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Technical devices used by Paganini in his compositions

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/ TECHNICAL DEVICES USED BY PAGANINI IN HIS COMPOSITIONS /

by

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INTRODUCTION

The violin was first recognized and adopted as a solo instrument in the beginning of the seventeenth century. From the first real violin virtuoso of that period, Biagio Marini, to the eminent German violinist, Ludwig Spohr, violin technique and music developed to unbelievable proportions. In 1782, Nicolo Paganini, a contemporary of Spohr, was born. He was to become one of the truly great figures of the violin world. His enormous virtuosity and ingenuity led him to develop and extend the range and scope of violin technique to such an extent that no further real contributions to this technique have since been made.

The purpose of this paper is to enumerate, analyze, and discuss the most complicated and ingenious devices used by Paganini in his compositions. Tonal, stylistic, and technical devices will be explored. No attempt will be made to trace the evolutionary development of violin technique.

The sources of the musical examples used in this work are indicated in Chapter III. As it is almost impossible to get authentic versions of his compositions, these sources for the most part are edited versions. However, two works, "Nel cor piu non mi sento" and "Duo de Paganini," have been taken from a work by Charles Guhr who attended Paganini's concerts and wrote these pieces as he heard them performed.

DEVELOPMENT OF THE VIOLIN

There is general agreement that the first forms of the true violin came into existence in the first third of the sixteenth century. Several medieval instruments contributed to its formation: the Welsh or Keltic Crwth, also known as the bowed lyre; the Arabian rabab or rebec; and the fiddles, along with their descendents, the viols.¹ A wealth of material has been amassed concerning the gradual evolution and modification of these instruments, but the origin of the violin remains rather obscure.

Curt Sachs believes that three instruments in their sixteenth century form had contributed to the development of the violin: the modified rebecs, which had three strings tuned in fifths identical with the three lower strings of the violin, the viola, and the tenor violin; the fiddles which were tuned in g g' d' a' e"; and the Viole da braccio (arm viols) which corresponded to the bowed instruments of today.²

The oldest true violins came from the workshops of the violin makers Gaspar da Salo (1542-1609) and his pupil,

¹Curt Sachs, The History of Musical Instruments (New York: W.W.Norton and Company, 1940), p.268. pp.276-277. p.347.

²Ibid., pp.355-356.

Giovanni Paolo Maggini (1581-1632) of Brescia.³ Andrea Amati (1535-c 1611) was the founder of the renowned center of violin making in Cremona which developed at about the same time as the Brescian School. Andrea Amati, his two sons, Antonio (1550-1638) and Geronimo or Hieronymus (1551-1635), and his grandson, Nicolo (1596-1684), determined the forms of violins for more than one hundred years, and created its classic shape.⁴ The two brothers, Antonio and Geronimo, were responsible for the artistic development of the violin. It is believed that they were mathematicians and that credit for the methodic geometrical and flowing curvature of the violin belongs to them. Geronimo, working independently of his brother, was said to have made violins of a larger pattern and superior quality.

Nicolo Amati was the greatest luthier of the family. He did not materially alter the model developed by his father and uncle, but made many improvements upon it, creating a more graceful outline, using a deep rich-colored varnish and better proportions in the thickness of the wood and the elevation of the back and the belly. His violins possessed the same clarity of tone as those of the older Amati's, but they had greater power and intensity. He also

³Paul Henry Lang, Music in Western Civilization (New York: W.W.Norton and Company, Inc., 1941), p.240.

⁴Sachs, op. cit., p.358.

made violins of a larger pattern called the "Grand Amati's."⁵

Nicolo Amati's most famous pupil was Antonio Stradivari (1644-1737) who produced the greatest number of violins, many of which are the finest and most perfect specimens in the world. The first violin to bear his name is dated 1666, recorded by Alfred Hill of London. The label reads:

"Antonius Stradiuarius Cremonensis Alumnus Nicolai Amati, Faciebat 1666," followed by the familiar Maltese cross and the initials A. S. enclosed within a double circle. His violins of this early period followed Nicolo Amati's smaller pattern and were of poor material, covered by a thick yellow varnish. His apprenticeship is believed to have ended around the year 1666, but the pattern of his work as described above continued until 1684. He created the "Long Strad" in 1690 and followed this pattern up until 1698. The backs of the "Long Strad" were nearly always cut in one piece, and the varnish was of a rich hue of amber and red. His finest violins were made after 1710, but it was during the ten years which preceded this date that he settled upon the pattern for his violins. These instruments were neat and compact, fourteen inches in length, with light edges, accurate corners, broad graceful sound holes, graceful

⁵Paul David, "Amati;" Groves Dictionary of Music and Musicians, ed. J.A, Fuller Maitland, I (1911), 75.

scroll, and a softly textured varnish.⁶

No enumeration of physical characteristics can describe the true value of a fine Stradivarius. No other violin, except for a few Guarneriuses del Gesu, possesses all of the superb qualities found in one good Stradivarius. The homogeneity of the four strings, the beautiful tone and carrying power, and the instantaneous response of this instrument is unparalleled .

Joseph Guarnerius (1687-after 1742) was another great master of the Cremona School. He was known as Guarnerius del Gesu because of the I.H.S. which he added to the labels in his violins. He was the pupil of his cousin Joseph "Filius Andreae," but he patterned his violins after the powerful and rugged instruments of the Brescian School, and made some extraordinary violins, well known for their powerful tone. However, the outward appearance of his instruments shows a great carelessness in craftsmanship compared to the meticulous work of Stradivarius.⁷ Paganini owned the most famous Guarnerius which he called Mon cannon, better known as "The Cannon Joseph."

To date, no other violin maker has equaled or surpassed the two Cremonese masters, Stradivarius and Guarnerius del Gesu.

⁶E. Heron-Allen, "Stradivari," Groves Dictionary of Music and Musicians, ed. J.A. Fuller Maitland, IV (1911),707-712.

⁷E.J. Payne, Esq., "Guarnieri," Groves Dictionary of Music and Musicians, ed. J.A. Fuller Maitland, II (1911),253.

CHAPTER I

VIOLINIST-COMPOSERS PRIOR TO PAGANINI

From Fontana (d.1630) to Spohr (1784-1859), violin technique and playing had developed to unbelievable proportions; however, with the advent of Paganini, the entire concept of violin playing took another path and reached a technical climax.

The seventeenth century was really the beginning of the period in which the violin was recognized and adopted as a solo instrument. Each decade, each quarter of a century, each violinist-composer and each Italian city, contributed to the development of the violin. It was in Italy that the masters of this instrument became continental "Masters" spreading their knowledge across Europe, specifically, France, Germany, and later Belgium, through their able pupils.

Germany was also developing her native talent at this time, producing such eminent violinists as Thomas Baltzer (c.1630-1663), Johann Fischer (c.1650-c.1720), J.J. Walther (1650-1717), Franz Biber (1644-1704), Nicolas Adam Strungk (1640-1700), and Georg Philipp Telemann (1681-1767). France lagged far behind Germany and Italy, and did not make any real contributions to violin technique until the advent of

Jean-Marie Leclair (1697-1764) and Pierre Gavinies (1728-1800).¹

Various violin schools mushroomed in Italy, in Venice, Bologna, Modena, Rome, Padua and Turin, respectively. From Venice came the first real violin virtuoso, the Lombard Biagio Marini (1597-1667), believed to be Fontana's pupil. Marini's "Romanesca" for a solo violin with bass ad libitum is probably the first published composition written for the solo violin and contains the first known application of the trill.²

In the next generation, the following violinist-composers came to the forefront: Giovanni Legrenzi (c.1625-1690); Archangelo Corelli (1653-1713); Maurizio Cazzati (1620-1677); G.B.Vitali (1644-1692); Alessandro Stradella (c.1645-c.1681); Giuseppe Torelli (1650-1708), and G.B. Bassani (1657-1716) who set the model for a century of instrumental music.³

Bassani is believed to have been the teacher of

¹W.W. Cobbett, Esq., "Violin Playing," Groves Dictionary of Music and Musicians, ed. J.A. Fuller Maitland, V (1911), 319. 321.

²E. Van Der Straeten, The Romance of the Fiddle (London: Rebman Limited, 1911), p.14. p.19.

³Paul Henry Lang, Music in Western Civilization (New York: W.W. Norton and Company, Inc., 1941), p.348.

Corelli. Born in Fusignano, Corelli was the founder of the Academie de Violon in Rome. Despite this fact, Corelli represents the consummation of the Bologna style. After two and one-half centuries his Twelve Violin Sonatas, Op.5, are still considered masterpieces and excellent studies for the student violinist. One of the best known is the Sonata No.1, entitled "Folies d'Espagne" which has been arranged and re-arranged by the most eminent violinist-composers of the past and the present. Bukofzer states that "Corelli can take the credit for the full realization of tonality in the field of instrumental music."⁴ Corelli's ideas and the perfection of his style brought to the fullest realization the tendency of the Bologna School toward formal clarity, stylistic elegance, and contrapuntal design. The Baroque sonata da camera and sonata di chiesa were definitely established by this school.⁵ Corelli rejected the complicated virtuoso writing of some of his contemporaries, particularly those of the German violinists, with their forced polyphonic texture, double stops, and other effects alien to him. His ideal was the sensuous expressiveness of the human voice.⁶

⁴Manfred F. Bukofzer, Music in the Baroque Era (New York: W.W. Norton and Company, Inc., 1947), p.222.

⁵Bukofzer, op. cit., p.223. ⁶Lang, loc. cit.

Corelli's illustrious German contemporaries were Franz Biber (1644-1704) and J.J. Walther (1650-1717). Biber explored and advanced the technique of the violin, but never allowed technique to become an end in itself. Particularly famous are his Mystery Sonatas written about 1675, based upon a Biblical incident. His "Resurrection Sonata," No. 11, contains a Passacaglia for violin and continuo in which the resurrection theme, "Surrexit Christus Hodie," serves as a basso continuo ground. The violin part in this section uses scordatura. Biber used two types of scordatura: in one the strings were tuned to a, e', a', d"; and in the other to g, d', a', d", which greatly facilitated polyphonic playing. Biber is also considered the inventor of the solo sonata without accompaniment, a typical German invention.⁷ Later on, J.S. Bach (1685-1750) enriched the literature of the violin by six masterpieces: three partitas in the style of sonata da camera and three sonatas in sonata da chiesa form.

J.J. Walther made use of fast passages, bouncing bows, double-stops and the accompaniment of a melody in left-hand pizzicato. Walther's Hortulus Chelicus was the first violin instruction book to be published in Germany and contains sonatas and serenades which make use of multiple stoppings.

⁷Bukofzer, op. cit., p. 116.

The title of the last of these twenty-four pieces may serve to show the novelties which he introduced to the art of violin playing, "Serenade for a chorus of violins, trembling organ, small guitar, bagpipe, two trumpets, kettle drums, German lyre and muted harp," for a single violin.⁸

The great violinist-composers after Corelli were E.F. dall'Abaco (1675-1742), T. Vitali (1685-1750), F. Geminiani (1687-1762) and the most famous, technically, P. Locatelli (1693-1764).⁹ These violin personalities began a new trend towards melody, sonority, and, above all, virtuosity. Pietro Locatelli, a pupil of Corelli, was perhaps the boldest and most original of them all. He departed greatly from his master's style, inventing new combinations in tuning the violin, in the use of double-stops, arpeggios, and harmonic sounds. His famous work, the Arte di Nuova Modulazione, contains all of these innovations. He had many imitators, namely, Lolli, Fiorillo, and above all, Paganini.¹⁰ Locatelli turned the modern concerto, in a highly personal manner into a vehicle for stupendous virtuosity. The technical demands of his Capricci, his optional cadenzas for the solo concertos, have hardly been surpassed even by the composers of the classical period.¹¹

⁸Ibid. ⁹Lang, op. cit., p.483.

¹⁰Paul David, "Locatelli," Groves Dictionary of Music and Musicians, ed. J.A. Fuller Maitland, II (1911), 758-759.

¹¹Bukofzer, op. cit., pp. 231-232.

Geminiani, also a pupil of Corelli, wrote and published a violin manual, in which, for the first time in music history, he advocated holding the violin on the left side of the tailpiece. This established the manner in which the violin is held, with the later addition of a chin-rest and shoulder pad. This manner of holding the violin has contributed greatly to the development of modern violin technique.¹²

Another pupil of Corelli, Lorenzo Somis (1676-1763), is considered by many authors to be Corelli's most famous pupil. His fame rests upon the many famous pupils, he, in his turn produced: Leclair, Pugnani, and Giardini. Pugnani was the teacher of Viotti.¹³

Jean-Marie Leclair (1697-1764) was the first notable French violinist-composer to write difficult technical works for the violin, including passages of up and down bow staccato. His music indicates that he utilized the seventh position and used double-stops very freely -- at times writing entire passages in double-stops.¹⁴

Pierre Gavinies (1726-1800) is regarded as the most eminent representative of the French school of violin playing,

¹²Straeten, op. cit., p.238.

¹³George T. Ferris, The Great Violinists and Pianists (New York: D.Appleton and Company, 1881), p.21.

¹⁴Lionel De La Laurencie, L'Ecole Francaise de Violon: de Lully a Viotti (Paris: Librairie Delagrave, 1922), I, 329.

if not the founder. His teachers are unknown, and it is believed that he was self-taught, developing his style after the Italian virtuosi who frequently traveled through France. He received an appointment as Professor of Violin at the Institut National de Musique which was founded in 1795.¹⁵ His Vingt-Quatre Matinees are extremely difficult technical studies, useful only to the very advanced student.

A contemporary of Geminiani and Locatelli, Giuseppe Tartini (1692-1770) was the founder of the Paduan School. He is known for the great advances he made in the use of the bow. It is thought that Tartini actually contributed to the changes in the form and shape of the bow which were finally perfected by Tourte. His work, L'Arte Dell'Arco, is a series of fifty variations, based on a jig by Corelli, for the development of the technic of the bow.¹⁶ While this work seems to be primarily for the right hand, its value in the development of the technique of the left hand should not be overlooked. It is not intended for the beginner and only an accomplished violinist can derive any benefit from it.

The art of bowing was Tartini's primary concern, and this is again indicated in his "Letter to Signora Lombardini,"

¹⁵Laurencie, op. cit., II, 298.

¹⁶Straeten, op. cit., p.229.

which serves as an important lesson for violinists. His third work was on embellishments, entitled Traite des Agrements de la Musique, printed only in a French translation by P. Denis in Paris in 1780. ¹⁷

It is also interesting to note that Tartini is believed to have held his violin on the right side of the tailpiece, although this was considered a barrier to the development of violin technique by his contemporaries.

With Tartini, the Italian school of violin playing reached its climax and his pupils, along with those of Corelli, became the connecting link between the Italian schools and those of France and Germany.

G.B. Viotti (1753-1824) was undoubtedly the greatest classical player of his time and also the originator and founder of the modern school of classical violin playing. Viotti's compositions lack originality, but they are filled with the dignity of fine ideals. Despite his masterly technique, he treated the violin first and foremost as a voice part avoiding unnecessary acrobatics and gave careful thought to his phrasing. Tartini's maxim is fully exploited by Viotti: *per ben suonare, bisogna ben cantare* (to play well, it is necessary to sing well). Viotti was one of the first composers to write violin concertos which

¹⁷ Straeten, loc. cit.,

used the full resources of the accompanying orchestra. He wrote a great number of works for a varied combination of instruments, and, above all, twenty-nine concerti for the violin. His Concerto No.22 is the best known and the most often played, primarily as a study. Occasionally, however, it is performed.¹⁸

Viotti established the fundamental principles of violin playing. He did not attain the marvelous skill of technique, the varied subtle and dazzling effects with which his successor Paganini was to amaze the world, but from all reports, his performance must have been characterized by great nobility, breadth, beauty of tone, combined with a fire and agility unknown before his time.¹⁹

Viotti was one of the first to use the Tourte bow, that indispensable adjunct to the perfect manipulation of the violin. The Tourte bow enabled the violinist to execute every bowing found in violin technique with greater ease and delicacy of shading. The bow is most responsive, flexible, well-balanced, and all of the imperfections of its predecessors have been eliminated.

. Louis Spohr (1784-1859) was a pupil of F. Eck of the Mannheim School. Later on Spohr was to be the founder of a violin school in Germany, which functioned in a more

¹⁸Franz Farga, Violins and Violinists, trans. Egon Larsen (London: Rockliff Publishing Corporation Ltd., 1955) pp. 149-152.

¹⁹Ferris, op. cit., p.39.

extended and vigorous scale than those of any of his predecessors. One of his contributions is a work entitled Violin-School published in 1831. This work is useful for the performance of his music, but it has no value for a beginning student. Of his seventeen concerti, Nos. 7, 8, and 9 are the most important. They are very effective virtuoso concerti and contribute greatly to the development of advanced violin technique with their very fast passages and difficult double-steps. # 2

Spohr was too original to remain fettered by any school. He developed a style of his own in performance as well as in composition. He treated the violin as a singing instrument, which is evident in the slow movement of the ninth and other concerti. The lighter and freer style of bowing which originated with Paganini, a style that has been adopted more or less by all modern players, was not to his taste. He disliked the spring-bow. In Spohr's time, his concerti presented abnormal technical difficulties. He was a prolific composer, but never seemed to have been able to step out of a given circle of ideas and sentiments. He never left the circle of his own individuality but drew everything within it.²⁰

In 1784 another violinist was born, one of the greatest

²⁰Paul David, "Spohr," Groves Dictionary of Music and Musicians, ed. J.A. Fuller Maitland, IV (1911), 641-645.

violinists of all times, Nicolo Paganini. He can be considered a self-taught violinist, since he was too far advanced for the teachers under whom he studied as a child.

In 1799, Paganini, together with his family, retired to the suburb of Polcevera, a short distance from Genoa. He made frequent trips to Di Negro's library where he was able to study the music of all the masters of the preceding two centuries.²¹ It is a well known fact that Pietro Locatelli's Arte di nuova modulazione was practically a bible to him. G.I.C. de Courcy reports an interview between Paganini and Boucher de Perthes, in which Paganini stated that there had been no formative influences in his earlier years except for Gnecco, Durand and Locatelli.²²

During his residence in Polcevera, Paganini devoted himself to the study of music, composition, and the violin. He explored and extended the possibilities of the violin to its fullest. Indeed, no further innovations have been made in violin technique during the one hundred and twenty-three years since Paganini's death.

²¹Renee de Saussine, Paganini (London: Hutchinson and Company, Ltd., 1953), pp.33-34.

²²Paganini The Genoese (Norman: University of Oklahoma Press, 1957), I, 28.

In this work the date of Paganini's birth is given as 1782.

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CHAPTER II

PAGANINI AS A VIOLINIST AND COMPOSER

Numerous books have been written dealing with the life of Paganini, but very few attempts have been made to explain his ability to execute the fantastic devices which are found so extensively in his works. His ability may perhaps be explained simply as the result of a consummate talent. Whenever an analysis of his manner of playing is made, the author invariably refers to L'Art de jouer du Violon de Paganini written by Charles Guhr.¹

Charles Guhr was the leader and conductor of the theatre orchestras in Frankfurt-on-Main and Paris and had set himself the task of discovering Paganini's "Secret." Guhr, who was also a violinist, attended many of Paganini's concerts, taking notes on his posture and the way in which he held his instrument and drew his bow.² As he never succeeded in viewing any of Paganini's original manuscripts, all of the music found in his book was written from memory, and, therefore, understandably, contains errors. Guhr described his book as an appendix to existing violin methods

¹(Paris: Henry Lemoine et Cie. Editeurs, n.d.)

²Renee De Saussine, Paganini (London: Hutchinson and Company, Ltd., 1953), p.173.

and, in it, he analyzed Paganini's music and his manner of playing. It also contains an extensive section on the study of single and double harmonics.

Since Guhr has written the only extensive eye-witness account of Paganini's performances, it would be interesting to examine those portions of his book which deal with the manner in which Paganini's playing differed from his contemporaries.

According to Guhr, Paganini differed from his contemporaries in his stance, the manner in which he held his violin, and the position of his arms as well as his manner of drawing the bow and the type of bridge used. Guhr describes the position of Paganini's body as follows:

L'attitude de Paganini n'est pas genée, quoique moins noble que celle de Baillot, de Rode, ou de Spohr. Le centre de gravité de son corps est jeté à gauche, et son épaule gauche se porte plus en avant que les maîtres que je viens de citer ne se le permettent.

(Paganini's attitude is not constricted, although it is less noble than that of Baillot, Rode, or of Spohr. The center of gravity of his body is thrown to the left, and his left arm is more advanced than the masters I have just cited will allow themselves).

He describes the position of Paganini's right and left arms as follows:

Le bras droit est appliqué au corps et ne se meut presque jamais; le poignet seul fortement flechi, jouit chez Paganini d'une grande mobilité; il se meut avec aisance, et dirige avec une prestesse admirable les mouvements élastiques de l'archet: seulement, dans les accords qu'on attaque vigoureusement avec la partie inférieure de l'archet, près de la hausse, il élève un peu le coude et l'avant bras, en les éloignant du corps.

(The right upper arm is applied to the body and almost never moves; only the wrist which is strongly bent enjoys a great mobility in Paganini; it moves with ease and directs with admirable speed the elastic movements of the bow: only, in the chords which one attacks vigorously with the lower part of the bow, near the frog, does he raise the elbow and the forearm a little, by moving them away from the body).

On a enseigne jusqu'a present que le bras gauche doit rester dans sa position naturelle, de maniere a ce que le coude soit place verticalement audessous du milieu du violon; c'est toujours la position la plus naturelle. Celle de Paganini est plus forcee; it tient le coude fortement applique contre le corps, et la partie superieure du bras en dehors.

(It has been taught up to now that the left arm should remain in its natural position, in a way that the elbow is placed vertically beneath the middle of the violin; it is always the most natural position. That of Paganini is more forced; he holds his elbow strongly applied to his body, and the upper part of the arm is turned out).

He goes on to describe the bridge used by Paganini:

Le chevalet de Paganini est un peu moins convexe que celui des autres Violonistes, ce qui lui donne plus de facilite dans les positions superieures du manche, et lui permet de toucher trois cordes a la fois. Les cordes sont eloignees du manche tout juste assez pour eviter leur frottement contre le bois.

(Paganini's bridge is a little less convex than that of the other violinists, which gives him greater facility in the higher positions of the fingerboard, and permits him to touch three strings at the same time. The strings are just far enough away from the fingerboard to prevent their rubbing against the wood).³

Guhr describes at length Paganini's manner of bowing and the various strokes used by him to execute all of his bowing innovations illustrated in Chapter III of this paper.

³Guhr, op. cit., p.4. trans. by present writer.

Essentially, Paganini used only that part of the bow from the middle to the tip, except when playing chords or singing passages in legato, at which time the entire bow was brought into play. There is a striking contrast between the manner in which the detache bowing was accomplished by Paganini and the method advocated by the Conservatoire de Paris which is still followed to this day. The detache bowing is ordinarily played from the middle to the tip of the bow. This length of bow is required to set the string into vibration. Guhr states that Paganini barely used the middle of the bow, attacking the string with a brusque jumping and whip-like movement. He used only that length of bow which was necessary to vibrate the string.⁴

Paganini devoted himself to the mastery of his technical weaknesses, as he saw them, and practiced endless hours to overcome the difficulties found in his own compositions. He mastered the violin as completely as was humanly possible and, if legend is to be believed, discovered the secret of playing without practicing. However, more important than the secret of playing without practicing is the secret of his tremendous facility. How this facility was acquired is unknown to us. The only facts which can be relied upon are the documented reports of Guhr which deal

⁴Guhr, op. cit., p.9.

with the physical aspects of his playing. To the extent that Paganini is considered the worlds greatest violinist, the physical aspects of his technique must be considered an important contribution to the conquest of the technical difficulties of the violin.

Paganini as a Composer

The musical style of Paganini's compositions closely followed the Italian bel canto style of singing. His themes are lyrical and melodious. Technically, he imitated, and at times, surpassed the prowess of a coloratura soprano. The greater emphasis in the interpretation of Paganini's music, therefore, resides in the ability to execute the intricate technical devices found therein.

Paganini's Twenty-four Caprices are one of his most important works for the reason that each caprice requires and demands from the performer the highest virtuosity, and taken as a whole, the caprices cover the entire scope of violin technique, except for natural, artificial, and double harmonics.

One possible reason which can be given for the omission of harmonics in this work is that harmonics cannot possibly be played at the same speed as regular double-stops, or single notes in fast passages. Whenever Paganini uses double harmonics as in his concerti and other pieces

(to be discussed later), they are always found in the singing passages at a relatively slower pace. No matter who the performer, from Paganini to Heifetz, it is an human impossibility to play harmonics very quickly. The only instance in which harmonics can be played at great speed is when they are found in chromatic succession, and this would not have been a tour de force for Paganini or any violinist, for in order to play harmonics at the same speed as ordinary passages, a new fingering and a new notation must be employed.

Paganini seldom repeats himself in the caprices, and it would seem that he intended to make each caprice a masterpiece of difficulty, presenting as many innovations as was possible. It is obvious that he succeeded. Each Caprice is unique. For example, in Caprice V, Paganini makes use of saltato bowing throughout the vivace section. This bowing, actually a type of jumping staccato as used in this piece, is terribly difficult and is seldom performed even by the great virtuosi of today. Instead of the saltato bowing, a spiccato bowing is almost invariably used.

Another innovation is Paganini's use of left-hand pizzicato which appears only in the ninth variation of Caprice XXIV. In the eighth variation of the same caprice, there are chords to be played in the same direction; four

chords to a measure to be played down-bow in the first measure; up-bow in the second measure and so on throughout the caprice, but as an accepted rule every violinist disregards this bowing, playing the chords with alternate up and down-bows.

All of the caprices contain double, triple, and quadruple stops, except for Caprices II, V, XII, and XVI. Although these four caprices differ from one another, they still have the use of the bow in common, which is of primary importance. Caprice II does contain seven measures of double-stops which consist of sixths, tenths, and thirds, but these double-stops are not difficult. The difficulty in this caprice lies in the use of the rebounding bow and the need for clear tone production while crossing the strings. The mastery of the string transfer is the greatest requirement.

Caprice V, as already mentioned, requires the mastery of the saltato-staccato bow; Caprice XII uses the undulating bow, and Caprice XVI is a perpetual motion piece which contains accented notes, produced by the bow at a very rapid tempo. Producing the accentuation without interfering with the tempo is the difficulty here as the accent marks indicated by forte are often placed on irregular beats.

It is interesting to note Paganini's ingenuity in all of his compositions and especially in his Caprices. Nowhere

in the canon of violin composition do we find such interesting studies and masterpieces all in one book and by the same author.

For example, Caprice I is an important study of the arpeggio jumping bow, containing combinations of double-stops in triplets. Caprice III is composed of fingered octaves in the first part; in the second part Paganini makes use of legato bowing, four measures to the bow, containing about twenty-four notes to be played at a presto tempo. It also contains double trills performed in octaves. Caprice IV is entirely in double-stops and requires a mastery of the bow. In the first sixteen measures the bow never leaves the strings. In addition the piece contains chords, trills on chords, sixths, tenths, and other intervals.

Caprice VI can be considered particularly important for the development of the technique of the left hand. In this respect it can be literally called a study, since practicing the caprice will contribute to the strengthening of the fingers, improve the stretching ability, give independence to the fingers and develop a tremendous facility for trills in double-stops. The contribution it makes to the technique of the right hand is to develop the ability to maintain an uninterrupted sound level on two strings.

In Caprice VII Paganini employs extensive flying staccato, spiccato, and chord combinations. Caprice X is composed strictly of staccato bowing in different rhythmic combinations. Caprice XIII is well known and has been traditionally entitled "Le Rire" because the opening measures remind us of a human laugh. The caprice is an amalgamation of double-stops composed of chromatic thirds, sixths, octaves, and tenths, ascending and descending. The octaves are used in whole or broken form.

The corrente of Caprice XVIII is played entirely on the G string, shifting between the third and seventh positions in broken chord passages using staccato bowing. The second part, an allegro, is very similar to the double-stop passages which he uses in his concerti, and is entirely in thirds. There are only four chords to indicate cadences. Caprice XIX is a study of light staccato and double-stop combinations all in staccato. For the second time, as in the preceding caprice, he uses the G string for sixteen measures but with skips extending from the third to the tenth position to be played at a very fast tempo. In the tenth measure, he has an ascending scale of two octaves, covering the second to the eleventh borrowed position which is to be played in spiccato.

Caprice XX makes use of open strings for background or pedal point sound, giving the effect of a bagpipe. In

the seventeenth measure the same effect is transferred to three strings to be played simultaneously, without breaking the continuity of the sound. In the second part he uses trills on the first and second beats of each measure which are very difficult and effective.

Caprice XXI, entitled "Amoroso" is a beautiful singing piece written entirely in double-stops. It is played on the G and D strings; then a fast scale passage takes it to the A and E strings where the main theme is repeated in its entirety, one octave higher. It is in Aa Ba song form in the first part; in the second part, which is a presto, we find a combination of scales ascending and descending, and arpeggio passages using the staccato bowing.

Caprice XXIV is the best known and most widely exploited of all. Liszt, Brahms, and Rachmaninoff have all written variations based on the main theme, and it must be noted that this is the only caprice written in the theme and variation form.

However, the theme and variation form is extensively exploited by Paganini in his other compositions, namely "Carnaval de Venise;" Variations on the G string based on Rossini's "Moses;" "I Palpiti;" Sixty Etudes in Variation Form; "Theme and Variations" (non piu mesta); Sonata in A major, as well as in a few of his Sonatas for violin and guitar and in Introduction et Variations sur le theme

"Nel cor piu non mi sento" and in "Le Streghe" (The Witches Dance).

The most brilliant works of Paganini are his concerti which are masterpieces both technically and musically. Only two of the original four concerti are available to us today: the Concerto No. 1 in E flat major (D major), Op.6, and the Concerto No.2 in B minor, Op.7.

The character of both concerti is that of a lyric opera containing bravura passages. One might imagine oneself listening to a nineteenth century Italian opera by Rossini with the singers replaced by the violin. The second movements of both concerti are extremely melodic and, curiously enough, do not contain any virtuosic acrobatics save the three measures in double-stops and double harmonics found at the end of the second movement of the B minor Concerto.

Prod'Homme describes the second movement of the B major Concerto as a beautiful dialogue between the fourth string and the other three.⁵ There are very simple but beautiful ornamentations in this movement reminiscent of a coloratura soprano vocalizing.

The B minor Concerto is famous for its third movement known as "La Campanella," or the French title "La Clochette."

⁵J.G. Prod'homme, Paganini (Paris: Librairie Renouard, 1927), p.118.

This Rondo movement is much more frequently performed as a solo piece than the concerto itself. This third movement is not only performed by violinists, but it has been arranged, in its entirety, for the piano by Liszt and widely played. It has been arranged also for orchestra in recent years.

These two concerti contain all of Paganini's innovations. In the D major Concerto, the passages range from the simplest single melodic line to the most complicated technical device. In the first movement, for example, he uses thirds in fast succession, sixths, octaves, tenths, rapid scales in 32nd notes, skipping of strings, chords, chromatic passages performed on one string, arpeggios, combinations of thirds and fourths using three strings, and combinations of ascending arpeggios with descending scales in harmonics and four notes of left-hand pizzicato.

For tonal color, he uses long passages played solely on the G string, extending to the tenth and eleventh positions.

The bowings used in this movement are legato for singing passages, scales, arpeggios, and chromatic passages; and detache, spiccato, and ricochet for the remaining passages. In the first two and one-half measures of the third movement, he uses four different types of bowing; ricochet for four notes; staccato for two notes; spiccato for another two notes, and legato for another two notes.

this sets the lively pattern for the entire movement.

In contrast to the first movement, the third movement contains comparatively few double-stop passages, except for seven measures of tenths and sixths, beginning at measure 67. Then at measure 95 there is the sudden appearance of his most famous innovation--double harmonics--which continue for twenty-seven measures. These double harmonics are the most difficult of all his devices to master.

Comparatively, the first movement of the B minor Concerto is not as complicated technically as the first movement of the D major Concerto. The over all picture is less dramatic and more lyrical.

The third movement of the B minor Concerto contains all of the acrobatics, fireworks, and innovations associated with Paganini; including single notes, double-stops, thirds, sixths, octaves, chromatics, arpeggios, single harmonics, double harmonics, and a combination of bow and left-hand pizzicato.

All of Paganini's other available compositions contain varying combinations of his innovations. These works are very difficult, ingenious, and extremely violinistic. Examples and illustrations of these pieces will be found in the ensuing chapter.

One of the most recent biographies of Paganini's life has been written by G.I.C. de Courcy. It contains the most

complete compilation of Paganini's works and all pertinent data. As so few of these compositions are available, it would serve no purpose to include the list here.⁶

The same author has written a chronology of Paganini's life in which the dates and places of Paganini's concerts can be found.⁷

⁶G.I.C. de Courcy, Paganini The Genoese (Norman: University of Oklahoma Press, 1957), II, 373-386.

⁷Ibid., Chronology of Paganini's Life (Wiesbaden: Rud. Erdmann, 1961).

CHAPTER III

TECHNICAL DEVICES, TONAL EFFECTS, AND STYLISTIC CHARACTERISTICS FOUND IN PAGANINI'S WORKS

According to Robert W. Flodin,¹ one of Paganini's best biographers was Jeffrey Pulver,² who, in his work entitled Paganini: The Romantic Virtuoso, makes the following definitive statement regarding Paganini's contributions to violin technique:

The position occupied by Nicolo Paganini as a violinist and composer for his instrument should be defined clearly enough by the contemporary opinions reprinted in the foregoing pages--and no amount of fresh research can increase our knowledge in this respect. All that can be done to-day is to decide which particular aspects of violin-technics existed before his time to be developed by him in a normal manner, and which of them may be said were 'invented' by him. The lessons to be learned from almost every page of musical history should warn us not to use the words 'invented' and 'discovered' too easily....Double-stopping passages had been written long before Paganini's time: but no one ever attained to his technical facility in their performance. This ease of manipulation permitted him to write successions of still greater extent and difficulty. Where he did add new effects to the violinists materia technica was in the domain of bowing, left hand pizzicato, and single and double harmonics....It was in extending the range of his instrument, in demonstrating what surprising results could be obtained by a combination of natural talent and hard work--in short, in showing new paths for the development of instrumental virtuosity, that Paganini's greatest merit lay....In the enormous variety of new bow-strokes exploited by Paganini lies a much more legitimate reason for honouring his memory. The technic of the bow

¹The Meaning of Paganini (San Francisco: Morgan Printing Co., 1953), p.1.

²(London: Herbert Joseph Ltd., 1936), pp.314-315.

lagged far behind that of the left hand when Paganini appeared. By the time he died practically all of the strokes he used with such electrifying effect, were adopted--in some cases with modification and in others without by all the important schools of violin playing, though their successful employment was always restricted to the few who possessed the requisite flexibility and control.

As stated previously, no attempt will be made to trace the evolutionary development of violin technique in this chapter. The examples found here have been selected to illustrate the technical devices found in Paganini's compositions.

The following list of the editions of Paganini's compositions have been used as the source for the examples in this chapter.

1. Twenty-four Caprices, Op.1, edited by Carl Flesch, Peters Edition
2. Violin Concerto No.1 in D major, Op.6, revised and edited by Wilhelm Stross, edited by Carl Flesch, Peters Edition
3. Violin Concerto No.2 in B minor, Op.7, edited by August Wilhelmj, Schott Edition
4. "Carnaval de Venise," edited by Karl Rissland, Oliver Ditson Edition
5. Variations on the G string on Rossini's "Moses," edited by Besekirsky, International Music Co. Edition
6. "Le Streghe", edited by V. Cernicchiaro, Carl Fischer Edition
7. "I Palpiti," Op. 13, edited by Leopold Lichtenberg, G. Schirmer, Inc., Edition

8. Perpetual Motion, Op.11, transcribed by Fritz Kreisler, Charles Foley Edition
9. "Nel cor piu non mi sento," for solo violin, written from memory by Charles Guhr, Henry Lemoine et Cie., Editeurs
10. Duo de Paganini, for solo violin, written from memory by Charles Guhr, Ibid.
11. Six Sonatas for violin and guitar, Op.2, Paragon Music Publishers Edition
12. Six Sonatas for violin and guitar, Op.3, Paragon Music Publishers Edition

Scordatura or manner of tuning his instrument

A striking innovation, used extensively by Paganini, was a form of scordatura. Needless to say, true scordatura, or mistuning of the strings was not his invention. It is found in the early compositions for the lute and viol, and, later, in the solo sonatas of F.Biber, J.J.Walther, Strungk and Albicastro. This mistuning was used to facilitate polyphonic playing and the simultaneous use of open strings. Scordatura is found today in works for the guitar, and it is still used in the orient for the violin, the tar and the Kemantcheh, among others.

In true scordatura, one or two strings are tuned in different intervals according to the needs of the piece. For example, the strings could be tuned to g, g', d', a", or g, g', a', a", or to various other combinations. In

oriental music a quarter-tone scordatura is commonly used, ascending or descending.

Paganini while using various intervals to change the pitch of his violin, did not however use scordatura in the accepted sense.³ We find that Paganini at times tuned all four strings a half-tone higher.

- Ex.1 a. Accordatura of the violin in fifths.
b. Mistuning of the violin, raised one-half tone.



In his most extensive work, the Concerto No.1 in E flat major, Paganini tuned his violin one-half step higher, as shown in the above example. The violin part of this concerto is written in D major,⁴ and naturally, the fingerings to be used are those of D major which facilitated the playing while the string transposition contributed to the brilliancy of the execution. The orchestral accompaniment was written in E flat major, and the musicians in the audience, although great puzzled heard the concerto in E flat major. The following examples 2a and 2b illustrate how this supposedly inexplicable feat was accomplished.

³Charles Guhr, L'art de Jouer du Violon de Paganini (Paris: Henry Lemoine et Cie., Editeurs, n.d.), p.5
Guhr does not use the term scordatura in describing this innovation of Paganini. He describes his mistuning as "Manner of tuning the instrument."⁵

⁴Today, the Concerto in E flat major is published in D major

Ex.2a Concerto No.1 in E flat major, Op.6
1st Movement: Allegro maestoso (measures 94-98)
Written

Ex.2b Concerto No.1 in E flat major, Op.6 (Transposed)
1st Movement: Allegro Maestoso (measures 94-98)
Sound

The following example 3a found in the same movement a measure 172 would be impossible to play in E flat major because of the use of the open strings, but with the string transposition it becomes readily playable. It was this type of passage, making use of open strings which so puzzled his contemporaries.

Ex.3a Concerto No.1 in E flat major, Op.6
1st Movement: Allegro Maestoso (measures 172-173)
Written

Ex.3b Concerto No.1 in E flat major, Op.6 (Transposed)
1st Movement: Allegro Maestoso (measures 172-173)
Sound

Example No.2a when combined with the piano accompaniment in E flat will read and sound as follows:

Violin tuned to

Ex.4 Concerto No.1 in E flat major, Op.6
1st Movement: Allegro maestoso (measures 94-96)
Written and Sound-

Example No. 3a with piano accompaniment in E flat will read and sound as follows:

Ex. 5 Concerto No. 1 in E flat major, Op. 6
1st Movement: Allegro Maestoso (measures 172-173)
Written and Sound

As it appears in the preceding examples Nos. 4 and 5, the piano part is written in E flat major and the violin part is written in D major. Since the violin is raised a half-step, both violin and accompaniment will sound in E flat major.

Paganini makes use of this manner of raising the pitch of the violin (one-half tone) in many of his compositions including "Carnaval de Venise," "I Palpiti," "Le Streghe" etc. The "Carnaval de Venise," is written in the key of A major for the violin, and the accompaniment is written in B flat major. As the violin pitch is raised one-half step the entire piece is heard in B flat major.

Violin tuned thus



Ex.6 "Carnaval de Venise"
Theme (measures 1-2)

Ex.7 "Carnaval de Venise"
Var.20 (measures 1-2)

"I Palpiti" is another highly virtuosic piece in which the same manner of tuning the violin is found. The violin part is written in A major and the accompaniment in B flat major.

With the pitch of the violin raised one-half step, we have once again a piece which will sound in B flat major.

Violin tuned thus



Ex. 8 "I Palpiti"
Larghetto Cantabile (measures 5-7)

Another manner of tuning is found in Variations on the G String based on Rossini's "Moses." Here he raises only the G string a minor third higher. The result is very effective, and the transposition of the string adds to the brilliancy of the piece. The violin part is written in C minor, and the accompaniment is in E flat minor. The piece, because of the raised pitch of the G string, therefore sounds in E flat minor.

Ex. 9 "Moses Fantasy"
Introduction: Adagio (measures 1-3)
Tune G string to B flat

Many authors have written that Paganini moved his G string next to the E string in place of the A string when performing exclusively on the G string. The reason for this move was extremely clever and ingenious. It is difficult to turn the hand to play on the G string in higher positions, as the hand is impeded by the shoulder of the violin. With the G string in the place of the A string, Paganini had the freedom to move easily to the higher positions. I have not been able to see the original manuscript of Paganini's "Moses Fantasy" but, if the chord before the last measure exists, as it is found in the music published today, it would have been impossible to move the G string and play the chord. In all probability Paganini played the interval as shown in example No.10.

Ex.10 "Moses Fantasy" Chord before final measure (As played)



Guhr, having heard Paganini perform on many occasions, had written from memory the following passage from Caprice XIX.

Ex.11a Caprice XIX
Allegro Assai (measures 27-28)
sound



Ex.11b Caprice XIX
Allegro assai (measures 27-28) played on the G string
written



Guhr has stated that whenever Paganini played on the G string he raised it by a minor third. In the above example No.11b the string is raised to B flat, but, since this passage is only a part of Caprice XIX it follows that the other three strings had to be raised to enable him to play the caprice in the same key. Guhr does not state that Paganini used his particular manner of tuning when playing his caprices and gives a few short examples of other caprices in the original key. It is probable that he simply did not feel it necessary to repeat the fact that Paganini raised the pitch of the strings when playing his caprices; this, however, cannot be stated with certainty.

Harmonics

Paganini's ingenious and extensive use of single and double harmonics helped to extend the range of the violin and added a beautiful new tonal quality to the instrument. The double harmonics are Paganini's most difficult innovation in that they demand perfect intonation from the performer and a perfectly tuned instrument, as well as complete mastery of the bow.

There are basically two distinct intervals used for the production of artificial harmonics: intervals of perfect fourths and intervals of perfect fifths.

Ex.12 Perfect Fourth Perfect Fifth



Besides these basic intervals, Paganini uses intervals of major thirds, minor thirds, and sixths. The combination of any of these intervals will produce double harmonics. Paganini makes use of double harmonics or single harmonics in almost every piece, except, as stated previously, in his caprices.

The greatest use of double harmonics are found primarily as a piece in itself in the third movement of the E flat major Concerto from measures 95 to 125 inclusive.

Ex.13 Concerto No.1 in E flat major, Op.6
3rd Movement: Rondo (measures 95-98)
Allegro spiritoso

The above example No.13 is widely known and extremely and extremely treacherous to perform. This extensive passage

in double harmonics is the reason for which Paganini's E flat major Concerto is so rarely performed.

Another example of double harmonics, this time in combination with single harmonics, is found in "I Palpiti." This piece is played using Paganini's manner of tuning. The pitch of all four strings is raised a half-step. These harmonics are found in the second variation. In the third measure, the first double harmonic of the second beat is a combination of a fourth and a fifth played on the G and D strings respectively and is extremely difficult to perform because of the awkward stretch imposed on the left hand.

Ex.14 "I Palpiti"
Var.2 (measure 3)
Andantino



An example of an extensive passage in single harmonics which is beautifully melodic is found in the third movement of the E flat major Concerto from measure 270 to 287. Then it is found again from measure 321, where it continues to measure 347. There are two interesting factors found here: first, the raised pitch adds to the brilliance of the

execution; second, the entire passage is performed on the G string from the fourth to the twelfth position.

- Ex.15 Concerto No.1 in E flat major, Op.6
3rd Movement (measures 270-275)
Allegro Spirituoso
(Harmonic notation by present writer)



Another interesting single harmonic passage is found in the first movement of E flat major Concerto from measure 192-193. Then it is found again from measure 360-361. In these passages the harmonics are not written in harmonic notation.

- Ex.16 Concerto No.1 in E flat major, Op.6
1st movement (measures 192-193)
Allegro Maestoso
(Harmonic notation by present writer)



In addition to the previous examples, passages in single and double harmonics are found in the following compositions by Paganini:

- Concerto No.2 in B minor, Op.7
First Movement
Single Harmonics: measures 166 and 297 in broken thirds
Double Harmonics: measures 167-168, 298-299

Concerto No.2 in B minor, Op.7

Second Movement

Double Harmonics: measures 80-83

Third Movement

Single Harmonics: measures 32-35, 142-146, 177-180

Double Harmonics: measures 226-230, 270, 272, 274, 276

"Carnaval de Venise," Op.10

Variation 19

Double Harmonics: measures 8-10, 12-14

Variation 20

Single Harmonics: measures 10 and 14 in broken thirds.

Double Harmonics: measures 1-3, 5-7, 11-12, 15-16

"I Palpiti," Op.13

Variation 2

Intermittent single and double harmonics

"Le Streghe," Op.8

Variation 2

Intermittent single harmonics

Variation 3

Double Harmonics: measures 8-16, 32-39

Finale

Single Harmonics: measures 40-43, 47-51

Paganini's use of single and double harmonics is not unintentional. Throughout the use of this device, he has created a genre which is unique in the musical annals of the violin repertoire. The extensive passage in double harmonics, found in the third movement of the E flat major Concerto from measure 95 to 125 inclusive, provides a striking contrast with the first two sections. The third movement is a Rondo, rather march-like in character. The first section is a bravura passage containing technical

intricacies for both hands. The second section which begins at measure 67 maintains the overall character of the first section, with the addition of combinations of tenths and sixths which intensifies the march-like rhythm and solidifies it. A climax is reached, just prior to the introduction of the double harmonics, and is followed by a lyrical passage which quietly prepares for the harmonics. The double harmonics produce a striking contrast in tonal quality while maintaining the march-like rhythm. The effect is that of two piccolos playing in harmony as is generally heard and expected in a march.

The introduction of the double harmonics are not accidental but intentional; not accidental because they follow the introduced character of the movement; intentional because of the striking effect derived from their use.

In "Carnaval de Venise" the harmonics found in variation nineteen repeat the main theme in variation form. In variation twenty the double harmonics are used to echo the double stops, and the single harmonics in broken thirds echo the conventional broken thirds, providing a continuous tonal contrast throughout the variation. In "I Palpiti" and "Le Streghe" the single and double harmonics are used to create striking effects and tonal contrast. In these pieces the harmonics are used purely to perform a tour de force. The effect on the listener is electrifying.

The technical advantages derived from the use of single and double harmonics are twofold. The range of the violin is extended because the harmonics allow the performer to play in lower positions while sounding two octaves higher. a unique tonal quality is created which duplicates the flute.

Pizzicato

Another interesting device, developed by Paganini to the highest degree of virtuosity, is the pizzicato exclusively for the left hand in combination with the bow. It is curious to note that Paganini never wrote extensive passages in pizzicato for the right hand. Left-hand pizzicato is used intermittently throughout the third movement of the B minor Concerto, and in the duets for solo violin entitled "Nel cor piu non mi sento." He also wrote a small duo for a single violin entitled "Adagio and Allegro molto." These duets are extremely difficult since the left hand must play the melody and, simultaneously, the accompaniment in left-hand pizzicato.

. Left-hand pizzicato is accomplished by depressing the indicated note with one finger of the left hand, while another finger of the same hand plucks the string, thus producing the note, and eliminating the use of the bow. Occasionally the help of the bow is required in order to play the passage without interruption. For example, in order to play the

following passage, it is absolutely necessary, because of the speed, to strike the first note with the bow.

Ex.17 (original illustration by present writer)



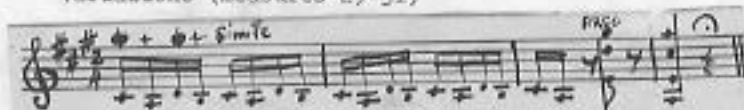
The ninth variation of Caprice XXIV is written entirely for left-hand pizzicato in combination with the bow and is the most frequently performed of all the pieces written which incorporate this device. This variation is extremely brief and contains twelve measures with the first four measures repeated.

Ex.18 Caprice XXIV
Var.9 (measures 1-4)



In another instance we find pizzicato for the left hand in the variazioni of his Sonata No.1, Op.3 for violin and guitar. There are thirty-two measures of pizzicato, with the first eight measures repeated. At the end of this variation, there are two measures in which the bow arm is replaced with right hand pizzicato.

Ex.19 Sonata No.1, Op.3
 Variazioni (measures 29-31)



The above example seems to be the only instance in which the right hand is used and this for only nine notes.

Another extensive left-hand pizzicato passage alternating with bowing is found in the "Nel cor piu non mi sento." This passage consists of twenty measures with the first eight bars repeated.

Ex.20 "Nel cor piu non mi sento"
 Var. 4 (measures 1-2)



The above example is relatively unknown because the piece is seldom performed due to the technical difficulties encountered in the dust.

Among the Sixty Etudes in Variation Form there are two etudes which contain left-hand pizzicato: Etude No.35 and Etude No.44.

The following excerpt from Etude No.44 is a mixture of double-stops and left-hand pizzicato.

Ex.21 Etude No.44, Op.14
 (measures 1-3)



Pizzicato for the left hand is a difficult device for the violinist; this difficulty is doubled when a melody is added which must be played simultaneously. In "Nel cor piu non mi sento," in addition to the example previously given illustrating left-hand pizzicato, there are two duets for a single violin which are a combination of melody and left-hand pizzicato. The melody is played with the left hand and bow, and the accompaniment is achieved with left-hand pizzicato. The following example is the "theme" which is the first duet.

Ex.22 "Nel cor piu non mi sento"
Theme (measures 1-2)

The third variation is the second duet. This variation is extremely interesting in its exemplification of three devices: left-hand pizzicato as the accompaniment; melody in double-stops, answered in echo by double harmonics.

Ex.23 "Nel cor piu non mi sento"
Var.3 (measures 1-2)

The left-hand pizzicato in the second duet is very simple. In the first duet entitled "Theme" the pizzicato is more complicated, and, at measures 7 and 20, there are extended cadences with ornamentations in left-hand pizzicato. In these measures the left-hand pizzicato becomes paramount, and the bow plays the accompaniment on the open string D. On the fourth beat of these two measures, there are left-hand trills in pizzicato.

Ex. 2^b "Nel cor piu non mi sento"
Theme (measures 7-8)

"Duo de Paganini" is another duet for a single violin.

It is the most difficult of all the duets. It is in two sections; the first section is an adagio; the second is an allegro molto in the form of a march. The first section is very difficult, because, while the melody is being played on the A and E strings, the accompaniment in left-hand pizzicato is played on the G and D strings which places the hand in an awkward position. This type of piece requires complete independence of the fingers and precise coordination between the right and left hands. The performer must

coordinate three separate actions simultaneously. The bow must produce the melody played by the left hand and not be influenced by the simultaneous left-hand pizzicato accompaniment. As there are very few pieces written as duets for single violin, even accomplished violinists find this coordination extremely difficult to achieve.

Ex.25 "Duo de Paganini"
Adagio (measures 1-3)

The second section of "Duo de Paganini" is comparatively easy.

Ex.26 "Duo de Paganini"
Allegro molto (measures 17-20)

In the preceding example which is typical of the entire second section, there is almost no simultaneous reproduction of the melody with the accompaniment. While one part is active, the other is passive.

Left-hand pizzicato was often used in the old Italian school of Mestrino's time: the latter half of the eighteenth century. The French and German schools had disregarded it, but Paganini used this device to great advantage and obtained astounding effects in his compositions. This device is used as a tonal effect imitating the guitar and for technical display. It is considered a painstaking task to study and play left-hand pizzicato, but according to Guhr, Paganini achieved this device with the greatest ease, clarity and speed.

Passages to be played on a single string

In most of Paganini's music, passages to be played on one string are quite common. These passages range from one-fourth measure in chromatic (ascending or descending) 32nd notes found in "Nel cor piu non mi sento" to an entire variation as found in "Carnaval de Venise" (Var. 14), and ultimately, to an entire piece written for one string Variations on the G string based on Rossini's "Moses."

Technically, the reproduction of an entire passage on one string is a tremendous challenge to the performer. Should

the passage cover the range of two octaves at a fairly fast tempo, as is commonly found in Paganini's music, many serious technical difficulties arise. The most challenging difficulty is the skip shifting, found, for example, in variation fourteen of "Carnaval de Venise" at measure 10,

Ex. 27 "Carnaval de Venise"
Var. 14 (measure 10)



and in Caprice XIX, the second section of which, is to be played entirely on the G string. In addition to the skip shifting there is the strict fast tempo to be maintained, and a two-octave ascending scale to climb, in G major and B flat major. The illustration of this passage is found in example 11b, page 41. The difficulty here is to achieve smooth shifting to higher positions. This is a problem because the higher one climbs the closer the fingers get to one another, and in the highest positions the fingers must overlap.

In the "Moses Fantasy" all of the difficulties mentioned above are present and in addition he uses single harmonics for three reasons: first, for the tonal effect and to create a sensation; second, to extend the range of the instrument above and beyond the normal range of the string,

and, third, to avoid playing in the highest almost unplayable positions.

The natural range of a violin string is two and one-half octaves. In the following passage from the "Moses Fantasy," the arpeggios reach the normal limits of the string at the asterisk. Paganini extends the range of the string to three octaves by playing a natural harmonic G four ledger lines above the staff. (Since the G string is tuned to B flat, the entire Fantasy sounds a minor third higher as has been mentioned in the section on Scordatura, page 39).

Ex.28 "Moses Fantasy"
Var. 2 (measure 25)
Scherzoso.



In the above example, after the fermata, Paganini uses the artificial harmonics to produce the higher notes in a more playable position.

In the E flat major Concerto there are passages to be played on one string which appear to have been written solely for tone color. These passages produce a rounder sound for, even though there is no change in the interval, a passage played on the G string sounds richer than the identical

passage played on the D string.

Up to this point, the difficulties of playing a passage on one string have been stressed. However, a chromatic scale in glissando, ascending or descending, using one finger, which is usually played on one string, range permitting, is comparatively simple to achieve. The following example, from the E flat major Concerto, at measure 254 is an excellent illustration of a chromatic glissando.

Ex.29 Concerto No.1 in E flat major, Op.6
1st Movement (measures 254-256)
Allegro Maestoso



Ex.30 Ibid. (measure 259)



The above example is a chromatic ascending scale.

A great deal has been written about Paganini playing on one string merely to astound the audience. He was labeled a charlatan and cheap trickster. However, his compositions are magnificent illustrations of his mastery of the violin. His knowledge of the instrument, his virtuosity, and his ingenuity enabled him to write and play these varied and interesting passages and pieces on one string.

Double and Triple-Stops

Paganini's works abound with double-stops of various intervals. He uses these intervals in many ways: in some instances to produce brilliant effects; at times as ornamentations, for harmonic coloring, descriptive moods, and often as a technical display. This is done always with good taste, ingenuity, and musicality.

For example, there are two Caprices, XIII and XXI, in which the double-stops are used to describe a mood. In Caprice XIII a human laugh is imitated.

Ex.31. Caprice XIII, Op.1
(measures 1-3)



Here intervals of thirds are used to produce this effect. Then the same effect is produced in octaves.

Ex.32 Ibid. (measures 18-20)



Usually the performer interprets this caprice as a virtuosic piece in which to display his technique, but, although it

is well-played and a tour de force accomplished, the intended light, gay, and humorous mood is neglected and not understood.

In Caprice XXI entitled "Amoroso" sixths are used to create a romantic mood. The caprice is written in two parts; the first is a slow amoroso singing piece, the second is a presto. The entire first part is in sixths, played first on the G and D strings and then repeated on the A and E strings an octave higher. Although intervals of sixths are technically difficult, in this case the emphasis is on the singing quality of the passages.

Ex.33 Caprice XXI, Op.1
(measures 2-5)

In Caprice XXIV in variation No.3, octaves are used, again not as a technical display but to create a sombre mood. It is a touching and melodic passage.

Ex.34 Caprice XXIV, Op.1
Var.4 (measures 1-4)

In the third movement of the E flat major Concerto, there are eight measures of broken octaves before the entrance of the double harmonics. This creates a light and frivolous contrast between the preceding thunderous climax and the ensuing harmonics.

Ex.35 Concerto No.1 in E flat major, Op.6
3rd Movement (measures 87-90)
Rondo: Allegro spiritoso



Caprice IX imitates the hunting call produced by two horns. This caprice is a combination of thirds, fifths, and sixths. The imitative section of the "Chasse" is written to be played on the A and E strings and the answer of the hunting melody on the G and D strings. The speed is allegro and the caprice is quite easy to play, comparatively speaking.

Ex.36 Caprice IX, Op.1
(measures 1-2)
Imitating the flute

Ibid.
(measures 8-10)
Imitating the horn



There are numerous examples of technically difficult thirds, for example, in the E flat major Concerto. The following few measures are very difficult especially when

played at a fast tempo.

- Ex.37 Concerto No.1 in E flat Major, Op.6
1st Movement (measures 112 and 179)
Allegro Maestoso



Caprice XVIII is written entirely in intervals of thirds. It is not very difficult as the speed is Allegro, but it is usually played quite fast, which makes it difficult.

- Ex.38 Caprice XVIII, Op.1
Allegro (measures 1-2)



Caprice VIII contains a mixture of different intervals, octaves, sevenths, sixths, diminished fifths, thirds, seconds, unisons, tenths, elevenths, and twelfths. These devices start from measure eight. At measure 17, consecutive sixths, at measure 19, consecutive thirds, and at measure 21, thirds are played on the G and D strings.

- Ex.39 Caprice VIII, Op.1
Maestoso (Measures 7-9)



Ex.40 Caprice VIII, Op.1
Maestoso (measure 17)
Consecutive Sixths



Ex.41 *Ibid.*, (measure 19)
Consecutive Thirds



Ex.42 *Ibid.*, (measures 21-22)
Consecutive Thirds on the G and D strings



Except for seven measures of ascending scales in different keys, the caprice is a conglomeration of many varied intervals in double-stops.

Caprice XIV is an example of a work written entirely in double and triple-stops producing a march-like mood.

Ex.43 Caprice XIV, Op.1
Moderato (measures 1-4)



Although the music looks extremely complicated, it is the easiest of the caprices and the shortest.

Caprice IV contains many difficult and complicated devices. The introduction, marked maestoso, is a singing piece making use of double and triple-stops, in two distinct rhythmic patterns. The rhythmic pattern of the first example is one-quarter note tied to four-sixteenth notes.

Ex.44 Caprice IV, Op.1
Maestoso (measures 1-4)



The rhythmic pattern in the following example, No.45, is in triplets.

Ex.45 Ibid., (measures 17-18)



The caprice is composed entirely of double-stops, octaves, tenths, and passages played on three strings simultaneously. These passages are found from measure 49 to 69, and again from measure 84 to 96.

Ex.46 Ibid. (measures 51-52)



The following passage in octaves which leads into a passage of three strings played simultaneously is found in Caprice IV from measure 70 to 72.

Ex.47 Caprice IV, Op.1
Maestoso (measures 70-72)



A passage played simultaneously on three strings in B major is found from measure 84 to 87.

Ex.48 Ibid., (measures 84-87)



Paganini used the device of playing simultaneously on three strings to create an organ-like effect and to imitate the sound of the bagpipe. Paganini used a flatter bridge which greatly facilitated the instantaneous grip of the bow on all three strings, and thereby eliminated much of the difficulty involved in producing sustained sound on three or four strings. While the present-day bridge allows chords to be played independently (up and down strokes), in most of the cases, it is impossible to play them in true legato.

Caprice IV contains another passage in tenths to be played on the G and D strings in ascending and descending C major

scale. This is significant because the previous measure climbs to higher positions on the A and E strings, and then there is this sudden skip to the G and D strings. The sudden skip occurs from measure 105 to measure 106.

Ex.49 Caprice IV, Op.1
Maestoso (measures 105-106)



At measure 114, there are the following double trills.

Ex.50 *Ibid.*, (measure 114)



Double trills require excellent coordination as well as complete independent action of the left-hand fingers. In addition, the second beat of measure 114 is extremely awkward for the fingers because the notes of the trill are E flat and C, to be played with the second and fourth fingers. Usually a fifth is played with the same finger placed on two strings. In this case the fifth has to be played with two fingers, the second finger for the E flat, and the third finger for the B flat.

Another very effective example of three-string simultaneous playing is found in Caprice XX, which device creates

a bagpipe effect. This caprice is more playable than Caprice IV because of the use of the open string D, except for the last four measures of the introduction, where the open string falls between the intervals of sixths which are played on the G and A strings. Since the D string is proportionately higher than the G and A strings, more pressure is required of the bow to bring it down to the level of the other strings, thus creating a technically abnormal and difficult situation.

Ex.51 Caprice XX, Op.1
Allegretto (measures 21-24)



In the following example, found from measure 17 to 20, the D string does not create any difficulty as the double-stops in major and minor sixths are played on the A and E strings.

Ex.52 Ibid., (measures 17-20)



Other passages of simultaneous three-string playing, among others, are found in Caprice VII, from measure 31 to 45. They are followed by passages combining fast staccato and simultaneous chords in legato. Caprice XI opens with

an introduction composed of simultaneous three string playing in combinations of G D A, D A E, or G D A E. This device is not found in Paganini's concertis.

It has been said that Paganini was a master at playing octaves. His "Moto Perpetuo" which contains more than three thousand sixteenth notes to be played without interruption or change in rhythm, was supposedly played by Paganini in fingered octaves. He was reported to have also played them in harmonics. Probably, it was because of his great facility in playing octaves that we find so many extensive passages in octaves in most of his compositions.

The introduction of Caprice III is composed entirely of octaves, numbering twenty-four measures. These octaves are written to be played on the G and D strings, and the A and E strings. In addition to the difficulty of playing these octaves in very high positions, ascending or descending, the introduction contains double trills played on octaves.

Ex.53 Caprice III, Op.1
Sostenuto (measures 1-2,4)

Ex.54 *Ibid.*, (measure 17)

Ex.55 Caprice III, Op.1
Sostenuto (measures 20-25)
Double Trills on Octaves



Caprice VII also opens with an introduction of sixteen measures in octaves; this passage, however, is melodious rather than difficult. Another romantic, melodious, and graceful passage in octaves is found in the introduction of Caprice XV. This section produces a strong contrast with the ensuing technically difficult balance of the caprice.

Ex.56 Caprice XV, Op.1
Fosato (measures 1-2)



Caprice XVII contains an entire section in octaves which can be considered the most difficult passage or section written in octaves among the caprices. The first two measures are written to be played on the G and D, D and A, and A and E strings.

Ex.57 Caprice XVII, Op.1
Andante (measures 23-24)



Then from measure 25 to 26 there is a difficult crossing of the strings from A and E to D and A.

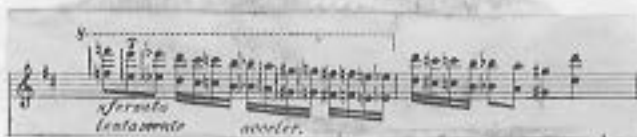
Ex.58 Caprice XVII, Op.1
Andante (measures 25-26)



As the A flat and D are not perfect fifths, these notes cannot be played with the same finger; hence, the difficulty arises of squeezing the fingers above the A flat. The same problem exists in the fourth measure between F and B natural. The caprice is marked Andante as there are so many notes to be played in the first section, but the second section in which the octaves are found requires a faster tempo, which makes it doubly difficult.

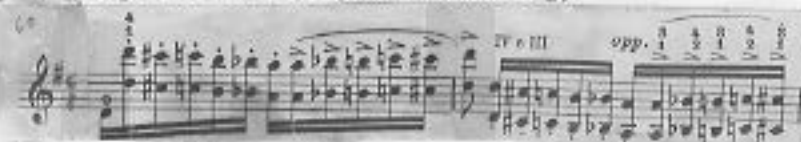
In the first movement of the B minor Concerto, there is an interesting passage in octaves in chromatic succession. This passage is comparatively easy, because it is played on the A and E strings and no crossing of the strings is required; even more important because it is a chromatic scale.

Ex.59 Concerto No.2 in B minor, Op.7
First Movement: Allegro Maestoso (measures 162-163)



The "Caspanella" of this concerto contains another excellent example of a passage in octaves in chromatic succession, ascending and descending. The octaves are played first on the A and E strings, and then repeated, an octave lower, on the G and D strings.

Ex.60 Concerto No.2 in B minor, Op.7
Third Movement: "La Caspanella"
Allegretto moderato (measures 242-243)



The entire third movement is a play on different rhythmic patterns, and the octaves are also written in three different rhythmic patterns.

Ex.61 Ibid., (measure 245)



Variation thirteen of "Carnaval de Venise" is entirely in octaves written in four rhythmic patterns. This is a complicated variation involving four types of bowing. The beauty of this variation lies in the rhythmic patterns and the interesting bowing.

Ex.62 "Carnaval de Venise"
 Var.17 (measures 1-3)
 Rhythmic Patterns 1 and 2



Ex.63 *Ibid.*, (measure 10)
 Rhythmic Pattern 3



Ex.64 *Ibid.*, (measure 11)
 Rhythmic Pattern 4



Other passages in octaves can be found in Caprice XXIII and Caprice VIII and as previously mentioned, in almost all of his compositions to a greater or lesser degree.

Faganini's works are filled with tenths, but their use is limited to singing passages at a relatively slow pace, in contrast to other double-stops. The reason for the limitation in playing tenths is physiological in nature, intervals of tenths require extremely wide extensions and therefore can only be played with the first and fourth fingers,

necessitating shifting the hand for each interval of a tenth. In higher positions it is possible to play fingered tenths but to date this type of passage has not been written.

The passages Paganini has written in tenths are quite short, ranging from one to eight measures in length and are frequently found in combination with other intervals, usually following thirds or preceding sixths. Paganini uses them as harmonic coloring.

The best-known passage in tenths is found in variation six of Caprice XXIV, from measure 5 to 10, following a descending A minor scale in thirds.

Ex.65 Caprice XXIV, Op.1
Var.6 (measures 3-6)



In the first movement of the E flat major Concerto, at measure 268, there are combinations of thirds and tenths continuing for four measures.

Ex.66 Concerto No.1 in E flat major, Op.6
1st Movement (measure 268)
Allegro Maestoso



At measure 272 there are combinations of tenths and sixths continuing to measure 275.

Ex.67 Concerto No.1 in E.flat major, Op.6
1st Movement (measure 273)
Allegro Maestoso



In the third movement of this concerto, from measure 67 to 69, there are two measures of tenths followed by sixths.

Ex.68 Ibid.
3rd Movement: Rondo (measures 67-69)
Allegro spiritoso



At measures 135, 137, 139, 141, and 142, there are successions of broken tenths.

Ex.69 Ibid., (measure 135)



In the recapitulation at measures 409, 411, 413, 415, and 416, there are broken tenths in D major.

Variation nineteen of "Carnaval de Venise" contains tenths in two different rhythmic patterns, eighth and sixteenth notes. The sixteenth notes are repeated twice. This passage continues for eight measures. A similar rhythmic pattern of repeated sixteenth notes, in chromatic ascending and descending scales is found in the first movement of the B minor Concerto.

Chords

Paganini's compositions contain innumerable passages of chords composed of either three or four notes to be played either up or down-bow. Our conventional bridge will usually permit the sounding of three note chords in unbroken form but as a result of the convexity of this bridge chords of four notes must be broken. The difference between the simultaneous playing on three or four strings and chords is one of bowing, and the tonal quality which is produced. Simultaneous playing on three strings requires a sustained and continuous grip of the bow on all strings at a slow pace in legato. Chords of three or four notes are played separately (up-bow or down-bow) and produce a staccato effect in chordal succession. It is curious to note that, although Paganini used a flatter bridge, his music does not contain any chords composed of four notes to be played in legato.

In variation one of "Nel cor piu non mi sento," there are chords of three and four notes to be played independently at a fast, but audible tempo.

Ex.70 "Nel cor piu non mi sento"
Var.1 (measures 7 and 12)



The chords in this variation are used to connect passages containing various technical devices.

In variation five of the same piece, the chords are of primary importance.

Ex.71 Ibid., Var.5 (measures 1-2)



Fast descending ricochet and ascending arpeggio passages connect the extensive passages in chords.

In Caprice IX the second section contains chords which serve to emphasize the melody on the first and second beats of each measure.

Ex.72 Caprice IX, Op.1
Allegretto (measures 17-18)



In the cadenza type development section of the first movement of the E flat major Concerto, there are double-steps which are in reality broken chords. These occur at various measures throughout the section; in one instance at measure 292.

Ex.73 Concerto No.1 in E flat major, Op.6
1st Movement (measure 292)
Allegro maestoso



The fingerings prove these double-steps to be chords; the bowing and the rhythm, however, produces the effect of double-steps.

In the same movement the chords are used to establish tonality; in measures 231 and 233, and again in measures 243 and 245.

Ex. 74 Concerto No. 1 in E flat major, Op. 6
 1st Movement (measures 243 and 245)
 Allegro Maestoso



In the third movement at measures 160 and 161, the V-I chords are used to modulate to and establish a new key, and in measures 164 to 168 the chords are employed as a transitional passage.

The foregoing examples serve to illustrate the purposes for which Paganini wrote chords:

- As a variation;
- As a connecting passage;
- As a display of technical virtuosity,
- And to establish tonality.

Difficult extensions and crossing of the strings

In most of the preceding technical devices, although the bow was indispensable, the examples were chosen to illustrate the technical requirements for the left hand. Of even greater importance in Paganini's music are the various bowing techniques which he developed so extensively and his bowing innovations, some of which are seldom performed in their original form.

Caprice II presents two distinct difficulties: awkward and daring extensions in single notes and double-stops for the left hand of various intervals from a minor second to a seventeenth as illustrated, in part, in the following example;

Ex.75 Caprice II, Op.1
Moderato (measures 29-30)



and crossing of the strings while skipping strings in legato bowing. This caprice has a distinct bowing pattern which is predominant throughout.

Ex. 76 Ibid., (measures 5-6)



The caprice is in $\frac{6}{8}$, and as seen in the above example there are twelve sixteenth notes in each measure. The pattern of the bowing is as follows: the first note is separate; the second, third, and fourth notes are slurred; and the remaining eight notes of the measure are played separately, whenever the pattern is followed.

In the passage illustrated in example No.75, the bow also plays an important role and a very difficult one in the

continuous skipping from the G to the E string to produce the difficult left-hand extensions.

Another very difficult example of skipping of the strings occurs in Caprice XVI in measures 5 and 7 and at various intervals throughout the piece.

Ex.77 Caprice XVI, Op.1
Presto (measures 6-7)



The difficulty here lies in the tempo which is marked presto.

In Caprice I at measure 22 there is an extremely awkward extension. The stretch is between the third line B and the fourth ledger line G, and is doubly difficult because the B is in first position and the G is played in sixth position on the E string.

Ex.78 Caprice I, Op.1
Andante (measures 22-23)



In measures 12 and 13 the second beats are extremely awkward for the left hand.

Ex.79 Caprice I, Op.1
Andante (measure 12)



The awkwardness arises from the necessity of placing the fingers practically on top of one another to play the notes and is interesting as an illustration of a technical difficulty opposite to the extensions.

A spring-bow or ricochet is used for the arpeggios, and it is this bowing which is the main technical device found in the caprice.

Ex.80 Ibid., (measure 1)



The continuity of the arpeggios are occasionally broken by guitar-like broken chords which make use of a staccato bowing and thirds in triplets.

Another extensive piece in arpeggio form, employing the ricochet bowing and containing uncomfortable extensions and

contractions for the fingers of the left hand, is the seventh variation of "Nel cor piu non mi sento." This particular ricochet bowing is the easiest to perform because the crossing of the four strings automatically sets the bow into a bouncing motion.

A very important and effective type of bowing found in Caprice XII is the undulated bowing, which is performed by playing alternately on two strings.

Ex.81 Caprice XII, Op.1
Allegro (measures 9-10)



In addition to the technical difficulty of the undulated bowing which is used throughout, this caprice contains the most awkward extensions to be found in Paganini's works.

The undulated bow is one of the most difficult to perfect. It requires precision, coordination, balance, and the proper division of the bow in crossing the strings. The strings must be set into vibration without exerting any pressure, in order to produce the required wave-like effect. Paganini does not use this device extensively. The only other piece in which this bowing is found is Caprice XXIV in variations two, five, and possibly eight.

In variation two the undulated bowing is kept to a minimum and is found only on the first beat of each measure which

consists of four-sixteenth notes.

Ex.82 Caprice XXIV, Op.1
Var.2 (measures 1-2)



The undulation is a play on a half-step interval throughout the variation.

In variation five the intervals used are octaves.

Ex.83 Ibid., (measures 1-2)



The octaves are separated by a half-step, except in the twelfth measure where the intervals between the octaves are a minor third.

Variation eight is usually played using separate bow strokes, as the original bowing poses too great a difficulty in simultaneous three string playing.

Ex.84 Ibid., Var.8 (measures 1-4)
Original bowing indicated by present writer.



An examination of the music with the original bowings presents the possibility that Paganini may have used undulating bowing in producing these chords, for special effects.

Saltato bowing

The most difficult bowing innovation, unique to Paganini is the saltato bowing found in Caprice V.

Ex.85 Caprice V, Op.1
Agitato Saltato (measure 1)



The term saltato is the Italian equivalent of the French sautille. The combined markings of saltato above the music and the staccato markings indicated below the notes require the smallest form of ricochet bowing to be used in the Caprice. This spring-type bowing or ricochet is considered quite easy to perform on four strings, but in this case it must be performed on two strings, and this is what produces the tremendous difficulty.

Each measure of the caprice is composed of sixteen sixteenth notes. The bowing for the first two groups of four notes, as illustrated in the above example, is ricochet for the first three notes and spiccato for the fourth

note. The following two groups of four notes are each played independently in saltato-staccato or ricochet. The swift crossing of the strings interrupts the automatic bouncing of the bow making it almost impossible to perform the caprice with the original bowing. It is the speed which poses the difficulty, but to play it at a slower tempo would completely change the character of the caprice. This bowing is not found in any of Paganini's other known compositions nor has any other composer written a piece using this type of sustained saltato bowing.

Legato bowing

Legato bowing is common to Paganini as it is to all composers of string music, and is found in one or another section or parts of all of his works. Legato bowing is the fundamental or basic bowing used in violin. As its ultimate expression, a violin was intended to imitate the human voice, and it is the legato bowing which for the most part achieves this end in singing passages. Paganini's use of this bowing differed from that of his contemporaries in that he used it not only for singing passages but for remarkable technical and acrobatic displays.

Paganini has written two striking and extensive compositions based exclusively on legato bowing: they are Caprice III and Caprice VI.

Ex.86 Caprice III, Op.1
Presto (measures 46-50)



In the above example twenty-four notes are played in the same bow. The piece requires rapid technique and perfect intonation for the left hand as well as complete mastery of the bow.

Caprice VI presents another difficulty which involves the simultaneous playing on two strings in legato,

Ex.87 Caprice VI, Op.1
Adagio (measure 1)

(Adagio)

and in addition the caprice contains double-stops and awkward extensions. Each measure is divided in two parts, and each half contains thirty-six notes to be played in one bow.

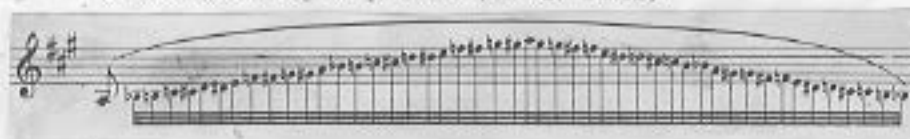
In other instances the legato bowing is used to play arpeggios as in the prelude of Caprice V. In this example there are ascending arpeggios in combination with descending scales, found in the first measure of the prelude.

Ex. 88 Caprice V, Op. 1
From the Prelude (no bar lines)



At the end of the prelude of Caprice V, there is a chromatic ascending and descending scale of forty-eight notes to be played in one bow in legato.

Ex. 89 *Ibid.*,
Chromatic ending of prelude (no bar lines)



Technically difficult rapid chromatic passages are found in the second section of Caprice XVII. These passages range from thirteen notes up to thirty-seven notes to be played in one bow. Caprice XXI has scales of from three to four octaves in legato.

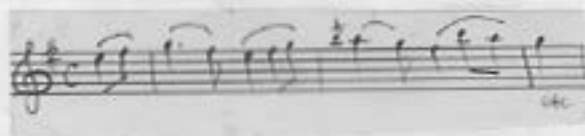
Curiously enough Caprice XXIV which contains almost all of Paganini's technical devices for the left hand, uses legato bowing only, in most of the variations.

- The theme is in legato.
- Var. 2 uses a combination of legato and undulated bowing.
- Var. 3 is strictly in legato.
- Var. 4 is in chromatic legato.
- Var. 5 is strictly in legato.
- Var. 6 contains thirds and tenths in legato.

Var. 7 contains triplets in legato.
 Var. 8 contains chords in legato.
 Var.10 is a melodic variation using single notes in
 legato
 Var.11 contains chords and arpeggios in legato.

Paganini's Six Sonatas for violin and guitar, Op.2, are filled with legato bowing wherein a great many notes are played in one bow. Each of the Six Sonatas for violin and guitar, Op.3 contains an introduction in legato, and other long legato passages are found in various sections of the sonatas. Sonata No.6, Op.3 is the most melodious of these short sonatas. The entire first movement is in slow singing legato, played on a haunting melody.

Ex.90 Sonata No.6 in E minor, Op.3
 1st movement (measures 1-2)
 Andante innocente



The third movement contains fast passages in legato, and the fourth movement is in left-hand pizzicato ending in fast runs in legato.

"Carnaval de Venise" contains one variation, number five, which is strictly in legato. Variation eight is in four note legato which forms a pattern except at the cadences where the legato passage contains sixteen notes. Variations fourteen and sixteen are in legato and staccato.

In "I Palpiti" the larghetto contains long stretches of legato. The theme is strictly in legato. Variation one again contains long passages in legato. Variation two contains broken thirds in harmonics and arpeggios in legato. Variation three contains a few measures of arpeggios in legato, combined with double-stops.

The Concerto No.1 in E flat major, Op.6 contains arpeggios and double-stops using legato bowing, in the first movement. The entire second movement is strictly in legato, incorporating long, fast, coloratura type runs. A typical example of this type of passage is found at measure 17.

Ex. 91 Concerto No.1 in E flat major, Op.6
 2nd Movement (measure 17)
 Adagio espressivo



The third movement contains arpeggio runs in legato and a singing passage in legato is found from measure 270 to 347.

The first movement of Paganini's Second Concerto in B minor contains many legato passages. The second movement again is strictly in legato. The third movement contains interesting patterns played in legato.

Ex.92 Concerto No.2 in B minor, Op.7
3rd Movement (measure 104)
Allegretto moderato

This pattern



in double-stops,

Ex.93 Ibid., (measure 239)

or this pattern



in octaves.

Ex.94 Ibid., (measure 240)

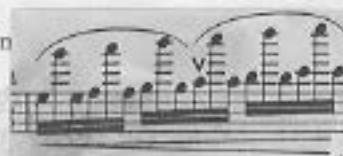
A third pattern



in tenths, two notes to a bow.

Ex.95 Ibid., (measure 258)

a fourth pattern in



in tenths in triplets.

movement of his E flat major Concerto from measure 260 to 261.

Ex.97 Concerto No.1 in E flat major, Op.6
1st Movement (measures 260-261)
Allegro Maestoso



The tempo is moderate and as the music indicates the spiccato bowing is controlled by the forearm.

Another interesting example of spiccato is found in the first variation of "I Palpiti," at measure one. As in the above example, it is also in double-stops.

Ex.98 "I Palpiti"
Var.1 (measure 1)



In the same piece, in the first variation at measures nine and thirteen, there is an example of simultaneous playing on three strings in spiccato.

Ex.99 *Ibid.*, (measures 9 and 13)



At measures 11 and 13 there are artificial single harmonics to be played in sautille. The tempo of the following example is approximately twice as fast as that of example No. 99.

Ex.100 "I Palpiti"
Var.1 (measure 11)



Another example of spiccato combined with staccato is found in the first variation of Caprice XXIV, from measure 1.

Ex.101 Caprice XXIV, Op.1
Var.1 (measures 1-4)



As the illustrations show, whether a passage is to be played in spiccato or sautille is determined by the speed, by the crossing of the strings, and the shifting. In the spiccato the speed is moderate, there is skipping of the strings, and difficult double stops. In the sautille, these conditions are reversed.

In the sautille various complicated double and triple-stops can be played provided that the notes are close to-

gether and in succession. Caprice XVIII is written completely in double-stops using sautille bowing. In sautille as the tempo increases the pressure of the bow decreases.

Ex.102 Caprice XVIII, Op.1
Allegro (measures 17-18)



Paganini's Concerto in E flat major contains difficult double-stops and single note passages in sautille, in the first and third movements. In the first movement, measures 111 and 112 are double-stops in sautille.

Ex.103 Concerto No.1 in E flat major, Op.6
1st Movement (measures 111-112)
Allegro Maestoso



The first measure of the above illustration is comparatively easy to play, but in the second measure there is a crossing from the E string to the G string without a break.

The most difficult and awkward passage in double-stops in sautille occurs in the first movement of the concerto at measure 179.

Ex.104 Concerto No.1 in E flat major, Op.6
1st Movement (measure 179)
Allegro maestoso



It occurs again in the recapitulation at measure 347.

The most outstanding example of single-note sautille is Paganini's "Moto Perpetuo" in its entirety. It is composed of more than three thousand sixteenth notes played as its name indicates without any interruption.

Ex.105 "Moto Perpetuo"
Moderato (measures 1-2)



The speed is allegro and at times allegro vivace. The bowing indicated at the beginning of the work in many editions is staccato. This is a gross error, since in violin playing staccato means to play two or more notes in one bow with stops between the notes. The indication should be sautille. The error may arise from the fact that in piano staccato is simply the opposite of legato. However in violin the equivalent of the piano staccato is spiccato or sautille. The spiccato accelerated becomes sautille; the sautille

decelerated becomes spiccato.

Staccato, Flying staccato and ricochet

There are two types of staccato used by Paganini determined or differentiated by the tempo. One type is played on the string which he distinctly marked "martellato" and is similar to the staccato found in the "Hera Staccato" of Dinicu, more popularly known with the embellishments and re-arrangement by Heifetz. Wherever the indication is "martellato" a heavy staccato at a vivace tempo is required. This type of passage is usually played up-bow.

Ex.106 Caprice X, Op.1
Vivace (measure 1-2)



This type of staccato is found in Caprices XV and XXII.

The second type of staccato which is a very light and fast staccato, accomplished by throwing the bow on the string and allowing it to travel at will, is found, for example, in Caprice XXI, section two.

Ex.107 Caprice XXI, Op.1
Presto (measure 1-2)



Gahr spoke of this type of staccato and stated that Paganini played passages of this sort at lightening speed. For this type of staccato Paganini marked the tempo "presto" and the dynamics are mezzo forte as no pressure is exercised. The light staccato and flying staccato are essentially the same thing.

Ricochet bowing is in reality a type of staccato which is extremely light and can be played either up or down-bow, but is usually played down-bow. In the ricochet bowing there is the advantage of being able to play a greater number of notes at a truly lightening speed, especially in chromatic passages of single notes or double-stops provided that there is no crossing of the strings. Paganini's music contains ricochet passages of from four notes to any reasonable number. Thirty-second or sixty-fourth notes are almost invariably used.

The third section of Caprice IX consists entirely of short ricochet passages.

Ex.108 Caprice IX, Op.1
Allegretto (measures 92-93)



The repeated pattern of four-note ricochet passages, in a precise tempo, gives this third section of the caprice a studied air. It possesses a pedantic repetition which is excellent for the study of this bowing.

Similar four-note ricochet passages are found in the first movement of the E flat major Concerto. However, their use and the effect produced is completely different, from that of the previous example. These passages in the first movement of the concerto are used as passing tones, embellishments, and passing tones in sequence leading to the resolution of the key; in this case from the dominant, F sharp major to B minor. (As Paganini raised the pitch of his strings one-half step, this should actually read from G major to C minor).

Ex. 109 Concerto No.1 in E flat major, Op.6
1st Movement (measures 266-267)
Allegro Maestoso



At measure 268, a ten-note descending scale in ricochet is used to modulate to another key.

Ex.110 Concerto No.1 in E flat major, Op.6
1st Movement (measures 268-269)
Allegro Maestoso



The mood of this cadenza-type section of the first movement at measure 260 is pesante (weighty) in a strict tempo. The ricochet passages produce a sudden electrifying effect. Paganini's genius in composition is clearly evident here. Without the ricochet passages to interrupt the set rhythmic pattern in thirds, tenths, and trills, this section would shortly become extremely monotonous.

The third movement of the E flat major Concerto is based on four-note descending passing-tone ricochet passages. Invariably all of these runs are descending and always resolved.

Ex.111 Concerto No.1 in E flat major, Op.6
3rd movement (measure 1-3)
Rondo Allegro spirituoso



The third movement is a Rondo in $\frac{2}{4}$ time and the note value in the ricochet passages is a thirty-second. These four notes in ricochet determine the brilliant, lively, bravours character of the entire third movement.

The first movement of the B minor Concerto contains passages of three, four, six, fourteen, and sixteen notes in ricochet bowing. Here, the longer ricochet passages are used for technical display.

The third movement which is a Rondo has two main themes, A and B. The theme B is based on the following pattern which consists of four-note ricochet passages.

Ex.112 Concerto No.2 in B minor
3rd Movement "La Campanella" (measures 17-18)
Allegretto Moderato



In "Nel cor piu non mi sento," the third and fourth measures of the Capriccio are composed of twelve-note chromatic ascending or descending ricochet passages.

Ex.113 "Nel cor piu non mi sento"
Capriccio (measure 3, long measures ad libitum)

Variation one of the same piece contains many long ricochet passages varying from fourteen to twenty-four notes.

Ex. 11^{1/2} "Nel cor piu non mi sento"
Var.1 (measure 10)



In the above example, the note value is a 128th, and the passage has a range of three octaves plus two notes, played on four strings. This variation is in 6/8 time, and this passage must be played in one beat, making it extremely difficult to execute. There are two difficulties involved: the crossing of the strings which could interrupt the automatic bouncing of the bow; the fingers of the left hand must be synchronized with the incredibly fast speed of the bow.

Fortunately, since this piece is for violin solo, a certain freedom can be taken with the tempo, such as stretching the third beat, making its execution possible. Ricochet passages are also found in variations three, five, and six of this piece. Variation seven is composed entirely of spring-bow four-string arpeggios.

Ricochet bowing is considered to be Paganini's ingenious invention, and it is certainly one of the more predominant

bowings found throughout his works. It can be said that at least ninety percent of his compositions contain ricochet passages to a greater or lesser degree, as well as passages in staccato of one type or another.

Paganini's bowing

There is one type of bowing, invented by Paganini, which bears his name.

Ex. 115 Caprice XVI, Op. 1
(measure 39-40)



As the above example illustrates there are twelve-sixteenth notes to a measure. The bowing is marked as follows: one separate spiccato note, followed by two slurred notes, ainsi de suite. In the first group of four notes the slur is placed on the second and third notes; in the second group the slur is placed on the first two notes, and the fourth note of this second group is tied to the first note of the third group of four notes. The third and fourth notes of the third group are tied together.

This is an ingenious type of bowing which must be carefully studied, for it can be confusing; however, once mastered, the effect of the irregularly placed slurs is striking and pleasant.

CHAPTER IV

PAGANINI'S INFLUENCE

Paganini's genius, the technical devices he developed which expanded the range and scope of the violin, and the originality of his compositions began a trend in virtuosity which has continued to this day. He was the paragon of technique which not only the strings, but the brasses, woodwinds, and piano attempted to emulate.

Although acclaimed by the public and the lesser known instrumentalists, Paganini was most widely admired and accepted during his lifetime, by those musicians and composers who were not primarily violinists. The established Paris school of violin playing represented by Viotti, Kreutzer, Rode, Lafont, Beriot, and Baillot was not suddenly revolutionized by the appearance of Paganini on the scene. Baillot simply saw in Paganini an omen of things to come, but Beriot was to be the founder of the Franco-Belgian school of violin playing. The great German violinist, Ludwig Spohr, disliked both the French and Italian schools of violin playing and considered Paganini's devices an anathema.¹

Paganini had an indirect influence upon the violinists

¹Jeffrey Pulver, Paganini, The Romantic Virtuoso (London: Herbert Joseph Limited, 1936), p.94

of his time and those who came after him rather than direct imitation except perhaps for Ole Bull (1810-1880) and Heinrich Wilhelm Ernst (1814-1865). Pulver² states that:

A school of brilliant technicians came into being—belonging to no particular nation, but having its followers wherever the necessary physical and temperamental conditions showed themselves.

Ole Bull was, like Paganini, a self-taught virtuoso and a great admirer of Paganini's style of playing. He first heard Paganini play in 1831 which was the turning point in Bull's life. He devoted himself to the study of violin technique in order to emulate the older violinist. However, his manner of playing was similar to that of Paganini's only in the use of similar technical devices. His knowledge of harmony and composition was very limited, and this is revealed in his original works.³

Ernst was also a great admirer of Paganini, and his well known Concerto in F sharp minor, Op.23, is a rather weak imitation of Paganini's style of writing.⁴ The only difficult passage in the concerto worthy of Paganini occurs in the first movement in measures 152, 153, 159, and 160.

²pulver, op. cit., p.216

³Franz Farga, Violins and Violinists, trans. Egon Larsen (London: The Camelot Press Ltd., 1955) pp.199-201; and Mortimer Smith, The Life of Ole Bull (New York: Princeton University Press, 1943), p.39.

⁴H.W. Ernst, Konzert fur Violine, ed. Arno Hilf (Leipzig: C.F.Peters).

This passage consists of scales in consecutive thirds, ascending and descending. All of these passages which at first glance seem very difficult are well calculated to avoid any risk in execution. In spite of these considerations, the concerto is very effective, violinistic, and a delight to play. Paul David mentions the fact that Ernst himself was not always successful in overcoming its technical difficulties.⁵ Notwithstanding the foregoing remarks, Ole Bull and Ernst were both fine virtuosos and in so far as was possible carried on Paganini's tradition.

Charles Auguste de Beriot (1802-1870) was the founder of the Franco-Belgian school of violin playing. He was the first violinist of the so-called Paris school to break with many of its traditions and to adopt a variety of brilliant effects in the way of harmonics, arpeggios, pizzicati, etc. He had been the pupil of Viotti and Baillot in Paris.⁶ Henri Vieuxtemps (1820-1881) was de Beriot's most famous pupil. Vieuxtemps, accompanied by Baillot, was in London in 1833 where he played with the Philharmonic.⁷ Here he met with Paganini. Although his compositions display the fiery character of Paganini's works, Vieuxtemp's music is of a more Bohemian character, containing brilliant ascending and

⁵Paul David, "Ernst," Groves Dictionary of Music and Musicians, ed. J.A. Fuller Maitland, I (1911), 789-90.

⁶David, "Beriot," op.cit., p.309.

⁷Farga, op.cit., p.191

descending arpeggios so typical of Gypsy music. His concerti are extremely violinistic and appealing, but they are not difficult.

Until the advent of Leopold Auer, a Hungarian who achieved fame in Russia, the Franco-Belgian school was responsible for producing many of the great violinists of the nineteenth century which included Sauret and Eugene Ysaye. The so-called German school is obsolete today. The two schools which have developed nineteenth and twentieth century artists are the Franco-Belgian and the Hungaro-Russian. Eugene Ysaye's Six Sonatas for Violin Solo, Op. 27, are required playing for the "Concours International Ysaye" for violin and piano which takes place in Brussels.⁸ Oistrakh won the first prize at this competition in 1937. Among the other compositions, he played Ysaye's "Sonata No.3".

In the field of violin composition, Mendelssohn, Brahms, and Wieniawski, among others, have written outstanding concerti and other works, all of which are highly virtuosic and incorporate many of the technical advances in violin technique first developed by Paganini.

Paganini's influence is most strikingly seen in the cadenza of Mendelssohn's Concerto in E minor, Op.64, in which arpeggiato passages in spring bowing are found: passages amazingly similar to those found in Paganini's Caprice I. Passages

⁸Eugene Ysaye, Six Sonates pour violon seul, Op.27 (New York: G. Schirmer, Inc., 1924).

of this type are usually written either in E minor or G major. In the last movement of the Mendelssohn Concerto, flying staccato is used throughout.

Wieniawski's Dix Etude-Caprices, Op.10 are a fantastic work of virtuosity,⁹ and, almost all of Paganini's devices are found here. The ninth etude-caprice is entitled "Les Arpege," variations based on the "Austrian Hymn," reminiscent of Paganini's variations based on "God Save the King." The third variation of "Les Arpeges" contains a duet for violin solo which combines a study of fast arpeggios with a left-hand pizzicato accompaniment. The second variation of the same etude-caprice contains single and double harmonics in arpeggio form. His works require complete virtuosic competence.

Paganini's influence on the pianist-composers of his time was equally as great. Liszt, sometimes called the "Paganini" of the piano, first heard Paganini in Paris in 1831. Liszt was despondent at this time, and the revival of his interest in the piano has been directly attributed to the tremendous impression Paganini had made upon him, a fact mentioned by both Liszt's and Paganini's numerous biographers. Returning to his work at the piano, he began the task of transcribing several of Paganini's caprices for the piano. Lillian Day states that "Liszt in his transcriptions

⁹Henri Wieniawski, Dix Etude-Caprices, Op.10 (New York: International Music Company).

enlarged the technical possibilities of the piano and re-shaped the piano hand."¹⁰ This work entitled Bravour Etudes after Paganini, arranged for the piano etc., was completed in 1838 and was first published in 1839 by Tobias Haslinger in Vienna.¹¹

Schumann was also impressed by Paganini's performance on the violin and, like Liszt, returned to his music. He was particularly aware of the poetic quality of Paganini, and wrote several works for the piano based on Paganini's Caprices. These were his Opus 3, Six Studies after Paganini's Caprices, and his Opus 10, which bears the same title.

Brahms and Chopin have also written works based on Paganini's compositions, but it must not be assumed that Paganini had a direct influence on Chopin.

In the larger field of chamber and orchestral composition, such men as Berlioz, Wagner, Tschaikowski, Rimski-Korsakoff, Ravel, Dukas, and Casella have used the Paganini technique to great advantage.¹²

Paganini did not form a violin school which could be adopted by any violinist, and his promise to write a treatise which would produce virtuosi in a very short period of time

¹⁰Lillian Day, Paganini of Genoa (New York: The Macaulay Co., 1929), p.303

¹¹Paolo Gallico, "Preface," Liszt's Six Grand Etudes (New York: G. Schirmer, Inc., 1906).

¹²Day, op.cit., pp.303-304.

never materialized. His Sixty Studies¹³ cannot be considered a method. However, all of his innovations are present in his compositions, and the entire violinistic world studies and performs these works. The great composers who came after him brought their own genius and style of composition to their works, but it was Paganini's original expansion of violin technique which opened the door to the inexhaustible possibilities in both Romantic and Modern music.

¹³Nicolo Paganini, Sixty Etudes in Variation Form Op.14, ed. Norman Black (New York: Omega Music Edition, 1951)

LECTURE RECITAL

Tonight's lecture is based on the technical devices used by Paganini in his compositions and will attempt to demonstrate the manner in which these devices broadened and extended the range of violin technique, a technique which has had no real violinistic additions since Paganini's time.

The seventeenth century marks the beginning of the period in which the violin was recognized and adopted as a solo instrument. Each ensuing decade, each quarter of a century, each violinist-composer and every Italian city contributed to the development of the violin. It was in Italy that the violin reached its perfect form, and it was in Italy where the famous centers of violin playing were established whose technical and musical advances were spread throughout France, England and Germany by their able pupils. Among those great violinists and teachers were Archangelo Corelli, M. Cazzati, G.B. Vitali, G.B. Viotti, Giuseppe Tartini, and Lorenzo Somis. Germany also developed her violinist-composers at the same time, among them, Strungk, F. Biber, and J.J. Walther. France and, particularly, Paris became the accepted center of violin playing in the middle of the eighteenth century, represented by Viotti who had brought to the Paris school the traditions of the established or classical Italian school.

Violin playing as performed by these masters was characterized by nobility, breadth and beauty of tone, but it was Paganini who added the marvelous skill of technique and the dazzling effects which were to become so much a part of our modern violin school of playing.

Born in Genoa in 1782, he was, for the most part, a self-taught violinist because his innate talent made him too far advanced for the teachers with whom he was sent to study. In 1799, Paganini and his family retired to the suburb of Polcevera, a short distance from Genoa, where he was able to make frequent trips to Di Negro's library. There he was able to study the music of all the masters of the preceding two centuries. During this period of semi-retirement, he devoted himself to the study of music, composition and the violin. He explored the technical possibilities of the violin and developed them to the fullest. The musical style of Paganini's compositions closely followed the Italian bel canto style of singing.

The themes of his compositions are lyrical and melodious. Technically, he imitated and surpassed the prowess of a coloratura soprano, and the greater emphasis for the interpretation of Paganini's music rests in the performer's ability to execute

the intricate technical devices he finds in Paganini's works.

To understand Paganini's manner of playing it is necessary to refer to Charles Guhr who attended many of Paganini's concerts and took careful note of the way in which Paganini performed, his intricate technical feats, and his original compositions.

According to Charles Guhr, Paganini differed from his contemporaries in his stance, the manner in which he held his violin, the position of his arms, the type of bridge he used and his handling of the bow.

He stated that Paganini's attitude was not constricted, although it was less dignified than that of his contemporaries. The center of gravity of his body was thrown to the left, and his left shoulder was brought forward. The upper part of his right arm clung to his side, and only the lower arm and wrist moved freely, except when he played chords which required the use of the lower part of the bow. At such times, the entire arm was raised a little, and, as for the left arm, the elbow was strongly applied to his body while the upper arm was turned outwards. Another interesting observation made by Guhr concerns Paganini's bridge, which was less convex than those used by his contemporaries, and which enabled him to play simultaneously on three strings. Paganini used his bow from the middle to the tip for almost all of his most difficult innovations.

Among Paganini's numerous compositions his most important and elaborate works are his Twenty-four Caprices and his two concerti, Opus 6, No.1 originally in E flat major, which is his most extensive and difficult concerto and his Opus 7, No.2 in B minor, which is best known for its third movement, the famous "La Campanella" or "La Clochette." These works contain all of his basic technical devices, stylistic characteristics, and tonal effects.

Scordatura or manner of tuning

One of the most striking innovations used extensively by Paganini was a form of scordatura. Needless to say, true scordatura or mistuning of the strings was not his invention. It is found in the early compositions for the lute and viol and, later, in the solo sonatas of F. Biber, and J.J. Walther. True scordatura was used to facilitate polyphonic playing and the simultaneous use of open strings. In true scordatura, one or two of the strings are tuned to different intervals. Paganini used a form of tuning which was particular to him, and it can be called his invention. He transformed the violin into a transposing instrument. At times he raised the

pitch of all four strings a half-tone, and, at other times, when playing solely on the G string, he would raise the pitch of this string a minor third. This transposition contributed to the brilliancy of execution, and succeeded in puzzling the musicians in his audience. Ordinarily, the violin is tuned in fifths, and the accordatura of the violin is g d' a' e". When the pitch is raised a half-step the strings sound a flat, e' flat, b' flat, and f" natural. The most extensive work in which this device is found is his Concerto No.1 in E flat major. The violin part is written in D major, and the fingerings used are those of D major. The accompaniment was written in E flat major, and, thus, in order to have both the violin and orchestra sound in E flat major, he raised the pitch of all four strings one-half tone. The increased tension of the strings produced a more brilliant tone and greatly facilitated the production of the double harmonics found in the third movement of this concerto.

In Paganini's Variations on the G string, based on Rossini's "Moses," Paganini raised the pitch of the string a minor third. The violin part was written in C minor and the accompaniment in E flat minor. Because of the raised pitch of the G string, the entire piece will sound in E flat minor and in E flat major, when the piece modulates from minor to major. While playing this work, Paganini moved the G string to the place of the A string which facilitated the execution of the piece, because the left arm did not then have to be turned outward so extremely. There is evidence which would lead us to believe that Paganini also mistuned his strings when playing his caprices.

Passages to be played on a single string

The "Moses Fantasy" is the only available work written by Paganini intended to be played on one string; however, in most of Paganini's compositions, passages to be played on one string are quite common. These passages range from one-fourth of a measure in chromatic ascending or descending thirty-second notes found in "Nel cor piu non mi sento" to an entire variation as found in "Carnaval de Venise," variation fourteen.

Technically, the reproduction of an entire passage on one string is a tremendous challenge to the performer. Should the passage cover the range of two octaves, at a fairly fast tempo, as is commonly found in Paganini's music, many serious technical difficulties arise, the most challenging of which is the skip shifting. There is also the problem of

achieving smooth shifting while climbing into higher positions, where the physical distance between the notes is vastly reduced until the fingers are forced to displace one another in order to play the required note. It becomes extremely difficult to maintain the strict tempo of these passages. In order to further extend the range of the single string, which is normally two and one-half octaves, Paganini used the following device, single harmonics.

Single and double harmonics

Paganini's ingenious and extensive use of single and double harmonics helped to extend the range of the violin and added a beautiful new tonal quality to the instrument. The double harmonics are Paganini's most difficult innovation and demand perfect intonation from the performer, a perfectly tuned instrument, and complete mastery of the bow.

There are basically two distinct intervals used for the production of artificial harmonics: intervals of perfect fourths and perfect fifths. When playing an interval of a fourth, for example a and d', the note produced will be a" sounding two octaves higher. When playing an interval of a fifth, for example, a and e', the note produced will be e", or the e' one octave higher.

In addition to these basic intervals, Paganini used intervals of major and minor thirds, and sixths. Double harmonics are produced by playing two single harmonic notes simultaneously on two strings. Paganini included either single or double harmonics in almost all of his works, except for the Twenty-four Caprices.

The most extensive use of double harmonics are found in the third movement of the Concerto No.1 in E flat major, as almost a piece in itself.

Another example of double harmonics, this time in combination with single harmonics, is found in variation two of "I Palpiti." The first double harmonic of a fourth and a fifth, played on the G and D strings respectively, and is extremely difficult to perform because of the awkward stretch imposed on the fingers of the left hand.

The "Moses Fantasy" contains all of the devices discussed up to this point, with the exception of double harmonics.

Example to be played: Variations on the G string based on Rossini's "Moses." (see pages 39 Ex.9 and page 55 Ex.39)

Pizzicato

Left-hand pizzicato is another effective device used by Paganini in many of his compositions. This device is accomplished by depressing the indicated note with one finger of the left hand, while another finger of the same hand plucks the string, thus producing the note, and eliminating the use of the bow. Occasionally, the bow is used alternately with the fingers to allow a particularly fast passage to be played without interruption.

The most familiar example of pizzicato for the left hand is variation eight of Caprice XXIV, and it is the only instance in which Paganini used left-hand pizzicato in the caprices.

There are three duets written by Paganini, available today, which are composed of left-hand pizzicato to be played simultaneously with a bowed melody, which explains the term duet. The "Theme" and variation three of "Nel cor piu non mi sento" comprise two of the duets, and the third is a work entitled "Duo de Paganini," which is the most difficult. In the first section of this duet, an adagio, the melody is played on the A and E strings simultaneously with the left-hand pizzicato which is played on the G and D strings. This places the hand in an extremely awkward position and requires complete independence of the fingers and precise coordination of the right and left hands.

Left-hand pizzicato was often used in the old Italian school of Mestrino's time, but the French and German schools had for the most part disregarded it. Paganini used the device to great advantage and obtained interesting effects in his compositions. It is considered a painstaking task to study and play left-hand pizzicato, but according to Guhr, Paganini achieved this device with the greatest ease, clarity, and speed.

Double and Triple-stops

Paganini's works abound with double-stops of various intervals, which he uses for different purposes: in some instances to produce brilliant effects, at times as ornamentations, for harmonic coloring, descriptive moods, and often as a technical display. This is always done with good taste, ingenuity, and musicality.

For example, Caprices XIII and XXI contain double-stops which are used to describe a mood. In Caprice XIII intervals of thirds are employed to imitate the sound of a human laugh.

In Caprice XXI entitled "Amoroso," intervals of sixths are used to create a romantic mood. The first part of this caprice is written entirely in sixths, and although these intervals are technically difficult, the emphasis here is on the singing quality of the passages.

In the third movement of the E flat major Concerto, there are eight measures of broken octaves before the entrance of the double harmonics, which create a light and frivolous contrast between the preceding thunderous climax and the ensuing harmonics.

In Caprice IX generally known as "La Chasse" a hunting call is imitated. The caprice is a combination of intervals of thirds, fifths, and sixths. The hunting call is first played on the A and E strings imitating the flutes, and the response of the horns is played on the G and D strings.

Example to be played: Sixteen measures of Caprice IX.
(see page 59 Ex.36)

Caprice XVII contains the most difficult section in fingered octaves to be found in all of the caprices. The first two measures are written to be played on the G and D strings, D and A strings, and A and E strings. Then at measures three and four, there is a difficult crossing of the strings to be executed from the A and E to the D and A strings. As the A flat and D are not perfect fifths, these notes cannot be played with the same finger; hence, the difficulty arises of squeezing the fingers above the A flat. The same problem is encountered in the fourth measure between the F and B natural.

Passages of octaves in chromatic succession are found in the first and third movements of the B minor Concerto.

Variation seventeen of "Carnaval de Venise" is composed entirely of octaves written in four rhythmic patterns.

Paganini was reported to be a master at playing octaves. His "Moto Perpetuo," which contains more than three thousand sixteenth notes to be played without interruption, was supposedly played by Paganini in fingered octaves.

Paganini's works are filled with tenths, but their use is limited to singing passages at a relatively slower pace in contrast to other double-stops. They cannot be used in a perpetual motion type piece. The reason for the limitation is physiological. As intervals of tenths require extremely wide extensions, they can only be played with the first and fourth fingers which necessitates shifting the hand for each tenth, as in harmonics. The passages Paganini has written in tenths are quite short and range from one to eight measures,

and are frequently found in combination with other intervals, usually following thirds or preceding sixths. The best-known passage in tenths is found in variation six of Caprice XXIV after a descending A minor scale in thirds.

Paganini used the device of playing simultaneously on three strings to create a bagpipe organ-like effect. It is known that Paganini used a flatter bridge, which greatly facilitated the instantaneous grip of the bow on all three strings and thereby eliminated much of the difficulty encountered in producing a sustained sound on three strings. Although the present-day bridge allows chords to be played independently, using either an up or down stroke; in most instances, it is impossible to play them in true legato. A

An example of three string simultaneous playing is found in Caprice XX, which recreates the tonal effect of a bagpipe. The use of the open D string facilitates the execution of this device, except in the last four measures of the introduction, where the open string falls between the intervals of sixths which are played on the G and A strings. As the D string is proportionately higher than the G and A strings, more pressure is required of the bow to bring the D string down to the level of the other strings thus creating a technically abnormal and difficult situation.

Chords

The difference between the simultaneous playing on three and four strings and chords is one of bowing and of tonal quality which is produced. Simultaneous playing on three strings requires a sustained and continuous grip of the bow on all strings at a slow pace in legato. Chords of three or four notes are played separately either up-bow or down-bow.

Paganini used chords in his compositions for a number of purposes: as a variation, as a connecting passage, as a display of technical virtuosity, and to establish tonality. In variation one of "Nel cor piu non mi sento" there are chords of three and four notes which are to be played independently at a fast but audible tempo. The chords serve to connect other passages which contain a variety of technical devices. In variation five the chords are of primary importance. Fast descending ricochet and ascending arpeggio passages connect the extensive chord passages. In the cadenza type development section of the first movement of the E flat major Concerto, there are double-stops which are in reality broken chords. The fingerings prove these double-stops to be chords; the bowing and the rhythm however, produce the effect of double-stops. In the same movement, chords are used to establish

tonality; and in the third movement chords are employed to modulate to and establish a new key.

Saltato bowing

Paganini's most difficult bowing innovation is the saltato bowing found in Caprice V. In this instance, the term saltato--the Italian equivalent of the French sautillé--is confusing because of the staccato markings indicated below the notes. However, the bowing, which is actually required, is an automatically bouncing staccato or a saltato-staccato bowing, which is extremely difficult to realize on two strings. Each measure of the caprice is composed of sixteen sixteenth notes. The bowing for the first two groups of four notes consists of saltato-staccato for the first three notes and spiccato for the fourth note. The following two groups of four notes are each played independently in saltato-staccato. This bowing is extremely difficult because the swift crossing of the strings interrupts the automatic bouncing of the bow.

Legato bowing

Legato bowing is the fundamental or basic bowing used in violin. As its ultimate expression, a violin was intended to imitate the human voice, and it is the legato bowing which, for the most part, achieves this end in singing passages. Paganini's use of this bowing differed from that of his contemporaries in that he used it not only for singing passages but for remarkable technical and acrobatic displays. Paganini has written two striking compositions based exclusively on legato bowing: they are Caprice III and Caprice VI. Caprice III requires rapid technique and perfect intonation for the left hand and complete mastery of the bow. Caprice VI presents another difficulty which involves the simultaneous playing on two strings in legato, and, in addition, it contains double-stops and awkward extensions. Curiously enough Caprice XXIV contains almost all of Paganini's technical devices for the left hand, while employing legato bowing only, in most of the variations.

Sonata No.6 in E minor, Op.3 is the most melodic of the twelve sonatas written by Paganini for the violin and guitar. The sonata is composed of four short movements. The first and third movements are strictly in legato, but it is the first movement which contains a haunting melody, making the sonata unforgettable.

Example to be played: Sonata No.6 in E minor, Op.3
(see page 86 Ex.90)

Spiccato and sautille

There are two types of rebounding bowings used by Paganini: the spiccato and the sautille. The spiccato is played at a relatively slow tempo, and the bouncing of the bow on the strings is controlled at will by the performer; and the sautille automatically continues to bounce at a reasonably fast tempo, once put into motion by the wrist and the fingers. An excellent example of spiccato in double-stops, composed of thirds and sixths, is found in the first movement of Paganini's E flat major Concerto. A similar passage is found in variation one of "I Palpiti."

The sautille is found in most of Paganini's works, but his most famous composition which makes use of this bowing exclusively is his "Moto Perpetuo."

Staccato, Flying staccato, and ricochet

There are two types of staccato found in Paganini's music, each of which is determined or differentiated by the tempo. The staccato with the martellato marking is a heavy staccato played on the string, found in Caprices X, XV, and XXII, among others. The second type is the flying staccato played at a much quicker tempo than the heavy staccato. The flying staccato is accomplished by throwing the bow on the string thus allowing it to travel at will. It is found in Caprice XXI in the second section. Guhr spoke of this type of staccato and stated that Paganini played passages of this sort at lightening speed. In these passages, the tempo is marked presto, and the dynamics are mezzo forte.

Ricochet bowing is a type of staccato bowing which is extremely light and can be played either up or down-bow, but is usually played down-bow. In the ricochet bowing, there is the advantage of being able to play a greater number of notes at a truly lightening speed, especially in chromatic passages of single-note or double-stops, provided that there is no crossing of the strings. Paganini's music contains ricochet passages of from four notes to any reasonable number. Thirty-second or sixty-fourth notes are almost invariably used. The third section of Caprice IX consists entirely of short ricochet passages. The repeated pattern of four-note ricochet passages gives this section a studied air. It possesses a pedantic repetition which is excellent for the study of this bowing.

Similar four-note ricochet passages are found in the first movement of the E flat major Concerto. However, their use and the effect produced is completely different from that of Caprice IX. The passages in the first movement of the concerto are used as passing tones, embellishments, and passing tones in sequence leading to the resolution of the key. The third movement of the E flat major Concerto is based on four-note descending passing-tone ricochet passages. The third movement is a Rondo in $\frac{2}{4}$ time, and the note value in the ricochet passages is a 32nd. These four notes in ricochet determine the brilliant, lively, bravura character of the entire third movement. The first movement of the B minor Concerto contains longer ricochet passages used for technical display. The theme B of the third movement of the B minor Concerto is based on four-note ricochet patterns.

Ricochet bowing is considered to be Paganini's ingenious invention, and it is certainly one of the more predominant bowings found throughout his works. It can be said that at least ninety percent of his compositions contain ricochet passages to a greater or lesser degree as well as passages in staccato of one type or another.

Difficult Extensions and crossing of the strings

Awkward and daring extensions in single notes and double stops of various intervals from a minor second to a seventeenth, and crossing of the strings while skipping strings in legato bowing present two distinct technical difficulties in execution in Caprice II. The bow strokes in the Caprice play an important role and a very difficult one in the continuous skipping from the G to the E strings in order to produce the difficult left-hand extensions.

Another very difficult example of skipping of the strings occurs in Caprice XVI at various intervals throughout the piece. The difficulty here lies in the tempo which is marked presto.

Undulated bowing

A very important and effective type of bowing found in Caprice XII is the undulated bowing, which is performed by playing on two strings alternately. In addition to the technical difficulty of the undulated bowing which is used throughout, this caprice contains the most awkward extensions to be found in Paganini's works. The undulated bow is one of the most difficult to perfect. It requires precision, coordination, balance, and the proper division of the bow in crossing the strings. The strings must be set into vibrations

without exerting any pressure, in order to produce the wave-like effect which is required. Paganini does not use this device extensively. The only other piece in which this bowing is found is Caprice XXIV in variations two, five, and, possibly, variation eight. Variation eight is usually played using separate bow strokes, as the original bowing poses too great a difficulty in simultaneous three-string playing.

An examination of the music with the original bowings presents the possibility that Paganini may have used undulated bowing in producing these chords, for special effects.

Example to be played: Caprice XXIV (see page 48 Ex.18)

Paganini's bowing

There is one type of bowing invented by Paganini which bears his name. A good example of the Paganini bowing is found in Caprice XVI. The bowing consists of playing one single note, followed by two slurred notes, followed by one single note ainsi de suite for twelve notes in every measure. In the first group of four notes the slur is placed on the second and third notes; in the second group, the slur is placed on the first two notes, and the fourth note of the second group is tied to the first note of the third group of four notes. The last two notes of the third group are tied together. The effect of the irregular pulse is striking and pleasant.

Conclusion

Paganini's Concerto No.1 in E flat major, Op.6 contains all of the devices discussed in tonight's lecture except for the saltato-staccato, undulated, and his own bowing: Scordatura or mistuning; single and double harmonics; pizzicato; passages on one string; double, triple and quadruple stops; difficult extensions and crossing of the strings; andalegato, spiccato, staccato, sautille and ricochet bowings.

Example to be played: Excerpts from the first, second and third movements of the Concerto No. 1 in E flat major, played in D major (see pages 35, 36, 37, etc.)

Paganini's influence

Paganini's genius, the technical devices he developed which expanded the range and scope of the violin, and the originality of his compositions began a trend in virtuosity which has continued to this day. He was the paragon of technique which not only the strings, but the brasses, woodwinds and piano attempted to emulate.

Paganini did not form a violin school which could be adopted by any violinist, and his promise to write a treatise which would produce virtuosi in a very short period of time never materialized. His sixty studies cannot be considered a method. However, all of his innovations are present in his compositions and the entire violinistic world studies and performs these works. The great composers who came after him brought their own genius and style of composition to their works, but it was Paganini's original expansion of violin technique which opened the door to the inexhaustible possibilities in both Romantic and Modern music.

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