nearly horizontal with that part which rests against the breast, that the hand may be shifted with facility and without any danger of dropping the instrument.  

[See Plate 3.]

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IIThe introduction of the harmonic is variously ascribed to Domenico Ferrari (1722-1780), a pupil of Tartini, and to Jean de Moudonville (1711-1772). The latter seems to have made the first practical application of the harmonics in his *Six Sonata Pieces de Clavecin en Sonatas avec accompagnement de Violin*, Opus 3 (1735), and his six sonatas *Les Sous Harmoniques*, Opus 4 (1735). Willi Apel, *Harvard Dictionary of Music*, p. 320. Marc Pincherle, in the preface to *Pieces de Clavecin en Sonatas avec accompagnement de Violin*, explains the interpretation of Moudonville's symbols. The symbol used to signify harmonics was \( \frac{m}{n} \) over or under the note. All harmonics used in this work are harmonics on the open string.
However, in view of the technical demands of vibrato and shifting, which in his examples require occasional awkward and large movements of the hand, Geminiani must have had extraordinary ability in holding the instrument between his thumb and index finger. Perhaps he occasionally slipped over a little to the left (jawbone over the tailpiece). The method of "under the chin to the left of the tailpiece," as in modern practice, was advocated for the first time by L'Abbe le fils (J. B. Saint-Senen) in his *Principes du violon* (1761). 

Geminiani expresses the shifting of position as "passing from one order to another."

As regards to hand position Geminiani says that the correct hand position is determined by holding down the four strings simultaneously in the manner indicated in Exercise IB (see Figure 27).

Fig. 27--Geminiani grip

After all four have been set down, then they are to be raised but a little distance from the string they touched, and in so doing they attain a perfect position. This position is known as the "Geminiani grip." For the third position and higher Geminiani says:

. . . Care is to be taken that the thumb always remains farther back than the fore finger; and the more you advance in the orders the thumb must be at a greater distance till it remains almost hid under the neck of the violin.

Geminiani's invention and experimental attitude are shown in his fingerings for shifts. The various fingerings which are used in his exercises to shift from one position to another appear to aim at every possible solution. The

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15 Geminiani's method discusses seven positions on the upper string and four on the lower strings, but his scales use seven positions on all strings. However, the twelve compositions that conclude The Art of Playing on the Violin show less advanced practices.
most outstanding fingering patterns involving shifts, as used by Geminiani, are shown in the following examples (Figure 28):

Fig. 28—(a) Geminiani shift from 4th to 2nd finger; (b) Geminiani shift from 4th to 1st finger; (c) Geminiani shift from 2nd to 1st and 4th to 3rd finger.

Geminiani includes but does not emphasize fingerings that are more "modern" in that they involve smaller movements of the hand in the interest of greater legato and better intonation. This systematic completeness of fingerings is prevalent throughout his scales, and broken scales including a skip over the string. In his double stop exercises he includes every variety of fingering through the octave and includes those unisons that require a whole tone extension of the little finger (Exercise XXII).

On the art of bowing Geminiani has this to say about its importance, manner of grip, and execution of stroke:

The tone of the violin principally depends upon the right management of the bow. The bow is to be held at a small distance from the nut between the thumb and fingers, the hair being turned inward
against the back or outside of the thumb, in which position it is to be held free and easy, and not stiff. The motion is to proceed from the joints of the wrist and elbow in playing quick notes, and very little or not at all from the joint of the shoulder; but in playing long notes, where the bow is drawn from one end of it to the other, the joint of the shoulder is also a little employed. The bow must always be drawn parallel with the bridge, (which can't be done if it is held stiff) and must be pressed upon the strings with the forefinger only and not with the whole weight of the hand . . . In an up-bow the hand is bent a little downward from the joint and the wrist is immediately straightened, or the hand rather a little bent back or upward, as soon as the bow is begun to be drawn down again.

When practising scales in various keys and rhythms, Geminiani in Exercise VIII says:

... you are to execute them by drawing the bow down and up, or up and down alternately; taking care not to follow that wretched rule of drawing the bow down at the first note of every bar.

Later in Exercise XVI Geminiani includes exercises for bowing two, three, four, five, and six notes in every possible pattern, and denotes the down-bow with the letter "g" and the up-bow with the letter "s." Geminiani goes further with the art of bowing in Exercise XX where he shows the manner of bowing proper to half, quarter, eighth, and sixteenth notes in both slow and quick tempi. He also adds beneath each exercise the type of expression to be used (see following examples).

16 This style of grasping the bow is known as the Italian grip. Boyden, Introduction to Geminiani's The Art of Playing on the Violin, p. vii.
Fig. 29--Geminiani, The Art of Playing on the Violin, Exercise XX.

This example (Figure 29) tells the player to execute the passage Well (Buono) and swell on each note ( breve ) playing the passage slowly.

Fig. 30--Geminiani, The Art of Playing on the Violin, Exercise XX.

This example (Figure 30) is to be played Badly (Cattivo) and the bow kept on the string ( / - martele).

Fig. 31--Geminiani, The Art of Playing on the Violin, Exercise XX.

This example (Figure 31) is to be played Particularly (Particulare) and the bow is taken off the strings at every note ( ! - Staccato).
This bowing figure also appears in Exercise XX (see Figure 32):

![Musical notation](image)

**Fig. 32—Geminiani, _The Art of Playing on the Violin_, Exercise XX.**

However, Geminiani gives no explanation as to how he wants it executed. It is quite possible that he wanted separation between the notes but did not want the bow to leave the string. However, this figure is not found in the twelve compositions that follow the twenty-four exercises nor does it appear in his twelve sonatas for violin and piano.

Exercise XVIII, Geminiani says, contains all the ornaments of expression necessary to the playing of good taste. He has listed fourteen of them, complete from a plain shake (tr.)\(^{17}\) to a close shake (\(\overline{\overline{-}}\))\(^{18}\) and gives an explanation as to the execution of each.

While Geminiani in _The Art of Playing on the Violin_ has set down the teachings and methods of the older artist and master Corelli, a close contemporary of Geminiani, Giuseppe Tartini (1692-1770), was busy advancing the technique of

\(^{17}\)Our present plain trill.

\(^{18}\)Our present vibrato.
violin playing to new heights, and brought the first epoch of Italian violin playing to its zenith.

Tartini not only advanced violin technique artistically but scientifically and theoretically as well. In a treatise published at Padua in 1754 Tartini deals with his discovery of the "differential tone." He was the first to advocate this acoustic phenomenon as a means of checking the absolute intonation of double stops. If the double stops were absolutely in tune, then the differential tone could be heard.19

The trill in Tartini's compositions is an outstanding characteristic that is little found in the music of composers before or after his time. Without a doubt Tartini brought the execution of this ornamentation to its completest fulfillment. Evidence lies in his Sonata in G minor, "The Devil's Trill." Throughout both slow and fast movements his use of the trill is consistent.

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Fig. 34—Tartini's use of the trill in a fast movement in the Sonata in G minor, "The Devil's Trill."

In the final adagio section of this work appears the first use of the double trill.²⁰

Fig. 35—Tartini's use of the double trill in the Sonata in G minor, "The Devil's Trill."

By exploiting double stops and the trill, Tartini creates the highpoint of the Sonata in the "Devil's Trill."²¹ This passage is still held today as one of the most difficult in the violin repertoire, and it is the ideal of every violinist to

²⁰There is no evidence that this was invented by Tartini.

²¹"One night Tartini dreamed that he entered into a contract with the devil, in fulfillment of which his Satanic Majesty was bound to perform all his behests; he placed his violin in his hands and asked him to play, and the devil played a Sonata so exquisite, that in the delirium of applause which he was bestowing, he awoke, and flew to the instrument to retain some of the passages, but in vain! They had fled! Yet the Sonata haunted his imagination day and night, and he endeavoured to compose one in imitation which he called the Devil's Trill." George Hart, The Violin and Its Music, p. 214.
accomplish its performance. It is also undoubtedly one of
the earliest examples of a trill used as a thematic basis.

Fig. 36--The "Devil's Trill" in Tartini's Sonata in G
minor.

Tartini's interests in the scientific part of his art
did not stop on the theory of the differential tone. He
occupied himself also with technical questions regarding
violin and bow. For the instrument itself he used thicker
strings than those that were chosen by his predecessors and
contemporaries. \(^2\) For the bow, Tartini chose a lighter wood, \(^3\)
increased the length of the stick considerably and gave it a
slight inward curve. He also diminished the size of the head
and had the lower half of the stick fluted, which gave a surer
grip.

Fig. 37--Tartini bow (1740)

\(^2\)It is not stated what size strings were used by his
predecessors or what size were used by Tartini, except that
Tartini's were thicker. Straeten, *The History of the Violin*,

\(^3\)None of the sources reviewed states what kind of wood.
With these improvements of the bow Tartini also took it upon himself to become complete master in the art of execution. He is said to have achieved his perfect mastery of the bow by using two bows alternately. One of his bow sticks had three notches (Figure 38) and the other four (Figure 39), and Tartini could execute the most complicated runs, using only one-third or one-quarter of the bow length at will.

Famous contemporary musicians have described the impression of perfection created by Tartini's playing.

He had the most beautiful animated tone, the highest degree of dexterity in playing quavers

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24 Tartini's desire for mastering the art of bowing stems from the fact that in his earlier days of violin playing he challenged Francesco Maria Veracini, a great Florentine violinist, in open combat. Veracini's wonderful playing so affected Tartini that he withdrew without playing a note, and retired to a cloister at Ancona for renewed study, particularly in bowing, in which he had felt Veracini's superiority most." Paul Stoewing, The Violin: Its Famous Makers--Players, pp. 35-36.

25 Franz Farga, Violins and Violinists, pp. 129-130.
and double quavers, for which he used all his fingers with equal ease.26

The outcome of Tartini's studies were embodied by him, for the benefit of his pupils, in his Art del arco (Art of Bowing). In these studies, fifty variations on a gavotte theme by Corelli, Tartini virtually completes the evolution of bowing technique. Despite the fact that Tartini designed his own bow, it has been said that in his later years Tartini acquired a bow from the elder Tourte (n.d.),27 gaining all the properties of our present day bow with which to exploit all of its technical possibilities.28

Many of the rhythms used by Tartini in his Art of Bowing appear in the works of his predecessors, but not with the intricate bowing patterns that Tartini has set to them. The following examples (Figure 40) give evidence to this fact.

Fig. 40--Examples of bowing patterns in Tartini's Art of Bowing: (a) Variation 2; (b) Variation 3.

26Farga, op. cit., p. 130.

27According to David Boyden, the present day screw mechanism did not come until about 1740 when the elder Tourte (father of the famous François Tourte) introduced it. Boyden, "The Violin and Its Technique in the 18th Century," Musical Quarterly, January, 1950.

Fig. 40, continued--(c) Variation 4; (d) Variation 5; (e) Variation 6; (f) Variation 7; (g) Variation 11; (h) Variation 17; (i) Variation 19; (j) Variation 26; (k) Variation 27; (l) Variation 29; (m) Variation 31.
Undoubtedly Tartini would have introduced more difficult technical innovations for the violin, but was held back by the inefficient manner of holding the violin on the right side or over the tail-piece.  

29"He combined the serenity and dignity of Corelli's style with an added grace and passion all his own." He devised technical innovations for art's sake and not technical trickery. E. Heron-Allen, "Tartini," Grove's Dictionary of Music and Musicians.  

30Tartini contributed--through his technical innovations--considerably to the solution of this problem, for soon after his era of violin playing the method of holding the violin on the left side was adopted.
CHAPTER IV

THE BEGINNING ERA OF MODERN VIOLIN PLAYING (UP TO
THE DEATH OF NICOLO PAGANINI, 1840)

With the height of Italian violin playing at a temporary
standstill after Tartini, we now focus our attention to the
North in Germany.

Twenty-two years after Geminiani's violin method appeared,
Leopold Mozart (1719-1787), then Kappellmeister of Salzburg,
published Versuch einer gründlichen Violinschule (A Treatise
on the Fundamental Principles of Violin Playing) in 1756.¹
Leopold Mozart was an experienced musician and excellent peda-
gogue, and proved himself to be so in the education of his
great son. His treatise is much more thorough than that of
Geminiani.

Leopold's treatise is not written directly for the pupil
but for the teacher, whom he instructs from the first how he
should teach elementary technique, and guiding him finally to
the advanced problems of performance. His instructions are
clear, logical, arranged in systematic order, and illustrated
by well chosen examples.

¹Leopold Mozart, A Treatise on the Fundamental Principles
First of all, the manner of holding the violin and bow shows a striking contrast to that of Geminiani. On the holding of the violin Leopold Mozart has this to say:

There are chiefly two ways of holding the violin. . . . The first way has something agreeable and easygoing; the violin is held quite loosely without strain and effort against the chest sideways and in such a manner that the bow is drawn rather more perpendicularly than on a slant. This position no doubt looks very graceful, but the player will find it rather difficult and inconvenient for quickly shifting the hand into the higher positions because the instrument, not resting firmly, must necessarily drop, unless by long practice the player has acquired the knack of holding it with the thumb and forefinger.2 [See Plate 4, p. 56]

Upon reading this statement one is inclined to believe that the old Mannheim School (see p. 72) was still in a state of transition, that it had not yet entirely freed itself from some of the crudities adhering to it from the medieval fiddle and Stadtfeifer stage. Mozart, it is true, gives preference to the second manner of holding the violin:

The violin is placed against the neck so that it lies somewhat in front of the shoulder and the side on which the E (thinnest) string lies comes under the chin, whereby the violin remains unmoved in its place even during the strongest movements of the ascending and descending hand.3 [See Plates 5 and 6, pp. 57 and 58]

On the left hand position Mozart and Geminiani seem to concur. However, differences arise again when we come to the advice on holding the bow. Leopold Mozart says:

3Ibid.
Plate 4—Illustration of the first manner of holding the violin according to Leopold Mozart.
Plate 5--Illustration of the second manner of holding the violin according to Leopold Mozart.
Plate 6--Illustration of the second manner of holding the violin according to Leopold Mozart.
The bow is taken in the right hand, at its lowest extremity, between the thumb and the middle joint of the index finger, or a little behind it. [See Plate 7, Fig. IV on p. 60.] The bow must be placed more straight than sideways on the violin, for in this way more strength is gained and the error avoided of which some are guilty who play with the bow so much on the side of the hair that they, when pressing even slightly, play more with the wood than with the horse hair.4

Leopold Mozart's reason for the flat bow stems from the fact that he was interested in the sonorous tone at all costs.

The opposite is true of the Italians, as we have seen in Geminiani (see pp. 43-44), who preferred a melodious, saintly quality that did not require a flat, sonorous tone, bow execution for a satisfactory performance.5 German violin music, on the other hand, requires the flat bowing for the sonorous tone as far back as the Heinrich Biber Passacaglia (1670) and up through the Bach Partitas and Sonatas for solo violin.

The differences in the types of bow are also factors warranting consideration.

In this respect the Italians were far ahead of the Germans. Leopold Mozart's method shows a type of bow that was popular in the late seventeenth century (see Plate 7), whereas Geminiani appears in his method with a bow that was popular in the mid-eighteenth century (see Plate 3, p. 41). It is with wonderment that these two violin methods appeared at a relatively close

4Mozart, op. cit., p. 58.

5Edmund van der Straeten, The History of the Violin.
Plate 7--Illustration of bow popular in late seventeenth century.
interval and yet such striking differences occur. Yet, it was only a matter of very little time before modern violin playing was amalgamated into an orthodox manner and later became cosmopolitan.

With Giovanni Battista Viotti (1753-1824) we reach a new epoch in the development of the art of violin playing and composing. Viotti was equally great as a violinist and composer, and a reformer in both capacities. In the world of violin art Viotti occupies a somewhat similar position as Corelli, except that Viotti enjoyed the advantage of finding the ground well tilled and prepared for his appearance by his predecessors.

As Corelli was the father of the first known violin school, that of Rome, so Viotti was the father of the French school. In addition Viotti is also considered the founder of modern violin playing. He is the third and last great milestone—Corelli being the first and Tartini the second—in the evolution of violin technique by virtue of the fact that present day construction of the violin was established at that time (circa 1780). Viotti inherited from his teacher Pugnani the combined art of Corelli, Vivaldi, and Tartini.

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8 Ibid.
and evolved, on the basis thereof, a concept of technique all his own.

The study of the compositions of this prolific master Viotti is essential for the understanding of the French school, for they contain the germinating characteristics of all French violin music for the next half-century. The caprices of Pierre Rode (1774-1830), the etudes of Rudolph Kreutzer (1766-1831), the quartets of Pierre Baillot, all contain a Viotti characteristic that has been inserted inseparably into the material of their music. 9

Broadly speaking, the fount of Viotti's style of composition was the same as Mozart's--Italian opera. 10 It was with this influence that Viotti's technique and style had an effect on audiences that was unique. Never before, it was claimed, had any violinist displayed such a noble and elegant tone. The claim was especially prevalent when considering the earlier works of Viotti, for it was there that the primary inspiration was still fresh and free from the infiltration of essentially French characteristics. 11 A very common ornamentation of the cadence in use in Italian opera is shown in the following figure:

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10 Ibid.

11 Ibid.
Fig. 41--Cadence in common use in Italian opera

This cadence became, in the French school, as the illustration shows in the following figure:

Fig. 42--Ornamentation of cadence in use in Italian opera.

This is shown in the following excerpt from the Concerto No. XI by Viotti: ¹²

Fig. 43--Viotti, Concerto No. XI--Allegro moderato ¹³

¹²Ibid., p. 82.

¹³Taken from Gelrud, "A Critical Study of The French Violin School." Due to the difficulty of procuring the scores of the Viotti concertos, the writer has taken this and the following examples from Gelrud's dissertation.
If any one outstanding characteristic of the French school were to be named, it would be the use of the dotted eighth and sixteenth figure. Its use is most noticeable in the cadences, and the melodic line is usually 5-4-3 in the scale. This is shown in the following example:

![Musical notation](image)

Fig. 44--Viotti, *Concerto No. VIII*, Allegro vivace

Even where the theme itself is devoid of the dotted eighth-sixteenth figure, as in the first theme of the first movement of the Viotti *Concerto No. II*, the "dotted figure" invariably manifests itself somewhere, whether in the introduction of the theme or in the accompaniment, as is seen in the following figure:

![Musical notation](image)

Fig. 45--Viotti, *Concerto No. II*, Allegro assai

Immediately after the announcement of such a cantabile theme, the "dotted figure" reasserts itself again and predominates

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15 Ibid., p. 83.
the melodic line. This is illustrated in the following example:

![Musical notation]

Fig. 46--Viotti, Concerto No. II, Allegro assai

The use of the triad to open the theme is also very common in this style. The following are the beginnings of some of the first movement themes from the Viotti concerti.

![Musical notation]

Fig. 47--(a) Concerto No. V, Allegro; (b) Concerto No. VI, Allegro; (c) Concerto No. VIII, Allegro vivace; (d) Concerto No. XIII, Allegro brilliante; (e) Concerto No. XVI, Allegro; (f) Concerto No. XX, Allegro; (g) Concerto No. XXII, Moderato.

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16 Ibid., p. 83.
17 Ibid., p. 86.
The Viotti theme, like the typical theme of the French school style, is graceful, outlining a smooth curve.\footnote{Ibid., p. 87.}

![Fig. 48--Viotti, Concerto No. XXVII, Allegro vivace](image)

Unlike the earlier violin composers who did not use the G string for prominent melodic passages,\footnote{At that time (ca. 1600-1700), the violin G string lacked resonance and brilliance, and the method of holding the violin was still awkward and restraining.} Viotti, like Mozart, made use of cantabile passages on the G string. The following examples are illustrations of this:

![Fig. 49--W. A. Mozart, Concerto No. V, Menuetto](image)

![Fig. 50--Viotti, Concerto No. VIII, Maestoso](image)
Showing off the full-bodied tone of the instrument was natural for these violinists who were primarily interested in playing and playing music which sounded well, even if they had to compose such music themselves. Evidently there must have been a great need for new violin music—music which would let the virtuoso exhibit his talents—for never before or since has there been such an output of violin music.20

We must not fail also to remember that the bulk of Viotti's music was written before the turn of the century. In a mere twenty years, not only had his reputation as the father of a new school spread throughout Europe but his fame as a composer of primary importance in his field was international.21 Viotti was the first who expanded the architectural forms of the violin concerto by adopting as far as possible Haydn's symphonic form, with well contrasted subjects, and the use of the full symphony orchestra employed by the latter.22

About this time (ca. 1780), a change was quietly taking place, so quietly that although there has been a cognizance of the facts their implications have been totally ignored. This change was the transformation, one may say the actual invention, of the modern violin bow by François Tourte (1747-1835). This most famous of bow-makers came from a family of instrument craftsmen. His father is generally credited with the substitution of the screw for the crémaille which was the former

21 Ibid., p. 87.
22 Wilhelm Wasielewski, Die Violine und ihre Meister, p. 165.
method of tightening the hairs of the bow. Before the inventions of François Tourte, bow making was far from systematized. No two bows were exactly alike in materials, length or shape. Different lengths of bows were used for different purposes. The sonata bow was longer and thinner than the bow used for ordinary orchestral playing. There had been no gradual perfection of the bow throughout the years (1575-1782) as there had been for the violin. Although Stradivarius had a highly developed model, created by his predecessors, to perfect, Tourte for the most part had no predecessors. Starting from an entirely new and revolutionary premise, Tourte not only invented the modern bow but perfected it.

Before his [Tourte's] time all the modern forms of staccato must have been impossible, and the nuances of piano and forte extremely limited; a rawness, especially on the treble strings, and a monotony which to our ears would be intolerable, must have deformed the performances of the best of violinists. The violin, under Tourte's bow, became a different instrument; and subsequent bow-makers have exclusively copied him, the value of their productions depending on the success with which they have applied his principles.

The fundamental change which Tourte wrought was to make the curve of the bow concave instead of convex (see Figure 51).

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Fig. 51—Concavity of Tourte bow

The exact amount of curvature was probably found by a series of patient experiments. The Tourte bow, with the horsehair completely loosened, is mathematically found to form a logarithmic curve, the ordinates of which increase in arithmetical proportion, and the abscissas in geometrical proportion (see Appendix B). This bow was strong and elastic without being heavy; the effect was the liberation of the player's fingers and thumb from much useless weight. Other innovations which Tourte made were the determination of the actual length of the bow, which was set between 29.134 and 29.528 inches including the button, the amount of tapering of the diameter of the bow, a difference of 0.13 inches between the extremities finally being settled upon, and the determination of the distance of the hair from the stick. He also invented the means of spreading the hairs and fixing them on the face of the nut by a

25After countless experiments, François Tourte discovered the Pernambuco wood (Brazil wood) alone would yield the results which he sought to attain: strength, elasticity, lightness. F. J. Fétis, Notice of Anthony Stradivari and A Theoretical Analysis of the Bow, p. 115.
moveable band (ferrule) of metal fitting on a slide of mother-of-pearl.\textsuperscript{26}

For Tourte to have conceived and executed all these innovations without the advice and practical aid of one or several violin virtuosi is extremely improbable.

In a letter dated London, May 15, 1939, Alfred Ebsworth Hill, the head of the English instrument firm of William E. Hill and Sons, founded by Joseph Hill in 1762, and probably the foremost authority on bows in the world, writes:

There is no documentary evidence recording the influence brought to bear on the perfecting of the violin bow by Viotti or any other contemporary players, but it goes without saying that they all frequented the workshops of both violin, and bow makers, for we have come across records of violinists visiting the great Italian makers of the past. . . . Speaking from recollection, I think that I am right in saying that I have seen letters which Viotti, Rode and also Spohr recommend bows made by Tourte.\textsuperscript{27}

The modern dictionary articles have all copied from the older authorities in their vague statements on the subject.

Tourte's improvements in the bow were effected after 1775. Tradition says that he was materially assisted in his work by the advice of Viotti. . . . Nothing is more likely, for only an accomplished violinist could have formulated the demands which the Tourte bow was constructed to satisfy. Viotti, no doubt, contributed to bringing the Tourte bow into general use, and it is certain that it quickly drove the old barbarous bows

\textsuperscript{26}"It was Viotti who suggested to François Tourte the idea of the ferrule and slide, which is so essential to obtain a straight and even surface of the hair." Straeten, The History of the Violin, Vol. I, p. 22.

\textsuperscript{27}Quoted in Gelrud, "Foundations and Development of the Modern French Violin School," p. 19.
completely from the field, and that in Paris there at once arose a school of bow-makers which has never been excelled.\textsuperscript{28}

L. J. de Bekker goes so far as to say that "Viotti, who was the first great violinist to adopt Tourte's bow, may have advised its maker.\textsuperscript{29}

It is entirely probable that Viotti's success was inseparably bound with his use of the Tourte bow. Viotti was best known for his outstanding bowing technique, particularly for the style that bears his name as shown in Figure 52.

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{fig52.png}
\caption{Fig. 52--Viotti bowing (Concerto XVII)\textsuperscript{30}}
\end{figure}

Viotti was an innovator, for not only was he one of the first to use the Tourte bow in public but Viotti was the first supremely great violinist and composer for the violin to introduce and prove to his audiences the merits of the Stradivari violins.\textsuperscript{31}

\begin{flushright}
\textsuperscript{28}Payne and Allen, \textit{op. cit.}
\textsuperscript{29}L. J. de Bekker, "Francois Tourte," \textit{Music and Musicians.}
\textsuperscript{30}Baillot, in \textit{L'Art du Violon}, terms this bowing "la saccade." Spohr, however, uses the designation "Viotti-Bogenstrich" in his \textit{Violinschule}. Benjamin F. Swalin, \textit{The Violin Concerto}, p. 24.
\textsuperscript{31}Franz Farga, \textit{Violins and Violinists}, p. 149.
\end{flushright}
Viotti was the last great representative of classical Italian violin art, and a worthy third in the triumvirate: Corelli, Tartini, Viotti.

Although the Italian art of violin playing attained its greatest epoch during the second half of the eighteenth century in Tartini and Viotti, in Germany this great art was just beginning to take on a momentum that was to play a major part in this field of violin art for the next century.

At the end of the eighteenth century the Mannheim School of Germany was instrumental in developing and spreading the techniques of violin playing. With complete mastery the exponents were guided in the art of violin playing into a path that is basically adhered to even in the present day.

Franz Eck (1774-1809) of the Mannheim School trained one of the great names in music, Louis Spohr (1784-1859), who as a violinist and composer began the German crusade in the development of modern violin playing.

While Spohr contributed materially to the preservation of many conservative qualities, he became far more significant for his efforts to achieve a new Romantic mode of expression. According to Benjamin Swalin, Spohr's Concerto No. VIII in A minor, Opus 47 (in the form of a Song Scene) gives evidence to this fact:

This important composition was written in 1816 while the composer was touring Switzerland. The premiere took place in La Scala, Milan, Italy on September 27 of that year, and was a notable success. To some extent in this
concerto, Spohr enumerated his violinistic creed: for he united dramatic, melodious, and technical elements and infused them with the Romanticism of his lyrical nature.\textsuperscript{32}

As a Classicist he adhered to a large extent to Leopold Mozart's principle of using long bows, wherever possible, to cultivate a clear and powerful tone. He neglected somewhat the use of \textit{spiccato}.\textsuperscript{33} Spohr never made use of artificial harmonics, for he regarded them as grotesque and trivial.\textsuperscript{34}

As a Romanticist one of the most outstanding features of Spohr is his use of the bold melodic leap in his Concertos, which leads to a full development of left hand technique.\textsuperscript{35}

\textsuperscript{32} Benjamin Swalin, \textit{The Violin Concerto}, p. 20.

\textsuperscript{33} "A short stroke played in rapid tempo in the middle of the bow in such a way that the bow bounces slightly from the string. Is indicated by dots \textsuperscript{J}\textsuperscript{T}." Hugo Norden, "Bowing," \textit{Harvard Dictionary of Music}.

\textsuperscript{34} "... despite the fact that such an example may be very enticing, I must nevertheless caution all young violinists not to lose time, and neglect more useful material in the study of them." Louis Spohr, \textit{Grand Violin School}, p. 108.

\textsuperscript{35} As a composer, he probably influenced the style of modern violin playing even more than as a player. His concertos were, with the single exception of Beethoven's concerto, by far the most valuable contributions to the literature of the violin, as a solo instrument, heretofore written. In them he has lifted the violin concerto to a higher sphere of dignity and work of art.
Fig. 53—Examples of melodic leaps in Spohr's violin concertos—(a) Concerto No. VII in E minor, Op. 38; (b) Concerto No. VI in G minor, Op. 28; (c) Concerto No. IX in D minor, Op. 55; (d) Concerto No. IX in D minor, Op. 55.

He also employed double stops and double trills that are exceedingly difficult when executed in rapid tempo.

Fig. 54—Examples of double stops and double trills in Spohr's violin concertos—(a) Concerto No. VII in E minor, Op. 38; (b) Concerto No. 10 in A minor, Op. 62.
Even though Spohr was influenced by the Mannheim School and the style of Pierre Rode (1774-1830), he was too original to be fettered by any school or by any definite model, but created a style of his own and subsequently produced his Grand Violin School in 1831. It was one of the few methods that was worthy of the name. However, despite the completeness and worthiness of Spohr's method, it has faults from a pedagogic standpoint. In his introductory note Spohr says: "... although I have formed many pupils, I have never taught a beginner..." This is apparent in the first part of his method.

On the other hand, Spohr's method reveals some new developments of the bow and of holding the violin. In Plate 8, a, we see for the first time the bow of François Tourte (1747-1835), with the exception of a slight deviation in the shape of the frog, is exactly like our present bow.

36Concerning Rode, Spohr expressed himself as follows: "The oftener I heard him, the more enraptured I became with his playing. Indeed, I had no scruples about placing Rode's style (which recalled his great master Viotti) above that of my own teacher, Eck; and through assiduous practice, I endeavored to make it my own so far as possible." L. Nohl, Spohr (Musickee-Biographer, Reclain, Vol. VII), p. 17, as quoted by Benjamin Swalin in The Violin Concerto, p. 9.

37This is the son of the elder Tourte (see pp. 67-68), who is the Stradivari of bow-making.
Plate 8—(a) Bow of François Tourte; (b) and (c) views of Spohr grip.
Illustrations b and c in Figure 55 indicate the grip as used by Spohr, close to the end of the bow and fingers held closely together.

The manner of holding the violin in the left hand remains the same, but a new approach reveals itself in the manner of placing the violin under the chin, as shown in Plate 9.

Plate 9—Spohr's manner of holding the violin under the chin.

Claiming it as his own invention, Spohr introduces a chin rest or "fiddleholder." It will be seen from illustrations a, b,
and c in Plate 10, that it is set in the middle over the tailpiece. Spohr says this allows for greater freedom of the left hand in making wide shifts and far greater regularity in bowing. However, Spohr states that if one does not desire to use the "fiddleholder" he must place his chin on the belly on the left side of the tailpiece and partly on the tailpiece itself.

Plate 10--a, b, and c--Views of the chin rest of Spohr
Spohr had great powers of execution, but he used them in a very conservative manner, and it cannot be said that Spohr added anything new to the technique of the instrument. He set an example of purity of style and legitimate treatment of the instrument.

While Spohr had fought to keep violin playing on a sober basis this was not true of his more famous contemporary Nicolo Paganini (1782-1840). The sensation that he created wherever he appeared was unprecedented. By his marvellous execution, thoroughly original style, and eccentric personality, he for a time held Europe spellbound.

Paganini stands apart from previous violinists in that he belonged to no school, and he left no school. It was the genius of self-tutorship that set Paganini into a path that no other violinist dared pursue. However, there is no doubt that the violin playing of Paganini caused nothing short of a revolution in the technique of the violin schools of that day.

Paganini possessed a certain exaggeration of style that was akin to his eccentric personality. He may be called the

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38 Paganini for the most part was taught by his father and at the age of eleven was sent to Alessandro Rolla of Parma for further study. Paganini claims that he was self-taught and denies ever having studied with Rolla. Jeffrey Pulver, Paganini, pp. 26, 31.

39 Paganini taught only one known pupil (Camillio Sivori) and never produced any method that revealed his style of playing. Pulver, Paganini, pp. 302-303.

Carlo Farina of the nineteenth century. Because existing compositions did not offer what he sought he composed for himself.

He became in a sense hitherto unknown, identified with the instrument, which he used as an expression of himself. That is why Paganini could not play the music of other composers. He put so much of his own into it that they became unrecognizable.41

He took every conceivable bit of violin technique and brought it to the utmost degree.42 For one thing, Paganini revived the device of scordatura. The Concerto in E flat (D) is probably his most famous use of this device and the altered tuning used is shown in Figure 55:

Fig. 55--Scordatura used in Paganini's Concerto in E flat.

Despite the raised pitches, this tuning hardly constitutes an application of the scordatura because of the fact that the interval relationships of the violin are uniformly preserved. The more legitimate use of scordatura may be seen in Figures 9 and 10, p. 15, as used by Heinrich Biber.


42 None of the authorities examined credits Paganini with having invented any technical device new in itself.
Paganini's bowing was also peculiar to himself.

The right arm lies quite close to the body, and is hardly ever moved. He allows free play only to the very bent wrist, which moves extremely easily, and guides the elastic motions of the bow with the greatest rapidity. It is only in strong and drawn out chords for which the lower part of the bow is used, that he lifts the hand and lower part of the arm somewhat higher, and the elbow from the body.43

Plate 11--Nicolo Paganini playing the violin

43Franz Farga, Violins and Violinists, p. 176.
Further devices characteristic of Paganini are the left hand pizzicato and bowing: 44

Fig. 56—Illustration of left hand pizzicato and bowing, taken from Paganini's Concerto No. 2 in B minor.

He occasionally uses both simultaneously, shown in the following figure:

Fig. 57—Illustration of simultaneous bowing and pizzicato, taken from Duo de Paganini for violin solo.

He also made great use of single and double harmonic passages as shown in the following figures:

44"The belief that Paganini's bow was much longer than that ordinarily used is no more true than the statement that his fingers were extraordinarily long. He used a Tourte bow." Lillian Day, Paganini of Genoa, p. 30.
He performed on the G and E strings simultaneously, the D and A strings having been removed, and also performed a complete composition on the G string.45 In the further examination of Paganini's music for technical evolution we come upon an effect that for the first time appears in legitimate

45"Upon falling in love with a Countess at Elise's Court in Lucca, Paganini composed a novelty entitled Scène Amoureuse for the G and E strings and performed it for the Countess and the court that evening. This musical scene was highly successful. The Princess Elise afterwards said 'You have just performed the impossible on two strings; would not a single string suffice your talents?' . . . Some weeks later Paganini composed a sonata entitled 'Napolion' for the G string only. The exclusive use of the G string for an entire composition was, however, not Paganini's invention. Leopold Mozart tells us that he played on the G string alone with the greatest of ease." Jeffrey Pulver, Paganini, p. 55.
and practical form, ponticello. Even though this effect was not discovered by Paganini, he undoubtedly was the first to make use of it in a solo composition, as shown in the next example:

![Musical notation](https://via.placeholder.com/150)

Fig. 60--Example of the use of ponticello in Paganini's *The Witches' Dance*, Op. 8.

When asked as to the method of execution of those passages in his compositions which seemed technically inexplicable, Paganini either gave no answer at all or only a very incomplete one--"Ognuno ha i suoi segreti" (Every man has his secrets). According to Conestabile, in his *Vita di Nicolo Paganini* (1856), a violinist named Mantovani innocently stated a

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47 This effect was first discovered by the famous cellist, Boccherini. David Boyden, "The Violin and Its Technique in the 18th Century," *The Musical Quarterly*, January, 1950.


49 Ibid.

50 No date; "was a first rate violinist who studied at the Liceo of Parma, and afterwards taught at Saint-Servant in France." Ibid.
fact that is the probable clue to the solution of the problem. He said "Paganini... gave the impression that he always played in third position." That is to say, Paganini's fingers did go down to the first and second positions, but his thumb did not. His thumb never went below the third positions. For the high positions the thumb, of course, had to go up the neck. An illustration of this is given in Plates 12 and 13 of the Paganini position in which it looks as if the thumb was gripping the neck of the instrument.

Plate 12--Position of the left hand according to Paganini.
Plate 13--Position of the left hand according to Paganini.

In reality it is not. The whole hand is free and the fingers have complete mobility over the entire fingerboard, with the thumb as their fixed base of support. This fact explains, for example, his playing octaves on the same string in such rapid succession that he seemed to be playing them simultaneously on two adjoining strings.

Other factors that contributed to the success of Paganini's "secrets" were the facts that he used thinner strings to attain greater brilliance and his bridge was somewhat flatter, enabling him to play on three strings simultaneously.

Fig. 61--An example of three string writing in Paganini's The Witches' Dance.
Of Paganini's many compositions for the violin we may consider the **Twenty-four Caprices** for violin alone as his most important work. The Caprices are thoroughly representative of the seriousness with which Paganini took his art. Despite their innumerable technical difficulties, not one caprice contains any harmonic notes, alternating or simultaneous pizzicato-arco passages. They are written in the true etude manner of the repetition of a technical problem through the cycle of keys.
APPENDIX A

PASSACAGLIA FOR SOLO VIOLIN BY HEINRICH BIBER (1670)
APPENDIX B

GRAPH AND FORMULA USED BY FRANCOIS TOURTE TO CONSTRUCT THE CURVATURE OF THE MODERN BOW

\[ \frac{dy}{dx} = n x (m-8) \]

which possibly might become simply

\[ y = x^n [n+1] \]
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