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Violin Bow Construction and Its Influence on Bowing Technique in the Eighteenth and Nineteenth Centuries

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VIOLIN BOW CONSTRUCTION AND ITS INFLUENCE ON BOWING

TECHNIQUE IN THE EIGHTEENTH AND NINETEENTH CENTURIES

By

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The following treatise is based on information that relates to the bow construction and its influence on the bowing technique of the eighteenth and nineteenth centuries. This period is especially important because major changes happened in this period.

In the history of the bow’s development, there were many different shapes of the bows. Among them were the short French bow that was found among the players of dances and the long Italian bow used for playing the sonatas. It was in the second half of the eighteenth century that the bow took its final form owing to Tourte, an excellent bow maker. He made major changes that contributed to performing various bow strokes. In the romantic period there was an intention to imitate the human voice and the modern Tourte bow facilitated this need. Therefore, more sustained musical phrases were encountered after its emergence.

There are several violin methods that relate to the bowing technique of the eighteenth and nineteenth centuries. Among them are treatises by Francesco Geminiani, Leopold Mozart, Giuseppe Tartini, Jean-Baptiste Lully’s analysis explained by Georg Muffat, Louis Spohr, and Pierre Baillot. Geminiani offered information regarding the various expressive elements in music. Mozart wrote a treatise in which he analyzes “correct” and “incorrect” bow grips. He also discusses four dynamic divisions that are important in playing various dynamic shadings with the pre-Tourte bow. Mozart mentioned in his treatise the important rule of the down-bow that was first found in Italian music. Mozart suggested that each measure should start with the down-bow stroke in order to emphasize the strong beats in the measures. Muffat also explained the importance of the down-bow rule (based on information by Lully) that was so much discussed between the authors of violin methods. Many authors of that time accepted this rule. However, Geminiani and Tartini emphasized that all the strokes should be practiced with both down and up-bow. Nevertheless, the rule of the down-bow was accepted by a majority of the authors of that time.

Various bow grips co-existed in the eighteenth and nineteenth centuries and L’abbe le fils was a supporter of the bow hold at the frog, which was in contradiction to that of Geminiani who emphasized that the bow should be held a little above the frog (but not at it). Spohr was a follower of holding all four fingers together, which was a different technique to that of Mozart.
who was a supporter of separating the index finger from the others in order to achieve a powerful sound. Baillot wrote a massive treatise in which he explained the various bow strokes that existed in the period before and after Tourte.

The major transformation that happened in the late eighteenth century influenced changes and improvements in sound as well as supplying the solo performers with a great device such as the modern Tourte bow. Thanks to the improvements that Tourte invented, the bow is able to produce the best possible sound on the violin and to give us all the pleasure that is found in the music.
INTRODUCTION

BOW CONSTRUCTION AND ITS INFLUENCE ON BOWING TECHNIQUE IN THE EIGHTEENTH AND NINETEENTH CENTURIES

In the following treatise, the discussion will focus on the importance of the bow stick and how it is used for producing sound on the violin. The bow has been called the “soul” of the violin because it can be used by the performer to produce various tonal colors on the violin.

Various bow designs allowed for different performance styles, and these differences in bow design will be discussed in relation to actual performances. In the seventeenth century and for part of the eighteenth century, shorter French bows were used for social events, such as dances, which required only short, clear musical phrases. On the contrary, in the same period, Italians developed longer bows that were suitable for playing sonatas with longer melodic lines.

Along with the relationship between bow design and musical style, distinct shapes of bow were introduced in the eighteenth and nineteenth century in order to enable specific playing techniques. This combination of bow construction and musical styles in various periods, allowed the same type of bow stroke to be executed in different manners. For example, in the seventeenth century, détaché meant detached. David D. Boyden in his History of Violin Playing from its Origins to 1761 and its Relationship to the Violin and Violin Music (London, 1965) stated that although the term détaché still means detached or separated today, when it is played on a modern bow it sounds almost like legato because musicians tend to make inaudible bow changes.¹

Another example is staccato, which in the eighteenth century involved rests between the notes. Those breaks were more apparent than in usual separated strokes. This was achieved by lifting the bow at the end of each stroke especially in slow passages. Staccato was played on the lower half of the bow with less pressure in contrast to the strong attacks found in its modern counterpart.² The amount of separation between the staccato notes was related to the tempo of the piece and the kind of notes that were played. If fast notes were played, there was small separation between the notes that was performed with a light wrist motion, which allowed for

¹ David D. Boyden, History of Violin Playing from its Origins to 1761 and its Relationship to the Violin and Violin Music (London: Oxford University Press, 1965), 263.
² Ibid., 263.
clear articulation of the notes. Longer note values were played with a lift of the bow between the notes.\textsuperscript{3} The modern \textit{staccato} stroke emerged with the development of Tourte’s bow and this stroke is played on the string.\textsuperscript{4}

François Xavier Tourte (1747-1835) had crucial influence on the development of bowing technique that provided players with tools for expressing the wide range of musical styles of the nineteenth century. When Tourte transformed the shape of the bow in 1780, execution of various performing strokes, such as \textit{spiccato} and \textit{sautillé}, became possible.

The major transformation of the bow’s construction occurred in 1780 when Tourte created his masterpiece. Therefore, it is important to analyze how the bow developed before Tourte’s innovation and how he influenced the emergence of new bowing strokes necessary for improvement of playing technique.

By examining bows made by various makers throughout history, it is possible to study the bow’s transformation from its early form to Tourte’s modern design. Some of these bow makers are depicted in an illustration taken from Boyden’s book, which is itself a reprint from Fétil’s book. It includes bows illustrated by Marin Mersenne (1588-1648), Athanasius Kircher (1601-1680), Daniele da Castrovillari (b. 1617; fl Venice, 1659-74), Jeronimo (Jerome) Bassani (1559-1635), Arcangelo Corelli (1653-1713), Giuseppe Tartini (1692-1770), Wilhelm Cramer (1746-1799), and Giovanni Battista Viotti (1755-1824). Another well-known bow that may have influenced Tourte is the “Stradivari” bow, dating from 1700. This bow is especially interesting because of its ornamented nut that is rarely found. By the mid-eighteenth century Tourte père (d. 1764), Tourte’s father, made long bows, and in the mid-1780s Tourte further made major transformation in the bow’s design. Other bow makers of this time include Tourte père’s other son, Tourte l’aîné (1746-1817), the violinist Wilhelm Cramer (1745-1799), and the English bow maker, John Dodd (1752-1839). Some sources claim that Dodd invented the same bow elements about the same time as Tourte.

\textsuperscript{1} Ibid., 264.  
CHAPTER ONE

BOW CONSTRUCTION

The history of the bow in the seventeenth and early eighteenth centuries is vague because the bows described in available sources are often shorter and more awkward to use than those found in illustrations from these periods and from the specimens found today in museums. There is not sufficient documented information regarding bow development that gives objective and credible evidence. As far as we can tell, the chronological development of bows can be reviewed in the series of illustrations presented in François-Joseph Fétis’ book Anthony Stradivari, the Celebrated Violin-Maker, known by the name of Stradivarius (Figure no. 1 was taken from D. Boyden’s History of Violin Playing from its Origins to 1761 and its Relationship to the Violin and Violin Music and is a reprint from Fétis’ Anthony Stradivari, the Celebrated Violin-Maker, known by the name of Stradivarius, London, 1864). However, according to Boyden, this group of bows is not authentic because there is no outside documentation. The bows by Mersenne, Kircher, Castrovillari, Bassani, Corelli, Tartini, Cramer, and Viotti are included in this series of illustrations, and they exemplify how the size and shape of the bow changed through time.

Boyden stated that Arcangelo Corelli’s bow dates from 1700 and was similar to that of the Italian maker Stradivari (the so called “Stradivari” bow) in its length and form.\(^5\)

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5 François Joseph Fétis, Anthony Stradivari, the Celebrated Violin-Maker, known by the name of Stradivarius (London: Robert Cocks and Co., 1864), 112-113.
6 Boyden, op. cit., 324.
Figure no. 1: Sequence of Bows, Purporting to Represent the Development of the Bow from Mersenne to Viotti
The “Stradivari” bow was made in 1700 and it was highly successful. It had perfect balance and stick was straightened. The bow head was unique and the movable nut made possible tightening the hair (Figure no. 2 was taken from Boyden’s *History of Violin Playing*). Nevertheless, Corelli’s type of bow is similar to older and shorter types of bows by Francesco Geminiani and Francesco Maria Veracini. Corelli’s bow represented the early eighteenth-century Italian sonata bow. Its stick was straight or slightly convex and featured the pike’s head.

![Figure no. 2: “Stradivari” Bow](image)

The first bows of the early seventeenth century (1620) were rather short. In 1625 and later, musicians constructed heavier bows that produced clear articulation, and louder, richer sounds. The hair of these bows was attached at the point of the stick, as it is found today in various cultures. They were inserted through the hole after which they were knotted and wounded as it can be seen in Guido Reni’s *St. Cecilia Playing the Violin* (1606) (Figure no. 3 was taken from R. E. Seletsky’s article “New light on the old bow-1,” *Early Music*, 2004). The head became thicker around 1625 and it transformed to the “pike” head (Figure no. 4 was

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7 Ibid., 208.
8 Ibid., 324.
9 Stowell, *Violin Technique*, 14.
10 Boyden, op. cit., 324.
taken from R. Stowell’s Violin Technique and Performance Practice in the Late Eighteenth and Early Nineteenth Centuries).

The hair was then knotted, bent, and put into the rectangular (later trapezoidal) mortise hole in the bow’s head. This was done in order to tighten the hair at the point of the bow. The hair was secured by looping over a wooden plug. This plug, or a wedge serving a similar purpose, assisted in closing the hole. Extant seventeenth-century bows were made of tropical hardwoods, such as snakewood, which is dense and good quality wood. As Henry Saint-George mentioned in his book The Bow (1st ed. 1896, 2nd ed. 1909), the eighteenth-century bows were made of ebony and ironwood, which is not as strong as the snakewood bows. Therefore, in order to make them stronger, an additional layer of the wood was added. Three parts of the bow that changed throughout the seventeenth and eighteenth centuries include: the length of the bow, the mechanism for tightening the bow, and the construction of the tip, resulting in varied degrees of curvature in the stick. Each of these features will be addressed individually.

**Bow Length**

The iconography from the seventeenth century reveals that the bow lengths correspond to the size of the violin. However, bow length was more dictated by the practical needs of the instrument, rather than aesthetic value. For example, the short French bow, which was used for playing dances allowed more comfortable performance of various rhythms. In contrast, the long Italian sonata bow was better suited to playing longer musical phrases.

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A further improvement of bow construction after 1700 involved its straightening and lengthening. Since bow sizes varied, there were three types of bows, each of which served a distinct purpose. The first one was a long Italian sonata bow dating around 1720 and measured twenty-four inches (sixty-one centimeters) long. The second type of bow was shorter and was generally more often used among musicians in the same period. The shortest bow was the French bow, which was used to play dance music. François Raquenet (1660-1722), a French priest and scholar, mentioned in his dissertation *Parallèle des Italiens et des Français* (1702) that Italian performers used longer bows for playing sonatas and French players used shorter ones for dances. This changed in 1720 when French composers started writing sonatas and began using longer bows. In 1750, or little afterwards, François Tourte’s father, Louis, produced longer bows than his son did.

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14 Ibid., 325.
15 Ibid., 326.
Short bows were apparently more desirable among musicians in the eighteenth century. However, under Tartini’s influence, luthiers in Italy started increasing the bow’s length in 1720, which, after modifications, measured between sixty-nine and seventy-two centimeters and weighed between forty-five and fifty-six grams. Another change was the straightening of the previously convex shape of the stick and elevating the “pike” head so that it took on a new shape, which resembled the “swan-bill” head, discussed below (Figure no. 5 was taken from R. Stowell’s The Cambridge Companion to the Violin).  

Although long bows started to appear, short bows were still preferred among some performers. Italian composer and violinist Pietro Antonio Locatelli (1695-1764), a brilliant performer of the eighteenth century, preferred the short bow because of its fast response and easier handling in performance. This type of bow was probably suitable for his lively temperament. On the other hand, the distinguishing feature of the long bow was the slack response at the beginning of the stroke, allowing an easier execution of the dominant Italian cantabile character, found in the eighteenth century, and of passages that were played on the string. Nevertheless, the slackness of the long bow was less suitable for performing sparkly, articulated bowing strokes.  

![Figure no. 5: “Pike” Head Bow, which Resembles “Swan-bill” Head Bow](image)

The long bows were sometimes carved and fluted on the two upper thirds of the stick in order to reduce their weight while retaining their strength. There are many existing examples of fluted eighteenth-century bows. Many of these long bows were rarely used because of their unsatisfactory playing qualities, but they were preserved because of their decorations and expensive materials. Seletsky notes that since bows were considered as accessories, simple but good quality bows, which were often played by professional musicians were discarded, while

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16 Ibid., 324.
the more aesthetically pleasing bows were preserved.\(^{18}\) There are no pictures of fluted bows in iconographical resources probably because their reduced weight resulted in a decreased sound quality and disturbed the bow’s balance. Since they were unattractive to musicians of that time, there are no pictures of musicians playing with these fluted bows. These deficiencies in sound quality and bow balance caused professional musicians to lose interest in fluted bows. In contrast, short bows were not fluted and had a good balance between their reduced weight and increased strength.\(^{19}\)

Short bows were still encountered in 1750, if not even later. The evidence is seen in eighteenth-century paintings, for example William Hogarth’s *Enraged Musician* (1741). However, longer bows slowly replaced short ones, especially among solo performers like Jean-Marie Léclairs. Bows were no longer proportional with the size of the instrument and, consequently, bass viol, cello, and viola bows were shorter than violin bows. Long bows were found until the end of the eighteenth century and they co-existed with other transitional/classical bows.

A related matter of discussion is the bow’s weight. Since makers aimed to make light and strong bows at the same time, eighteenth-century bows were lighter than the modern ones. These makers used snakewood and pernambuco wood. Taken from the innermost part of the pau-basil tree, pernambuco wood is very dense and has a very tight grain, making it an excellent material for this purpose; this type of wood is also used today.\(^{20}\) The wood of some bows was made also from sugar-cane barrels.\(^{21}\) The early eighteenth-century bows, frequently fluted, were generally lighter than Tourte’s “modern” bows; however, they were still strong and may have also been rigid. These bows were frequently fluted. The bow’s weight was concentrated closer to the frog than in the Tourte’s “modern” bow because of its lighter head.\(^{22}\) Therefore, the upper parts were less heavy and had less power. Because of these qualities, strokes made with the upper part of the bow were more natural and well articulated. The screw was employed in the seventeenth century and its general usage is noticed before 1750.\(^{23}\)

\(^{18}\) Ibid.
\(^{19}\) Ibid.
\(^{21}\) Interview with Professor Eliot Chapo about the sugar-cane wood.
\(^{22}\) Stowell, *Violin Technique and Performance Practice*, 12.
\(^{23}\) Boyden, op. cit., 327.
Development of the Frog

The bow hair in the seventeenth-century featured a removable frog (nut) that was placed into a dent of the stick and kept in place by hair tension. Although an adjusting mechanism did not exist, it was possible to adjust the hair by placing a piece of paper or some other material into the hole between the hair and the frog. One of the first methods of adjusting the hair tension was crémaillère, which was more popular between 1650-1700. Crémaillère was a mechanism in which the nut was held in place by an iron catch over a set of teeth (Figure no. 6 was taken from R. E. Seletsky’s article “History of the Bow c. 1625- c. 1800,” Oxford Music Online and Figure no. 7 was taken from R. E. Seletsky’s article “New light on the old bow-2,” Early Music, August 2004).

In the seventeenth century it was possible to adjust bow hair in various ways. There are examples of bows in the first half of the seventeenth century that have a crémaillère mechanism that made hair adjustment possible. Some bows also featured frogs with adjusting screws, a construction that dates from 1690. It was also possible to adjust the hair by pressing the fingers below the hair in order to achieve desired tension; this playing style was found in viola da gamba. In the seventeenth century, knobs at the frog were noticeable, as can be seen in the illustration from Mersenne’s “Harmonie Universelle” (1636-1637). Mersenne did not explain if purpose of the knob was to tighten and loosen the hairs or if it was merely ornamental. Nevertheless, in 1694 the first bow was made with a screwknob and movable frog; however, notches, slots or wedges were used throughout this period.

As the bows increased in length, more hair was used, amplifying the bow’s sensitivity to humidity. Consequently, a new frog using a screw and eyelet mechanism to adjust the hair tension emerged (see Figures no. 6 and no. 7).

Instead of putting the hair directly in the stick of the bow, as in the clip-in frog mechanism, the hair was placed into the mortise hole in the hair channel of the frog itself. This innovation dated from about 1740; however, in the period around 1760, some of the newly

24 Ibid., 208.
25 Ibid., 208.
27 Fétis, op. cit., 112.
constructed long and transitional / classical bows still contained the clip-in frog (see Figures no. 6 and no. 7).

Seletsky explains that for many mid-eighteenth-century performers, the ability to adjust the hair tension did not seem necessary or worth the increased cost. In addition, the poor quality of the early eyelets caused the threads of their screw to be stripped after little use. Both short and long bows of this period have larger hair channels, which are eight millimeters in size. It was presumably in the period between 1750 and 1775 that the screw frogs gradually replaced the clip-in frogs on the long bows.

Figure no. 6: a) clip-in or slot-notch frog; b) crémaillère; c) screw mechanism of the modern frog
Development of the Point and Bow Curvature

Saint-George observed that there was evidence of some early eighteenth-century bows with a concave shape of the stick (as in Tourte’s “modern” bow) and a pike’s head. This tendency toward curving the stick before 1750 meant that there was need for bigger separation between the stick and the hair at the tip. As a result, a pike’s head that was made widely in early 1700s gradually transformed into the late eighteenth-century hatchet-like shape (Figure no. 8 was taken from Stowell’s article “New light on the old bow-2,” *Early Music*, August 2004- battle-axe/hatchet head bow: (b)). This hatchet-like head was able to facilitate this separation.\(^{28}\)

Since the pike’s head did not make enough separation between the stick and the hair at the tip, there was insufficient responsiveness in the upper part of this bow, therefore, it was hard to achieve the sound at the tip. Thus, bow-makers bent (or carved) the stick in order to make a convex shape close to the point of the bow. This resulted in bows having an equal strength at the tip and at the frog.\(^{29}\) This modification also brought more responsiveness in the upper part and proof for this is found in a statement by Italian composer Bartolomeo Bismantova (1675-1694?) who mentioned in his *Compendio musicale* (1677-9) that ornaments, which are played with separated strokes are more comfortably played at the point of the bow. It is important to mention that the Tourte types of bows were more responsive than the early eighteenth century...

\(^{28}\) Saint-George, op. cit., 24.

bows because of their concave shape of the stick that has more spring and resistance. Nevertheless, with a clip-in frog mechanism that was affixed under playing tension, the bows of the seventeenth century were convex.

Figure no. 8: Battle-axe/Hatchet Head Bow: (b)

According to Boyden, in the early eighteenth century, the German type of bow had an outward curve of the stick in order to allow playing on three and four strings at the same time. However, this was not achieved because the curve of the bow was not sufficient for that purpose. These bows can be seen on the drawings that appear on the cover picture of Leopold Mozart’s *A Treatise on the Fundamental Principles of Violin Playing* (*Versuch einer gründlichen Violinschule*, 1756) and in J. C. Weigel’s *Musikalisches Theatrum* (1720) (Figure no. 9 was taken from Boyden’s *History of Violin Playing*). These firm, convex German bows were of intermediate length and were probably used for playing polyphonic music. These bows should not be mistaken for the “Bach” bow, which is a modern version created to play polyphonic music in a sustained manner.

One element that developed in the long bow’s design was the raising of its head, and this feature continued to evolve further in the transitional bows. Therefore, the “battle-axe” or

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32 Boyden, op. cit., 326.
“hachet” heads were developed on the transitional bows. The modified “swan-bill” head, which was very high and foreshortened, was another type often found on these bows.

![Figure no. 9: Frontispiece of Leopold Mozart’s *Violinschule* (1756)](image)

There are many examples of fluted transitional bows with the “swan-bill” head. The bows were bent considerably inwards over the fire to reduce the large distance between the stick and the hair, thus increasing the bow’s spring and resistance. The transitional bows increased their length, became heavier, and increased the extent of the hair channels during the eighteenth century. These thicker concave bow sticks were made of pernambuco wood because it was
lighter, and less often they were made out of ironwood, which was firm. Therefore, the inward cambre of the bowstick was made with the help of these elastic types of wood.\(^{35}\)

**Types of Bows and Later History**

Michel Woldemar (bap. 1750 - d. 1815) was a Parisian violinist who wrote the treatise *Méthode pour le violon* (1798). He provided pictures of the four main types of the bow, representing its historical development. These include the short “Corelli,” long “Tartini,” transitional “Cramer,” and Tourte “Viotti” bows (Figure no. 10 was taken from R. Stowell’s *Violin Technique*).\(^{36}\)

**“Corelli” Bows**

The “Corelli” type of bow has a long, straight stick. Its tip was turned down in order to further separate the stick from the hair and to be on a level plane with the frog. Its head developed into the shape of pike head or “swan-bill” head that had graceful appearance. The “clip-in” frog mechanism enabled the hair to be relaxed, extending the life of the hair and the stick. The hair was fixed at each end of the stick, and when properly placed, the frog increased the tension of the hair.

**“Tartini” Bows**

The “Tartini” type of the bow developed the head of the bow, resulting in a modernized form (c. 1730).\(^{37}\) The only evidential example of Giuseppe Tartini’s bow appeared in the Calcinotto portrait (1760?).\(^{38}\) It was straight and of moderate length. Bows in the mid-seventeenth century up to Tartini had a “pike” head. Although Tartini’s long bow was straight, it retained the former “pike” head with the small exception that it was slightly elevated. Its “pike” head had

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\(^{36}\) Stowell, op. cit., 16.


\(^{38}\) Boyden, op, cit., 324.
similar height and curved shape as the “hatchet” (battleaxe) head and the nut construction was based on a screw mechanism.\textsuperscript{39} The actual screw cap was noticeable. Although the bow’s concave shape cannot be seen in the pictures preceding François Tourte’s work, it should be mentioned that there is evidence of incurved sticks before 1750.\textsuperscript{40}

![Figure no. 10: Violin Bows of the Seventeenth and Eighteenth Centuries as Illustrated by Woldemar](image)

The new long bows, which are sometimes called “Tartini” bows, appeared in 1720 and featured straight sticks. Under Tartini’s influence an elevated head, which became known as the “swan-bill” head, replaced the convex part near the tip of the bow stick. The bow stick was still straight. An exception to this was Tartini’s long bow, which had a straight stick, but also

\textsuperscript{39} Ibid., 324.  
\textsuperscript{40} Ibid., 324.
had a small and slightly elevated pike head instead of the “swan-bill” head. Nevertheless, a number of the eighteenth-century long bows still had a low pike head or even a “swan-bill” head, unusually appearing with a convex curve of the stick near the tip of the bow. Many of these bow sticks are decorated with carvings, such as reeded flutes. There could be up to twenty-four shallow flutes on the stick, serving as ornaments or to enable easier holding of the bow.  

“Cramer” Bows

The “Cramer” type of the bow was the first bow whose stick was incurved or concave. This was made possible thanks to developments of the tip and the frog as well as the extensive use of a variety of woods. The incurved or concave stick of this bow was a major improvement that also represents the main characteristic of the modern bow. The “Cramer” bow is a transitional bow that had the hatchet or “battleaxe” head. Its “open” frog, which was frequently ornately carved, did not have a slide covering the hair’s lower side.

French violinist and composer Michel Woldemar stated that the “Cramer” type of the bow was widespread among the musicians of his time. Wilhelm Cramer was the great soloist of Silesian descent (Poland) who performed in London during 1770s and 1780s. The “Cramer” bow had a mirrored peak and throat on its “battle-axe” head and makers in Paris and London often made this type of bow. Some of the well-known Paris bow makers who made these and other types of bows were Louis Tourte père (French: père-father) (whose bows were marked “Tourte L.”), Duchaine, and “Meauchand.” In London the makers such as Edward, John and James Dodd, and Thomas Smith were highly recognized. There were a modest number of bows that were probably stamped by the companies which were associated with the makers such as “Forster,” “Banks,” “Longman & Broderip,” etc.

“Viotti” Bows

In the period of the Mannheim School, Haydn, and Mozart, the bouncing strokes dominated, which contributed to elegant and balanced structure of the classical period. The springy transitional bows corresponded better to performing these strokes than the long bows.

46 Stowell, Cambridge Companion, 24-25.
Seletsky stated that it is believed that at the end of his life Tartini became the owner of the transitional Tourte père bow, which was made around 1770. French amateur viol player Hubert le Blanc (d. 1728?) mentioned in his Défense de la basse de viole of 1740 that it was the long bow that was more suitable for playing long and infinite melodic lines, which were characteristic of the Italian style. Giovanni Battista Viotti (1755-1824), the Italian violinist and composer who worked in Paris, contributed to the evolution of the bow by giving valuable advice to Tourte.\(^47\) He was an early champion of the Tourte bow, as seen in the 1800 illustration where he was holding the long bow, which had the “swan-bill” head. The inward curve was later added to many existing long bows and it allowed for the comfortable playing of the bouncing strokes. These bows failed to survive because of the changes in late eighteenth-century performance style. The revival of period instruments and historically informed performance practice in the late twentieth century led to the copying of the long bows with the addition of the inward curves. However, these curves diminished their response and energetic qualities.\(^48\)

**Bow Makers**

Among persons who developed the bow between 1750 and 1780 were Tourte père and his two sons (François and Tourte l’aîné), in addition to the violinist, Wilhelm Cramer (1745-1799), and John Dodd (1752-1839), an excellent English bow maker and contemporary to François Tourte.\(^49\) There is a belief that Dodd independently invented the same new elements as Tourte approximately at the same time.\(^50\)

It can be stated that the first relevant attempts to improve the bow were made close to the middle of the eighteenth century. Tourte père is considered as the innovator for introducing the screw instead of crémaillére. Through its button (at the very end of the stick), the screw was able to move the nut forward or backward and thus adjust the tension of the hair. Tourte

\(^{47}\) Boyden, op. cit., 327.
\(^{48}\) Seletsky, op. cit.
\(^{49}\) Boyden, op. cit., 327.
\(^{50}\) Saint-George, op. cit., 24.
père also improved the head by putting mortises through which the hanks of hair were more equally spread and firmly fixed.\textsuperscript{51}

The younger son of Tourte père, François Tourte (1747-1835), was born in Paris and according to his father’s wish was to become a clockmaker. However, after eight unrewarding years in this business, he abandoned it in favor of bow making. Among Parisian artists during this time, there was a tendency to imitate the singing qualities of human voice on their instruments. The need of a bow that would correspond to the expressive qualities of the voice was apparent. It was desirable for the bow to have qualities such as elasticity, springiness, and lightness.\textsuperscript{52}

Tourte’s first innovations date between 1775 and 1780. The bow’s features such as weight, length, and point of balance were not established until 1775. In the period following 1775, Tourte spent time in Paris and was influenced by the opinions of musicians regarding the bow’s features. As a result of these influences, he decided to regulate its length to 29.134 or 29.528 inches (seventy-four or seventy-five centimeters) from the tip to the end of the button.\textsuperscript{53} In the 1780s, Tourte’s bow was two to four centimeters longer than long and transitional bows. It had a more emphatic \textit{cambre} and was generally heavier because of the newly created closed frog. The bow with the frog, which included slides and a metal ferrule, was fifty-six to sixty grams heavier than some long bows.\textsuperscript{54} Tourte also standardized the distance between the hair and the stick, depending on the height of the head and nut, and adjusted these dimensions to set up the correct angle for the hair when it touched the strings. This prevented the violin strings from touching the stick of the bow.\textsuperscript{55} Tourte’s bow had a “hatchet” head that looked like some of the transitional bow’s heads. However, its bow head does not have a mirrored peak and throat (Figure no. 11 was taken from D. Boyden’s \textit{History of Violin Playing}, and Figure no. 12 was taken from G. Matte’s “An Abstract of the History of Violin Bowing and its Impact Upon Performance: With Video Tape Illustrations of Bowing Technique in Selected Musical Examples”).\textsuperscript{56}

\textsuperscript{51} Fétis, op. cit., 113.
\textsuperscript{52} Ibid., 114.
\textsuperscript{53} Ibid., 118.
\textsuperscript{54} Seletsky, op. cit.
\textsuperscript{55} Fétis, op. cit., 118.
\textsuperscript{56} Seletsky, op. cit.
The head became elongated and its weight was increased. Tourte had to counterbalance this by increasing weight of the lower parts. The frog and button became heavier because Tourte put metallic ornaments on them. Tourte selected pernambuco wood, careful to choose fine specimens, which had straight fiber, proper grain and solid, without any cracks.

At the time of Viotti’s arrival in Paris, the bow-hair was being gathered in a round mass, which had the effect of worsening of the sound. Tourte noticed this problem and understood that the hair needed to be firmly fixed in the shape of a flat plate as a ribbon. Thus, he invented the ferrule (made at first of tin and later of silver), a ring in which the hair was squeezed.\footnote{Fétis, op. cit., 118.}

The Tourte’s “hatchet” head became prominent compared to the other heads’ shapes. However, despite this popularity, transitional bows still were used in Europe throughout the nineteenth century, notably ones made by the Dodd family. The open-channel frogs did not have mother-of-pearl slides and silver ferrules and were therefore less expensive to make. In 1820 German historical painter Carl Joseph Bégas (1794-1854) made a lithograph of Italian
violinist and composer Niccolò Paganini (1782-1840) holding Edward Dodd’s type of the transitional bow with its “battle-axe” head.\textsuperscript{58}

Tourte was advanced in comparison to his generation of bow-makers. His sensitivity to the issues related to the bow led him to produce the bow that was capable of performing many strokes, impossible in previous times.\textsuperscript{59} After Tourte’s work, only one new element was added to the bow: the underslide (French-\textit{Coulisse}). Its inventor was François Lupot, Jr. (1774-1837). It was made of metal and was connected to the part of the frog that slides along the stick. This served to protect this part of the frog from friction damage and to reinforce its subtle edges.\textsuperscript{60}

\textsuperscript{58} Seletsky, op. cit.
\textsuperscript{60} Ibid.
CHAPTER TWO

DIFFERENCES BETWEEN THE EIGHTEENTH CENTURY AND MODERN STYLE BOWING

From 1600 to 1780 there was a major transformation in the development of the bow. The baroque bow experienced changes in design that led to the emergence of Tourte’s bow. All pre-Tourte bows of this time shared two main characteristics. First, there was a shorter distance between the stick and the hair at the tip of the bow than at the frog (nut). Consequentially, the head of the pre-Tourte’s bow was lighter and the balance point was closer to the frog. The convex shape of the bow stick was noticeable, sometimes very marked. The second characteristic of the pre-Tourte bow referred to absence of the metal ferrule, which was a hoop made of metal or silver that squeezed the hair where it exited the frog.

Due to the construction of the pre-Tourte bow, some bow strokes are impossible to execute in a modern fashion. For example, because of the marked curvature of the stick, the up-bow was lighter than the down-bow stroke. However, as the modern bow developed, it became possible to play down-bows and up-bows with the same volume. Also, the absence of the ferrule in the pre-Tourte’s bow prevents the ribbon of hair from lying flat as it is pressed into the string at the frog. It is not possible to play a modern martelé with the hair in such a circular shape. Furthermore, it is difficult to play legato with inaudible bow changes as well as to execute a stroke with an initial attack at the beginning. Although compared to the modern bow, the pre-Tourte bow had these deficiencies, its expressiveness in style was distinguished by its ability to perform articulated and inflected strokes.

Bow Hold

In the early seventeenth century, the violin was most often placed on the shoulder and under the neck; Italians especially used this position. On the other hand, in dance music it was common to place the violin on the breast, a position that was usually combined with the
“French” bow grip. French players held the bow with the thumb below the hairs (Figure no. 13 was taken from D. Boyden’s History of Violin Playing).

Figure no. 13: “French” Bow Grip

Three fingers were on the stick while the littlest finger braced the side of the stick on the side closer to the musician. Frenchmen adjusted the tension of the hair by exerting pressure with their thumb (similar to performing on viols). The adjusting screw was developed by 1700 and the hair was then tightened into the frog through this mechanism. The screw mechanism could be used to tighten and loosen the bow hair. This old “French” bow grip made possible playing both chords and a single melodic line. It also provided better articulation

61 Boyden, History of Violin Playing, 150.
62 Ibid., 371.
63 Ibid., 152-153.
and rhythm in dance music. Michel Pignolet de Montéclair was a French composer who analyzed the “French” bow grip in 1711-12.

While in the early seventeenth century, the violin was held on the breast using the French bow grip (especially for playing dances), musicians in general and Italians in particular held the violin on the shoulder under the neck. The position of the violin was lower than it is today because there was no chinrest and its only support was the left hand. Italians held the bow with the thumb between the hairs and the stick and all four fingers held the bow. Furthermore, the bow was held further away from the frog (Figure no. 14 was taken from D. Boyden’s *The Art of Playing on the Violin* by Francesco Geminiani and Figure no. 15 was taken from G. Matte’s “An Abstract of the History of Violin Bowing”). This Italian bow grip was suitable for playing sonatas, which required advanced technique and various bowing strokes. In 1738, Michel Corrette (1707-1795), a French composer, organist, and writer, wrote in his *L’école d’Orphée* for the first time that the Italian bow-hold was an alternative option to the French grip.

According to Roger North (1651-1734), a music historian and amateur musician, Nicola Matteis (b. Naples-d. Colkirk, Norfolk - after 1713), an Italian violinist and composer who lived in London, advised Englishmen to accept the Italian bow-hold, where the thumb is located under the stick. However, the Italian bow-hold did not gain popularity at first. In 1693, which was twenty years after Matteis’s arrival, John Lenton (1657?-1719), an English violinist, composer, and singer, explained that the bow should be held half below the frog and half below the hair. An example of admiration for the French bow hold appeared in 1688, when the German composer and organist, Georg Falck (1630-1689), pointed out its great deep stroke.

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65 Boyden, op. cit., 152-153.
68 Ibid., 371.
69 Ibid., 152.
70 Walls, op. cit.
These two distinct bow grips appeared in the sixteenth century, were used in the seventeenth, and were still noticeable in the eighteenth century.⁷¹ Owing to the shorter bow design and size suitable for playing dances, the French bow grip was not only used in France but also in Italy and other countries at that time. In Italy its use declined and it was no longer used by the end of the seventeenth century.⁷² It was present in France until about 1725 when the Italian sonata became popular and, therefore, the more suitable Italian grip rose in prominence. The positions of the arm, elbow, and wrist were flexible for both of these bow grips, and players could achieve good articulation and light sound with these bow grips. However, in order to achieve a high quality of playing, performers had to press the bow well into the string, making the index finger crucial in applying pressure on the bow. Generally, the position of fingers on the stick depended on the length and balance of the bow. The short bow, frequently found in the early seventeenth century, was held at the frog, while with appearance of the long bows in the eighteenth century, the hand moved a few inches away from the frog.

Francesco Geminiani (Italian composer, violinist, and theorist, 1687-1762), Leopold Mozart (German composer, violinist, and theorist, 1719-1787), Joseph de Herrando (Spanish violinist

⁷¹ Boyden, op. cit., 152-153.
⁷² Ibid., 153.
and composer, late 1720/ early 1721-1763), and L’Abbé le fils (French composer and violinist, 1727-1803) discussed the Italian bow grip, which is quite unlike the modern bow hold. They recommended more activity from the body parts closer to the stick. Both the fingers and wrist had to be relaxed, and the lower arm actively moving to play the strokes, while the upper arm was only involved for the largest bowing strokes. The violin and bow holds are dissimilar in the eighteenth and nineteenth centuries. In the earlier century, the right elbow was placed relatively close to the body. Unlike this arm position, the later century reduced distance between the elbow and body (Figure no. 17 was taken from S. Babitz’s article “Differences Between.”). Baroque and Classical treatises advocated a low elbow position, which contributed to a relaxed manner of holding the bow. For example, Lenton stated that the elbow should be raised just enough as it is needed. Herrando most explicitly defined the distance from the elbow to the musician’s body as being equal to that of the extended thumb and index finger. He added that the lower arm should be moving, while the upper arm should remain still, accompanied by a flexible wrist and steady movement of the bow. Mozart was also against a high elbow, and in his treatise, he included engravings explaining the “good” and “bad” elbow positions (the same figures are in Herrando’s treatise).

As previously stated, because of the length of the Italian bows, it was common to hold the bow near the frog—but not at it. Corrette, who used a version of the Italian bow hold, held the bow at the end of third quarter of the bow’s length (on the way to the frog). In 1744, Berlin suggested holding the bow in the middle of the first third of the bow (close to the frog). Geminiani said that the bow should be drawn from the tip to the part beyond the fingers, implying that one should hold the bow near the frog, but not at it. If the bow is being held a little above the frog (not at the frog itself as in the modern bow hold), then it is possible to draw the bow in an up-bow direction, past the point where the fingers hold the bow, until it arrives at the actual frog.

In the late eighteenth century, due to modern bow construction, bow grips gradually standardized. However, performers still used the old version of holding the bow above the frog (as opposed to it being held at the frog) in the late eighteenth and early nineteenth-century,
according to the evidence of bow wrappings that measured half of the stick’s length. Such wrapping was noticed on Tourte’s types of bows, including Tourte’s own specimens.\textsuperscript{73}

Finger placement also varied in the late eighteenth century. Generally, it should be pointed out that the eighteenth-century bow hold implied some distance of index finger from the others. This technical aspect led to regulating the pressure by this finger and thus creating a desired sound. Leopold Mozart believed in this right-hand technique, mentioning in his treatise that the index finger influenced the crescendo-diminuendo dynamics (Figure no. 16 was taken from G. Matte’s Ph. D. dissertation “An Abstract of the History of Violin Bowing and its Impact Upon Performance: With Video Tape Illustrations of Bowing Technique in Selected Musical Examples”).\textsuperscript{74}

Herrando, Corrette, and L’Abbé le fils were supporters of slightly inclining the bowstick toward the fingerboard; Mozart did not endorse this technical detail because he thought that the resulting sound would be lacking in resonance. Both Mozart and L’Abbé le fils mentioned that the index finger should touch the stick with its second joint (and not first) in order to gain a more powerful sound.\textsuperscript{75}

The wrist was lifted in the nineteenth century playing and it also influenced its high placement in the modern bow hold. The violin hold of the eighteenth century was unique because the violin was situated toward the center of the body and pointed in a downward direction. Violinists in the nineteenth century raised the violin’s position by moving violin toward the left collarbone. Placement of the bow was adjusted according to these changes in the violin hold. From the details described above, Babitz notices that the bow hold of the eighteenth century was more natural than that of the nineteenth century, because the elbow was positioned higher.\textsuperscript{76}

\textsuperscript{74} Ibid., 318-319. Citation: Leopold Mozart, \textit{Versuch einer grundlichen Violinschule} (Augsburg, 1787/R1976), 56.
\textsuperscript{75} Walls, op. cit.
\textsuperscript{76} Sol Babitz, “Differences between 18\textsuperscript{th} century and modern violin bowing,” reprinted from \textit{The Score} and \textit{IMA magazine}, March 1957, 3.
Sol Babitz, the author of *Differences Between 18th Century and Modern Violin Bowing* (The Score and IMA magazine, 1957) emphasizes the importance of playing on period instruments when analyzing eighteenth-century performance practice. In the eighteenth century there were pre-Tourte bows similar to the “modern” bows with a concave stick. However,
when tightened, they would become straight or even have an outward curve. Their playing features were then identical to that of the bows with the outward curve.\textsuperscript{79}

If a musician holds the pre-Tourte bow firmly (as the Tourte’s “modern” bow is held), the resulting sound will be harsh; and reverse—if the “modern” bow is held with the baroque grip the tone will be weak. When performing music from before the mid-eighteenth century, it is important to differentiate between the pre-Tourte bow, which had a characteristic springiness, and the modern bow, which has a more clinging nature. The pre-Tourte bow has a specific “give” of the hair when it touches the strings. According to experiments made with the two kinds of bows, if the same amount of pressure is applied to the down-bow, the hair of the early eighteenth century bow will rise twice as high as the modern one at the point of contact with a string (Figure no. 18 was taken from S. Babitz’s article “Differences Between Eighteenth Century and Modern Violin Bowing”).\textsuperscript{80}

![Image: Early Bow and Tourte Bow](image)

**Figure no. 18: Early Bow and Tourte Bow**

**Influence of the Bow Construction on Playing Style**

Because bow size varied until Tourte standardized it, playing style differed. Leopold Mozart in his treatise advises that a longer and heavier bow should be lightly pressed and drawn faster if there are slurred, bouncing strokes. On the contrary, more pressure as well as slower

\textsuperscript{79} Ibid., 1.
\textsuperscript{80} Ibid., 2.
drawing should be applied to the lighter and shorter bow.\textsuperscript{81} The shorter bows of the eighteenth century had less “give” to the hair, which was tightened more. The player had to include more pressure when playing with this bow in order to achieve the same sound as with the larger one.\textsuperscript{82}

According to Babitz, the weak response of the pre-Tourte eighteenth-century bows at the initial contact with the string resulted in a soft tone at the beginning of each stroke. The full sound was produced only after slight finger pressure was applied, which was after the initial soft sound. Due to the natural weakness of the sound at the beginning of the stroke and applied pressure that followed it, the listener was able to hear piano followed by crescendo to its full sound. The utilization of finger pressure led to the creation of various crescendi: from slow and gentle to accented and immediate.\textsuperscript{83}

On the contrary, the “modern” bow achieves immediate full sound at the beginning of the stroke. In addition, there is an attack at the start of a stroke, which is more than a normal full sound. The performer must play with less tension in the bow grip if he wants to play without the natural initial accent. If a musician makes this accent at the beginning of the stroke with the early eighteenth-century bow, instead of having a natural softness the sound will be grating.\textsuperscript{84}

The construction of the “modern” bow gives the opportunity to perform a single stroke with equal dynamic throughout its duration. Since the bow is lighter in the upper half, when approaching the tip, the player should add slightly more pressure in order to retain an even tone. The early eighteenth-century bow produces a spontaneous diminuendo as the stroke advances toward the tip. This happens because the hair at the ends of the bow is tightly stretched. The bow’s springing nature also contributes to a diminuendo as it tends to return to its initial condition before fingers are involved in the stroke. The pre-Tourte bow was usually held a little above the frog (nut).\textsuperscript{85} Considering this bow hold technique, the performer would need a considerable amount of strength to be able to create the same dynamic level during one stroke.\textsuperscript{86} Modern bow technique, which developed after Tourte’s bow was invented, emphasizes the “endless” bow and tends to make the bow changes inaudible. In opposition, musicians of the

\textsuperscript{81} Ibid., 16.
\textsuperscript{82} Ibid., 2.
\textsuperscript{83} Ibid., 2.
\textsuperscript{84} Ibid., 3.
\textsuperscript{85} Ibid., 3.
\textsuperscript{86} Ibid., 3.
pre-Tourte period emphasized every bow change and the diminuendo toward the end of the stroke.\textsuperscript{87}

Bowing strokes such as slurs were used more often in the latter half of the eighteenth century than before. In addition, individual slurs involved more notes than before.\textsuperscript{88} Mozart supported this playing style as long as the first note of each beat in the slurred passage was accented.\textsuperscript{89}

Vibrato was used sparingly as an ornament only on longer notes and at cadences until the mid-eighteenth century.\textsuperscript{90} The baroque violin produced a transparent and softer sound than its modern counterpart because of its lower playing pitch, lower bridge, and limited playing length of the strings. All these factors caused less tension on the instrument and a less powerful sound.\textsuperscript{91} Babitz stated that the crescendo-diminuendo effect produced a delicate impression if played with the early eighteenth-century bow because of the bow’s construction and because of the limited use of vibrato. In contrast, the “modern” Tourte bow can produce a stronger and more intense crescendo-diminuendo effect. The Tourte bow is also capable of producing an even sound throughout the length of the entire bow. In order to understand how changes in the bow design influenced actual playing technique, it is important to note Boyden’s statement that the modern legato bowing of the late eighteenth century and after creates a contrasting sound to that of the non-legato early eighteenth century bowing stroke.\textsuperscript{92}

In the pre-Tourte period, the bow influenced the quality of sound by producing various dynamic shadings, which were considered the main source of expressive sound. Geminiani stated that the bow’s sound should contain both singing and speaking (chiaroscuro) qualities of melody, through the use of forte and piano. Mozart had similar point of view concerning this matter.\textsuperscript{93}

When slurring a group of notes in the pre-Tourte bow technique, the first note should be performed with crescendo, and as a result should be longer than the others. The slurs brought

\textsuperscript{87} Ibid., 8.
\textsuperscript{91} Stowell, \textit{Violin technique and Performance Practice}, 23, 31.
\textsuperscript{92} Babitz, op. cit., 9.
\textsuperscript{93} Ibid., 9.
changes in musical style since their articulation were different from non-legato strokes. From
the late eighteenth century and on, when playing with Tourte’s type of the bow, it is difficult to
distinguish if the notes are slurred or not because of wide vibrato and the bow’s even
dynamics. 94

In the eighteenth century, *staccato* and *spiccatoss* were considered as the same kind of
stroke because *staccato* could be played with the bow either completely lifted or half lifted off
the string. *Staccato* did not exist as an on-the-string stroke in the eighteenth century. The
modern strokes such as *martelé*, chords, slurred *staccato*, and *sforzato* are difficult to play with
the early eighteenth-century bow because of their noticeable attacks at the beginning of the
sound. 95

Babitz stated that currently, there is an opinion that in the early eighteenth century, notes
were played simultaneously by releasing the thumb pressure from the bow hairs, resulting in
loosened bow hair. 96 This bow grip was related to the practice of the French, who regulated the
tension of the hair by applying and releasing thumb pressure. 97 Marianne Rônez mentioned this
French grip in her article “Der ‘französische’ Bogengriff und seine praktische Anwendung”
(“The “French” bow grip and its practical application”). When thumb pressure was released,
the bow hair was loosened, and the musician was able to play different strings. This bow
technique can be compared to that of the viola da gamba where, besides playing the chords in
broken manner, it was possible to play them simultaneously owing to the loosened hair and the
flat bridge. 98 The long pre-Tourte eighteenth century bow was able to play three notes at the
same time for one and a half seconds, while Tourte’s “modern” bow can sustain three notes for
three seconds. 99 Boyden mentioned that the pre-Tourte bow because of its yielding hair is able
to perform double stops with great clarity, and without any harshness of sound. This bow is
also capable of bringing out clearly broken chords in a fast tempo. 100 Performing the
*arpeggiated* chords became a rarity in the nineteenth century because of its weak effect. The

94 Ibid., 10.
95 Ibid., 15.
96 Babitz, op. cit., 17.
97 Interview with Dr. Charles E. Brewer about Marianne Rônez, “Der französische Bogengriff und seine praktische
Anwendung,” *Historische Aufführungspraxis im heutigen Musikleben*, 94-111. Blankenburg am Harz, Germany:
99 Babitz. op. cit., 17.
100 David D. Boyden, “The violin Bow in the 18th Century” *Early Music* Vol. 8, no. 2, Keyboard Issue 2 (Apr.,
1980), 204-205.
chords began to be performed in the broken manner, divided in two sections, so as to attain a
richer and more continuous sound of the multiple stops.\footnote{Babitz, op. cit., 19.}

In his \textit{Dictionnaire de Musique} (Paris, 1765), Jean-Jacques Rousseau (1712-1778) refers
to a discussion related to the eighteenth-century bridge. Rousseau thought that this bridge was
convex in order to avoid hearing more than one string at a time during a performance of a
single-line melody. Arnold Schering’s discussion in his \textit{Verschwundene Traditionen des
Bachzeitalters} (\textit{Neue Zeitschrift fur Musik}, 1904) contradicts this point of view, suggesting that
the flatter bridge was used instead. Babitz believes that the curved bridge existed on the violins
of the pre-Tourte period, considering the significant “give” of the hair that was present in the
bows of that time. Under these circumstances, it would be impossible to play on one string if
the bridge was flat.\footnote{Ibid., 19.}
CHAPTER THREE

BOWING METHODS

Two important violin methods that examine bowings are the treatises by Francesco Geminiani (The Art of Playing on the Violin (1751)) and Leopold Mozart (A Treatise on the Fundamental Principles of Violin Playing (1756)). Georg Muffat’s Florilegium Musicum (1698) is another relevant resource that offers information gained from an analysis of Lully’s rules related to French bowings.

Francesco Geminiani

Geminiani’s treatise offers relevant explanations regarding bowing strokes in the first part of the eighteenth century. He was a supporter of Italian bow grip, advising that the bow should be held near the frog with all four fingers bracing the stick while the thumb is placed between the stick and the hairs. The index finger has a major influence on the sound’s volume and touches the stick at its first joint. The bow grip advocated by Geminiani is more advanced in comparison to the French bow grip (where the thumb is placed below the hairs). Nevertheless, it cannot be considered as the most advanced since Mozart’s firmer grip, which comprised the thumb and index finger bracing the stick at its middle joint, produced a richer sound.103

Boyden mentions that it is not clear why Geminiani considered the notes played without dynamic shadings on individual bowing strokes to be of mediocre value. The same unclear situation referred to staccato, which Geminiani advocated playing with the bow lifted off the string at each note. He supported this manner of staccato playing only in groups of eighth notes in Allegros and Prestos. In all other occasions, staccato was marked as either “bad” or “particular.” Geminiani also stated that it is not advisable to stress the first note of each bar with the bow in order to count the time (except where the composer marked it) because the

musical flow of the piece will be distorted. Furthermore, he was not a supporter of metrical
accents, which were widely accepted in other treatises of that time.\(^{104}\)

Geminiani’s treatise contains twenty-four musical examples and he explained each one
individually. He also provided twelve compositions, written for violin and basso continuo, that
are similar to sonata movements.\(^{105}\) In the examples Geminiani dealt with various stylistic
elements such as vibrato, arpeggio, appoggiatura, bowings, staccato, swelling and softening
the sound, etc. According to Geminiani, all these elements contribute to the musical expression,
which is relevant in every performance. There are five examples that are related to the bowings.

In example nine there are sixteen variations, which include various rhythms played with
a steady tempo and using diverse bowing strokes. Geminiani advised that the right hand
technique should involve a considerable wrist motion but with a less involved arm and without
participation from the shoulder. The example consists of various rhythmic combinations of the
sixteenth, eighth, quarter, and half note passages (Example no. 3.1).\(^{106}\)

The twelfth example combines the position shifts in the left hand and string crossings for
the right hand. Throughout the example there are sixteenth notes, which also appear slurred in
groups of two and three notes in four occasions (see Example no. 3.2).

Example no. 3.1

<table>
<thead>
<tr>
<th>Tema</th>
<th>Variation 1</th>
<th>Variation 2</th>
<th>Variation 3</th>
</tr>
</thead>
</table>

\(^{104}\) Ibid., viii.  
Example no. 3.2

Geminiani wished that “transpositions” of the hand, as he called them, should be practiced until they are learned completely. These transpositions include varying left hand positions and note combinations that are played on different strings. After the left hand technique is mastered, Geminiani advised that example twenty-four should be practiced because it is a good introduction to the twelfth example.

Exercise twenty-four has a free use of bowings and advocates practicing them on the open strings. Geminiani underlined that in this example the bow should be drawn upwards and downwards alternately. He also stressed that the bow should be in straight position over the strings and that it should be drawn on the string without raising it when playing the sixteenth notes. Geminiani preferred not to emphasize the time in music by accenting the beats in order to avoid getting the performer into the habit of emphasizing the first beat in every measure in order to count the time.

Geminiani provided in the same example twenty-four syncopation that is spread over two measures, where the last note of the first measure is tied to the first note of the second measure (Example no. 3.3).

Example no. 3.3

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107 Ibid., 5.
If, for example, the first note of the second measure were accented because of the meter, the syncopation would lose its musical value. If the first note of the each measure in the section of the piece is accented by bow pressure, then the “Air of the Piece,” as Geminiani called it, would be damaged. The accentuation should be applied only if there is composer’s intention or if it was already marked in the sheet music. Otherwise, Geminiani stated that there were a few places where the accents were acceptable. \(^{105}\)

In the sixteenth example Geminiani offered possible ways of executing two, three, four, five, and six notes in diverse rhythmic combinations. Geminiani included bowings such as slurred and separated strokes in this example (Example no. 3.4).

Example no. 3.4

![Example no. 3.4](image)

He also stressed that the bowings should be practiced until they were completely learned because the musician would not be able to express the musical ideas due to a lack of technical skills. \(^{106}\)

In the twentieth example, Geminiani included notes of different values such as the half, quarter, eighth, and sixteenth notes. He added markings to each of these notes in order to point out their performance. For example, Geminiani wrote swelling signs above some notes and pointed out the plain notes, which meant that they should be played with the bow remaining on the strings. The swelling signs (○) indicated playing crescendo-diminuendo on one stroke; slanted strokes (>) that were written above the notes described that equal dynamics should be used throughout the stroke; and vertical strokes (1) depicted the staccato (Example no. 3.5). \(^{108}\)

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\(^{105}\) Ibid., 9, 33.
\(^{106}\) Ibid., 6, 22-23.
\(^{108}\) Ibid., 8, 27.
One of the important technical elements that contributes to musical expression and as explained by Geminiani is *staccato*, which he describes as “the rest, taking breath or changing a word.” For Geminiani, vertical lines above the notes indicate *staccato*, which require the notes to be played with the bow lifted off the string. Geminiani also pointed out that swelling and softening of the sound could express diverse affections in music. He further mentioned the importance of “ornaments,” such as *piano* and *forte*, which can produce various nuances in a melodic line. These musical qualities can be compared to a speaker who raises and lowers his voice.\(^\text{109}\)

**Leopold Mozart**

Leopold Mozart wrote one of the most significant violin methods in the eighteenth century. His *Versuch einer gründlichen Violinschule (A Treatise on the Fundamental Principles of Violin Playing)* was published in Augsburg, 1756. In the treatise, Mozart emphasizes the generally accepted *diminuendo-crescendo-diminuendo* dynamic of the early eighteenth century bow. As a supporter of the “pure” tone, Mozart connected it to diverse dynamic nuances, emphasizing that every tone should begin softly.\(^\text{110}\)

Mozart also established four types of dynamic nuances. All four divisions should be rehearsed with the bow being drawn both from the frog and from the tip. Mozart also explained that this is a good practice for achieving both weak and strong sounds in different parts of the bow.\(^\text{111}\) This would contribute to gaining control for drawing the bow to make a high-quality sound. Mozart further suggested achieving an evenness in volume throughout the single long bow stroke if one wishes to achieve a true purity of tone in slow melodic phrases.\(^\text{112}\)

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\(^{109}\) Ibid., 7.

\(^{110}\) Babitz, op. cit., 6.


\(^{112}\) Ibid., 99-100.
The first division consists of three basic sounds: soft, strong, and soft (Figure no. 19 was taken from Knocker’s translation of A Treatise on the Fundamental Principles of Violin Playing by Leopold Mozart). He further explains that a down-bow stroke should start with the soft sound. The sound grows because of increased pressure, which is hardly noticeable as the bow is driven towards its middle. At this point, the sound achieves its highest level after which the decrease of pressure gradually follows. The sound fades away slowly as the bow moves toward the point. This is a good practice according to Mozart because long phrases are found in slow movements such as Adagio. The long sustained phrases resemble lyrical qualities in singing. For example, a singer makes diverse dynamic shadings within a single breath.\(^{115}\)

According to Mozart, the second division is strong, decrease, and weak (see Figure no. 19). The first sound that occurs is loud followed by a progressive decrease in loudness (according to Mozart, even though there is a loud sound at the beginning, it should still have softness at the beginning of the stroke). The gradual decrease leads to the final soft sound. This type of dynamic nuance is frequently found in pieces with a fast tempo because the sound is shorter and less sustained.

The third division starts with softness and has a crescendo (see Figure no. 19). Therefore, the sound is organized as weak, increase, and strong. Here the final sound is loud and so Mozart suggested that crescendo should be played by increasing the bow speed (instead of the usual finger pressure and playing close to the bridge). When playing the strongest sound, the bow’s drawing should be the fastest. Mozart’s violin method was the first that mentioned this technique of playing a crescendo.

The fourth division consists of two smaller crescendos and diminuendos on a single stroke.\(^{116}\) The beginning of the stroke starts with a weak sound, which is followed then by a strong one. After the strong sound, there is a return to a weak sound. The strong sound occurs again, after which the remaining weak sound closes this succession. Mozart mentioned that this division might be practiced with an increased number of interchanged weak and strong sounds (see Figure no. 19).\(^{117}\)

Leopold Mozart mentioned in his treatise that bowing is an essential factor in expressing musical ideas. A performer conveys a series of different moods through various bowings.

\(^{115}\) Ibid., 97.
\(^{116}\) Babitz, op. cit., 6.
\(^{117}\) Knocker, op. cit., 97-99.
Whether it is happy, sad, serious, or lively, the correct bowings will contribute to an accurate depiction of these emotions. Mozart described numerous types of bowings. In the first example, Mozart provided a passage of descending sixteenth notes, which are played on separate bowing strokes in a fast tempo (Example no. 3.6). He advised emphasizing the first sixteenth note of each beat. There is a stroke above these accented notes. All the notes in this passage should be played evenly.

![Diagram of bowing examples](image)

Figure no. 19

Example no. 3.6
In another example, there is a series of two slurred sixteenth notes (Example no. 3.7). Here the first sixteenth note in the slur should be elongated and louder, while the second should be shorter, softer, and be played a little later (to make up for the longer first note). According to Mozart, this playing style would be tasteful. In addition, the possibility of rushing would be diminished because of the first note, which is played longer than its real value.118

Example twelve is interesting because the slur covers all sixteen of the sixteenth notes in an entire measure (Example no. 3.8). According to Mozart, the first sixteenth note of each beat should be accented. Mozart indicated this by writing strokes both above and below the notes.119

Example no. 3.7

In exercise fourteen there is a series of two slurred sixteenth notes (see Example no. 3.9). The strokes in this example appear under the slur. Mozart emphasized that although the notes are slurred, there needs to be separation between the two notes because of the written vertical strokes. The bow should be lifted between the notes in order to detach them from each other. Mozart explained that this exercise assists a student in learning how to separate notes that are played in one stroke.120

Example no. 3.8

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118 Ibid., 114-115.
119 Ibid., 117.
120 Ibid., 120-121.
Mozart further analyzes variations of the bowings made up of unequal and different notes. If there is a slur above two or more notes, the first slurred note needs to be accented and held slightly longer than its value (Example no. 3.10). The following notes should be played with a decreased dynamic and a little later.\(^{123}\)

Mozart emphasizes the importance of precise execution of the dotted rhythms (dotted sixteenth note and the thirty-second). The dotted note should be held its entire value. Mozart advised that the following thirty-second should be played little later than its value is in order to avoid speeding up the tempo (Example no. 3.11). The bow should be lifted in between to detach the notes that are played on separated bowing strokes. Lifting the bow makes the music more agile while the slurred figure without the lift makes it sound more lyrical and sustained.

\(^{123}\) Ibid., 130.
The dotted note under the slur in the example below should be played in a sustained manner, and prolonged (Example no. 3.12). The reason for Mozart’s emphasis of the dotted note lies in the frequent rushing and therefore shortening the dotted rhythm. The note that follows the dotted note should be shorter than its real value is in order to make up for the longer value of the previous dotted note. The dotted note should also be emphasized by a strong attack and it should gradually reduce in volume while leading to the next note. Mozart recommended that the tempo should always be steady when playing these passages.\textsuperscript{125}

Example no. 3.12

Leopold Mozart also emphasized in his treatise the importance of the down-bow rule, which he applied in most situations (there were exceptions). His opinion therefore contrasted with that of Geminiani. He believed that the first note in each measure should be played down-bow because of the metrical accent. The metrical accent emphasizes the most important notes, which appear on strong beat(s) of the measure. This rule also applied to smaller note values within the beat; emphasizing the accented parts by playing them down-bow. The down-bow rule continued to be dominant in the eighteenth century.\textsuperscript{126}

Mozart illustrated the first rule in an example of 4/4 meter signature where there is no rest at the beginning of the bar, but the eighth notes start immediately (see Example no. 3.13). The first eighth note is played with a down-bow stroke. If the last note of this measure is a quarter note, then it is performed with down-bow stroke and the first note of the next measure is played down-bow as well. Therefore, an up-bow at the beginning of the second measure is avoided. The bow should be returned quickly to the frog in order to repeat the down-bow stroke in this example.\textsuperscript{127}

\begin{itemize}
\item \textsuperscript{125} Ibid., 130.
\item \textsuperscript{126} Boyden, \textit{History of Violin Playing}, 401.
\item \textsuperscript{127} Knocker, op. cit., 74.
\end{itemize}
Example no. 3.13

If an eighth, sixteenth, or thirty-second rest appears at the beginning of a 3/4 meter, then the first eighth note following the rest should be started with an up-bow (Example no. 3.14).\textsuperscript{128}

Example no. 3.14

If the same value rests exchange with the notes of corresponding value, the consecutive up-bows should be performed (Example no. 3.15).\textsuperscript{129}

Example no. 3.15

Adagio

However, Mozart mentioned that if a measure in 3/8, 6/8, or 12/8 meter contains an eighth note rest at the beginning of the bar followed by two eighth notes, then the first note should be played with a down-bow (see Example no. 3.16).\textsuperscript{130}

\textsuperscript{128} Ibid., 74.
\textsuperscript{129} Ibid., 75.
\textsuperscript{130} Ibid., 75.
Mozart emphasized that in the examples where the quarter note consists of the two or four equal notes, the first one should be played with the down-bow (Example no. 3.17).

Nevertheless, there is an exception to this rule. If a fast tempo requires slurring the last two notes in the measure of 4/4 with an up-bow in order to arrive to the down-bow in the next measure, then the first of the two equal notes will not be performed with a down bow (Example no. 3.18).\footnote{Ibid., 76.} Mozart wanted the lifted bowing stroke when playing these two slurred eighth notes because of the strokes, which were written above the notes.

In one of the examples Mozart prefers series of dotted rhythms to be played with separated bowing strokes (see Example no. 3.19).\footnote{Ibid., 77.} In syncopated rhythms the bow should
change strokes, such as in the example of 2/4 time signature, and the syncopated note should be sustained with a slight attack on it (Example no. 3.20).\textsuperscript{133}

Example no. 3.19

Example no. 3.20

A similar situation is found in a 3/8 meter where all the eighth notes are played with consecutive down and up-bow strokes. Mozart wrote out the strokes at the beginning of each measure, emphasizing the strong beats in each measure (Example no. 3.21).\textsuperscript{134}

Example no. 3.21

Mozart mentioned that when a long and two short notes appear in music, the first short note should be played with the down-bow and all the following notes are played as it comes (Example no. 3.22).\textsuperscript{135}

\textsuperscript{133} Ibid., 80.  
\textsuperscript{134} Ibid., 84.  
\textsuperscript{135} Ibid., 79.
However, if the first short note is played with an up-bow, then both the two short notes should be slurred (Example no. 3.23).\footnote{Ibid., 79.}

At the end of chapter four, Mozart recommended a practicing method for the fast sixteenth note passage (Example no. 3.24). The successful performance lies, according to Mozart, in avoiding acceleration by shortening the last two sixteenth notes in a group of four. This can be avoided by practicing in the slow tempo at first with long on-the-string bowing strokes. After mastering this playing manner, the tempo should be increased and the length of the bow stroke reduced.\footnote{Ibid., 87.}
Other Important Writers

Georg Muffat (1653-1704) was an Alsatian baroque composer who studied with Jean-Baptiste Lully in Paris from 1663 until 1669 and therefore came in direct contact with Lully’s musical style. He gave a detailed explanation in his collection of dances *Florilegium musicum* (I part, Augsburg 1695; II part, Passau 1698) of Lully’s usage of the down-bow rule in French music and described the differences between Italian and Franco-German bow grips. In the example of three quarter notes in the measure which are played in a fast tempo, Muffat suggested that the second and the third notes should be played up-bow with a bouncing off-the-string stroke instead of *portato* or *staccato*. (Example 3.25) The bowing depends of the tempo in 3/4 meter as it can be seen in the examples 3.25 and 3.26.

Example no. 3.25

![Example no. 3.25](image)

Another example characteristic of Lully’s style suggested that the first note of each 3/4 measure should start the down-bow (the two strokes following the first down-bow are played up and down-bow) (Example no. 3.26).

Example no. 3.26

![Example no. 3.26](image)

Muffat referred to the dance qualities in French music of the late seventeenth century when he described this rule. Italians and French used this rule in the seventeenth century

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because it was suitable for emphasizing the stressed beats in dances.\textsuperscript{139} In his collection Muffat also mentioned different bowings in allegro and adagio that relate to the playing of sonatas.\textsuperscript{140}

In Tartini’s \textit{Letter to the student Signora Lombardini}, he advised that the student should master the technical skills of the right hand before attempting to express the music.\textsuperscript{141} The student should incorporate into her practice routine elements such as holding, balancing, and pressing the bow into the string with a good control. Each sound should start with softness, which implies light pressure and \textit{pianissimo} dynamic. This resulting sound is soft because it is produced from the friction between the string and a light touch of the bow hair, avoiding a percussive sound caused by too much pressure of the bow into the string. The soft beginning sound should be practiced at all parts of the bow and in both up and down-bow directions.\textsuperscript{142}

Tartini described further that as the bow stroke continues, sound develops as a result of the progressive pressure increase of the right hand, leading to \textit{fortissimo} at the middle of the bow stroke. There is no danger of the sound becoming rough if the softness was apparent at the beginning. Tartini suggested practicing this swell starting from \textit{pianissimo} and increasing sound to \textit{fortissimo} on the open string. After \textit{fortissimo} is played, sound should gradually decrease. Tartini stated that the swell is the most demanding and significant element in violin playing.\textsuperscript{143}

After this is mastered, the wrist motion and its “pulsation” as Tartini called it, which are essential for playing fast bowings, should be exercised by playing Corelli’s solos, which consist entirely of sixteenth notes. Tartini commented further that the student should increase the speed of these pieces each time until the student is able to play them in the fastest tempo. Introducing the \textit{staccato} in practicing this music is a good preparation. Therefore, the original note values should be shortened and the rests should be inserted between the notes (see Example no. 3.27, the original note values and their execution).\textsuperscript{144}

Tartini advised playing these compositions with various parts of the bow such as the tip; the part between the tip and the middle; the middle, etc. Tartini emphasized the importance of

\textsuperscript{139} Boyden, \textit{History of Violin Playing}, 257, 401.
\textsuperscript{140} Ibid., 257.
\textsuperscript{142} Ibid., 11.
\textsuperscript{143} Ibid., 13.
\textsuperscript{144} Ibid., 15.
starting with both an up and down-bow stroke, which suggests that he was open to learning to play in various manners. According to Tartini, if the student wants to articulate rapid music in a clear and easy way, a useful exercise includes string crossings, which involve the non-adjacent strings (Example no. 3.28).

Example 3.27

Example no. 3.28

Tartini further mentioned that this exercise should be practiced often and in different keys. Tartini also wrote *The Art of Bowing* (*L’arte dell’ arco*, Paris, 1758), which contains thirty-eight variations that are based on the Gavotte from Corelli’s Sonata op. 5 no. 10.

Johann Joachim Quantz wrote *On Playing the Flute* (London, 1985; *Versuch einer Anweisung die Flöte traversiere zu spielen* (Berlin, 1752/R, 3/1789/R) in 1752 and explained that the material included in this treatise is applicable to all instruments. Quantz spent time in Italy from 1724 to 1726, and visited Paris in 1726 and London in 1727. His instruction regarding practicing the same passage both down and up-bow resembles Tartini’s suggestion in his *Letter to Signora Lombardini*. From his travels Quantz was acquainted with the French and

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145 Ibid., 17.
Italian styles, stating that former had articulated and short strokes, which were more impressive than latter’s long and “dragging” strokes.\footnote{Pauly, op. cit., 346, 348.}

L’Abbé le fils (Joseph-Barnabé Saint-Sevin, 1727-1803) was a French violinist and composer. In his treatise \textit{Principes du violon} (Paris, 1761/R, 2/1772/R), L’Abbé le fils advocated his view that the bow should be held at the frog. This attitude differed from that of Geminiani, Mozart, and Michel Corrette (1707-1795), all of whom advocated a hand position slightly above the frog. The bow hold of L’Abbé le fils was generally accepted in the late eighteenth century because of its influence on expressive features. He also anticipated the modern bow-hold technique by suggesting that the index finger should touch the bow with its second joint, while slightly separated from other fingers, resulting in greater control over the sound. The thumb should be placed opposite of the middle finger and it should carry the weight of the bow.\footnote{Stowell, \textit{Violin Technique and Performance Practice}, 59-61.} L’Abbé le fils continues that the tip of the little finger should be placed on the stick above the frog. Its position improves the hand control when drawing the bow and provides balance for elegant bowing strokes. An advantage resulting from all these technical details was an increase in energy when drawing the bow, in comparison to the sound which resulted from the graceful bow holds found in drawings well into the second half of the eighteenth century. L’Abbé le fils also reminded that the fingers should be relaxed because they participate with the entire hand when moving the bow.\footnote{Pauly, op. cit., 350.} In general, Italian authors were inclined toward this advanced bow-grip. The only exception was their support of holding the bow a little above the frog.

In the eighteenth century, Germans were more inclined to hold the bow slightly above the frog rather than at the frog (as in modern bow hold), as seen in Georg Simon Löhlein’s \textit{Anweisung zum Violinspielen} (Leipzig and Züllichau, 1774). This hold had negative aspects because the clearest articulation, which is at the middle of the bow’s stick, could not be achieved anymore at that place but was performed at the point. In the early nineteenth century authors, such as Frenchmen Rode, Kreutzer, and Baillot (\textit{Méthode de violon}, 1803), advocated holding the bow at the frog. Authors such as Mazas and Bruni opposed this, stating that the hand should be placed near the frog. Even in the nineteenth century players held the “modern” bow in an older manner, above the frog. Paganini accepted the bow hold near the frog, which
enabled him to execute numerous “thrown” bowing strokes with great control. The disadvantage of this bow hold technique was that the sound was not sufficiently rich.\textsuperscript{149}

In the period before the late nineteenth century, the players usually held the thumb in straight position. In 1834 Baillot supported this point of view in order to achieve the relaxed bow hold. Most frequently, the thumb was placed opposite of the second finger. The thumb position influenced the placement of the index finger. In the late nineteenth century and today the bent thumb replaced the previous straight thumb. Until the end of the eighteenth century, the index finger usually was separated from the other fingers in order to control the volume. This changed in the nineteenth century when the index finger was held closer to the other fingers and the main pressure on the bow was applied by combining the thumb, index, and wrist-joint.\textsuperscript{150}

After the appearance of Tourte’s bow, there was no need of such a role for the index finger because the new bow design enabled pressing all of its parts with equal strength.\textsuperscript{151} Pierre Baillot (1771-1842), Pierre Rode (1774-1830), and Rodolphe Kreutzer (1766-1831), French authors of the violin method \textit{Méthode de violon} (1803), thought that the thumb, index finger, and wrist-joint should all participate in the pressure on the bow. In order to achieve this, the hand had to be inclined. Baillot in his treatise \textit{The art of the violin} (\textit{L’art du violon}, 1834) added to the above statement stating that the thumb is crucial in this process. Then the forearm can move independently from the upper arm. All four fingers participate in pressure and influence the string’s vibration. Therefore, the force of the thumb balances the finger-pressure from above.\textsuperscript{152}

A German violinist, Louis Spohr (1784-1859), who was educated in the Mannheim School in Germany, was the author of the \textit{School of Violin Playing} (\textit{Violinschule}, Vienna, 1832). His proper bow-hold featured a bent thumb placed opposite of the middle finger. The index and middle fingers should have main control in holding the bow. The thumb should be close to the nut, touching the stick with its tip. Spohr suggested that index and middle fingers

\begin{itemize}
\item\textsuperscript{149} Stowell, op. cit., 59-61.
\item\textsuperscript{150} Stowell, \textit{Cambridge Companion}, 134.
\item\textsuperscript{151} Stowell, “Violin Bowing in the Transition,” 319.
\item\textsuperscript{152} Ibid., 319. Citation: Pierre Baillot, \textit{L’art du Violon, nouvelle methode} (Paris, 1834), 15.
\end{itemize}
embrace the stick by their first joints. Jacques-Féréol Mazas (1782-1849) also advised that
the thumb should be bent, but most other nineteenth century authors supported an idea of its
straight position. Spohr further stated that all the fingers were supposed to touch each other
with their tips. That signified that there was no space between them (Figure no. 20 was taken
from G. Matte’s “An Abstract of the History of Violin Bowing” and is a reprint from Frederick
H. Polnauer’s and Morton Marks’s Senso-Motor Study and Its Application to Violin Playing).

The curved shape of the right hand should not reveal any knuckles. One more relevant
technical element of Spohr’s treatise referred to the placement of the bow, which was leaned
toward the fingerboard while wrist was raised and elbow dropped. L’Abbé le fils wrote in his
treatise *Principes du violon* (Paris, 1761/R, 2/1772/R) that the bow should be leaned towards the
fingerboard. This shows that he was ahead of his time because his successors accepted this bow
position after he mentioned it in his advanced treatise. However, authors such as Leopold
Mozart, Johann Friedrich Reichardt, and Antonio Lolli discouraged this position because of its
damaging effect on sound quality.

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155 Eddy, op. cit., 186. Citation: Spohr., op. cit., 10.
Figure no. 20: Louis Spohr-Violin School
CHAPTER FOUR

BOW STROKES

Several important bowing strokes developed throughout the eighteenth and nineteenth century, including the détaché, martelé, staccato, sautille, and spiccato. In the baroque period, détaché was the bowing stroke used for playing the notes separately. In the late eighteenth century and after, it became the smooth bow stroke. If musicians in the baroque era wanted to play “legato,” they could achieve this only by slurring the notes. In both the eighteenth and nineteenth centuries, détaché was the bowing stroke that was usually used when there were no markings in the music. Samuel and Sada Applebaum stated in their With the Artists (New York, 1955) that three distinct strokes are derived from détaché, and these are détaché lancé, détaché porté, and portato. Détaché lancé denotes a slight brake between the strokes. The start of détaché porté should be played rapidly and with the distinct finger pressure at beginning of the stroke. Portato is performed by slurring détaché porté strokes.

Bowstrokes to c. 1780

The Slurred Legato Bowings

There were occasional slurs in the baroque music but they were used infrequently; however, one cannot claim that the lack of slurs was directly related to performance practice. The reason for this lies in the limited abilities of movable type for printing sheet music, according to the article about the “Bow” in Oxford Dictionary Online. As early as 1619, the Italian composer Gabriele Usper (1609-1632) used the term “ligate” to refer to slurring four notes on one bowing stroke. In 1620, Italian musician and composer Riccardo Rognoni (1550-1620) stated that if the performer wants to slur two, three, or more notes, he should succeed in doing this by saving the bow and by actively using a right-hand wrist. Marco Uccellini (1603-1680), the Italian composer and instrumentalist, slurred together large groups of notes, usually thirty-second notes. At the end of seventeenth century, the bows became one to one and half

158 Ibid., (Citation: Samuel and Sada Applebaum, With the Artists (New York, 1955), 263.
times longer than bows in 1620s, which allowed many notes to be slurred in a single stroke. Proofs for this are found in engravings of Roger’s edition of Corelli’s Sonatas Op. 5 dating from 1710. According to English historian and composer Charles Burney (1726-1814), in 1731 the Italian violinist Pietro Castrucci (1679-1752) slurred twenty-four notes in his solo.\textsuperscript{159}

L’Abbé le fils improved right-hand bowing technique by including the finger participation, creating smooth bow changes. Through advancements in bow construction, as well as its improved design, the bowings began to approach to the “\textit{legato}” musical style of modern times. However, the only way to create this \textit{legato} sound on a pre-Tourte bow was to slur the notes.

In the mid-eighteenth century there was a desire to achieve a voicelike sound on the violin. Therefore, there was increased usage of slurs (sometimes written as such and sometimes not), which indicated that the instrument should exploit its singing features by playing the longer musical phrases. This style was especially apparent in slow movements where long melodic lines were found. The Italian violinist, Francesco Galeazzi (1758-1819), supported this idea, stating that in an Adagio movement the bow should never be lifted off the string in order to resemble the singing of the human voice. He further suggested that sometimes it is desirable to use a single bow stroke for the entire musical phrase. In general, Galeazzi mentioned that the bow changes should be made sparingly.\textsuperscript{160} As Galeazzi noticed, from two to one hundred twenty-eight notes could be played in one slur. When slurring the notes, the bow should be drawn carefully, paying attention that the notes are played accurately and with equal quality. He added that the bow should be raised off the string between these slurring strokes.\textsuperscript{161}

\textit{Tremolo}

In the baroque period \textit{tremolo} did not just mean rapidly playing notes on separated bow strokes. At the end of the eighteenth century one of its numerous meanings was vibrato. Furthermore, the Italian composer Claudio Monteverdi (1567-1643) defined \textit{tremolo} as playing measured small note values. He refers to this kind of tremolo that gives an effect of excitement in describing \textit{stile concitato}. Most often tremolo meant pulsating the single note on the single


\textsuperscript{160} Stowell, \textit{Violin Technique}. (Citation: Galeazzi. Elementi... (1791), Vol. I, pt. 2, p. 201-202), 170-171.

\textsuperscript{161} Ibid., (Citation: Galeazzi, Elementi, Vol. I, pt. 2, p. 156), 171.
stroke, which is similar to the *tremulant* effect on organ. Usser and Marini used *tremolo* in this context in 1619 (Example no. 4.1).\(^{162}\)

**Staccato**

*Staccato* is another bowing stroke that existed in the baroque period. The *staccato* is a past participle of *staccare*, which is also a short version of the term *destaccare* (meaning detached).\(^{163}\) The *staccato* stroke was very different from various staccato strokes, such as *martele, sautille, spiccat*o and other thrown bowings that appeared in the period following Tourte’s invention.\(^{164}\) In the thrown bowing the musician throws the bow onto the string such as in thrown arpeggios and thrown staccato.\(^{165}\) In 1705, the French theorist and composer Sébastien de Brossard (1655-1730) stated that all *staccato* strokes are similar to *spiccat*o and mean playing clearly separated strokes on the string instruments in order to make a dry sound, which is opposite of the long sustained one. Brossard also mentioned the French terms for *staccato, picqué* and *pointé*.\(^{166}\)

Example no. 4.1

![Example no. 4.1](image)

The eighteenth-century *staccato* had a more obvious break between the notes than the usual strokes. This articulation was achieved by lifting the bow off the string more than usual and produced a dry, separated stroke in the lower half with an attack, but not as strong as in a

\(^{162}\) Walls, op. cit.
\(^{163}\) Ibid.
\(^{164}\) Stowell, op. cit., 168-169.
\(^{166}\) Walls, op. cit.
“modern” staccato. L’Abbé le fils considered that this staccato as détaché meaning detached.\textsuperscript{167} Leopold Mozart explained that staccato is “struck” and that it should be played with short bowing strokes without dragging the bow.\textsuperscript{168} Italian violinist Bartolomeo Campagnoli (1751-1827) had a different opinion from Mozart and Quantz in that staccato should be played at the tip of the bow and clearly articulated. If used wisely, its sound is then very effective because it contrasts with the longer musical phrase. A minority of authors, including Quantz, emphasized the importance of tempo in performing any manner of staccato.

Staccato was used before the 1800, as both a separated and slurred stroke. Mozart advised bow pressure to be included at the beginning of each note under the slur when playing the slurred staccato. Marked wedges indicated that the bow should be lifted at the end of each note.\textsuperscript{169} English musicologist Robert Donington (1907-1970) emphasized in his The Interpretation of Early Music (London, 1963) that baroque staccato playing should be performed in a leisurely manner with allowance for rests between the notes. L’Abbe le fils described roulades (an elaborate run of several notes played in continuous manner) in his Principes du Violon (1761). Roulades are variously slurred, and are indicated by slurs and dots. The first note in the slur should be played at a moderate volume, after which the sound should swell as it proceeds to the final note, which should be the loudest. If the two, three, or more notes have dots above them and appear under one slur, then L’Abbe le fils called this the coup d’archet articule (brilliantly articulated stroke). The wrist should be relaxed while evenly articulating each note (in both the up and down bow).\textsuperscript{170}

The wedges or dots above or below the notes (as in spiccato) indicated that staccato notes should be separated with more than the usual pause. Since the dots were also applied to notes egalés, it was not always clear in baroque music whether this marking denoted the staccato or some other stroke. In 1660, G. A. Pandolfi was among the first composers to use this notation in Sonate a violino solo, op. 3. Italian composer, Antonio Veracini (1659-1733), incorporated the vertical strokes that marked staccato playing in his Sonatas, op. 1 (from 1692). In the seventeenth and early eighteenth centuries, rests placed between notes apparently

\begin{footnotes}
\textsuperscript{167} Stowell, op. cit., 168.
\textsuperscript{168} Walls, op. cit.
\textsuperscript{170} Stowell, op. cit., 173.
\end{footnotes}
emphasized separation and the use of \textit{staccato}. Mozart was familiar with the vertical strokes above or below the notes, which he called \textit{abgestossen} (staccatoed) and described that notes with these markings should be played \textit{staccato} (Example no. 4.2). Furthermore, Quantz, Löchlein, Reichardt, and Mozart introduced terms such as \textit{absetzen} (to separate the notes as in \textit{staccato} playing), \textit{aufheben} (to lift up), and \textit{erheben} (to lift up), which depicted a lifted bow stroke.\footnote{Walls, op. cit.}

![Example no. 4.2](image)

In the period before 1750 the slurred \textit{staccato} bowing strokes were found in various combinations. These complicated \textit{staccato} strokes had virtuosic qualities in violin playing. \textit{Staccato} as a virtuosic element is encountered in many eighteenth-century compositions such as in Pietro Castrucci’s (1679-1752) op. 2 no. 10 (1734), where a group of twenty-two sixteenth notes are combined with a dotted slur. Even the Austrian composer W. A. Mozart (1756-1791) mentioned the up-bow and the down-bow \textit{staccato} directions when admiring the playing of the German violinist, Ignaz Fränzl (1736-1811).\footnote{Ibid.}

In the eighteenth century, there were various markings designating slurred \textit{staccato} that had ambiguous meanings depending of the tempo and style of the musical piece. Generally, the dots were marked under the notes and, in slow movements, indicated a \textit{portato} bowing stroke (Example no. 4.3). Instead of these dots, at times vertical strokes were placed under the notes, especially in fast music. They usually indicated that the bow should be lifted off the string.\footnote{Stowell, \textit{Violin Technique and Performance Practice}, 172-173. Source: David D. Boyden, \textit{The History of Violin Playing} (London: Oxford University Press, 1965), 416.} Nevertheless, composers did not strictly accept these different notations as general rule.
Example no. 4.3

The “Viotti” Bowing

The “Viotti” bowing was employed in the eighteenth century by Viotti himself and others, who imitated him. Unfortunately, this manner of playing is not explained in modern methods. In Viotti’s concertos the stroke is seldom found actually marked in the sheet music (Example no. 4.4). Although there were no markings for this stroke in the early eighteenth century, musicians were acquainted with the baroque style and were able to play correctly without the written markings. It was easier to play with the early eighteenth century bow the strokes that did not have dots.

Example no. 4.4

The Slurred Tremolo

This stroke, frequently used in the eighteenth century, includes several repetitions of the same note (see Example no. 4.5). This group of notes is slurred, and it is performed in the same manner as staccato when the dots or strokes are written under the slur. However, if only the slur appears in the notation, then the “legato” style should be applied. French composer Antoine Bailleux (1720-1798) called it balancement (wavering) in 1779, adding that Italians’ common name for the stroke was tremolo. His explanation noted that in this stroke, notes of the same

174 Ibid., (Citation: Bailleux, Méthode raisonnée… (1779), p. 11, 175-176.
171 Eliot Chapo, Professor of Violin at Florida State University (April, 10, 2009).
scale degree and duration are under one slur. Bailleux emphasized that the bow should remain on the string until the entire bow stroke has been drawn.\textsuperscript{176}

Example no. 4.5

\textit{Portato}

This stroke (French-\textit{craquer}) is similar to the slurred \textit{staccato} except that it is used in slow character pieces. It comprises the notes of different scale degrees that are connected by a slur. The dots or dashes that are written under the slur denote \textit{portato} (Example no. 4.6). Its execution consists of an alteration of pressures and releases in the right hand, but the bow is continuously drawn during \textit{portato} stroke. The \textit{portato} stroke can create a very expressive character. Therefore, Stowell advises that it should be only occasionally played.\textsuperscript{179}

Example no. 4.6

\textit{Ondeggiando, Bariolage}

Johann Jakob Walther (1650-1717) referred to \textit{ondeggiando} (Italian: undulating) in his \textit{Scherzi da violino solo} (1676) to depict the string oscillations in the slurred bowing (see Example no. 4.7). Although \textit{ondeggiando} was used throughout this period, the authors omitted mentioning it more in the first half of the eighteenth century than later. Austrian violinist and composer Heinrich Ignaz Franz von Biber (1644-1704) utilized \textit{ondeggiando} in his sixth

\textsuperscript{176} Ibid., (Citation: Bailleux, \textit{Méthode raisonnée}…(1779), p. 11, 175-176.

\textsuperscript{179} Ibid., 176.
“Mystery sonata” (1676), which opens with string crossings that sound unison. In the early
nineteenth century, Baillot called this unison interval made out of two adjacent strings
*bariolage*. However, *ondeggiando* was related to variable pitch oscillations using vibrato
according to Tartini and Löchlein.\(^\text{180}\)

Example no. 4.7

![Example no. 4.7](image)

One of the dominant bowing strokes in the eighteenth century was *bariolage* (Example
no. 4.8). It was played on two adjacent strings, one of which was an open string. More often it
involved slurring the notes rather than separated strokes. *Bariolage* required an agile wrist and
forearm. In their treatises, eighteenth-century authors did not discuss *bariolage*.\(^\text{181}\)

Example no. 4.8

![Example no. 4.8](image)

**Arpeggiando, Batterie**

*Arpeggiando* was frequently encountered in the baroque music and it refers to playing a
broken chord in slurred patterns. Walther exploited this pattern by writing “*arpeggiando con
arcate sciolte*” (arpeggios with unshackled bow) above the chords in his *Scherzi da violino* solo.
In a more complex example, Vivaldi wrote three various articulated lines for four violins in the
Larghetto from the Concerto in B minor from *L’estro Armonico* op. 3 (1712). The first plays

\(^{180}\) Walls, op. cit.

\(^{181}\) Stowell, *Violin Technique*, (Citation: Bailleux, *Méthode raisonnée*…(1779), p. 11), 175-176.
arpeggiated sixteenth notes, the second and fourth have slurred bowings and the third performs the *staccato* strokes (see Example no. 4.9, Violin I).

Example no. 4.9

Rousseau defined the *batterie* in his *Dictionnaire de Musique* (1768) as arpeggiated chords that are played with separated bowings. Corrette offered several patterns of playing the chords to perform *batterie* in his *L’art de se perfectionner dans le violin*, Paris, 1782 (Seven String Instrument Treatises). Bach’s Chaconne from the Partita in D minor (BWV 1004) offers another example, where some chordal sections imply *batterie* strokes (Example no. 4.10).  

Example no. 4.10

Bach: Chaconne from the Partita in D Minor (bwv 1004)

**Accented Bowings**

The bowings that produced accents such as *martelé*, *sforzandi*, and accents were not suitable for pre-Tourte bows. In the eighteenth century, these bowings were rarely performed in the modern manner—with a sharp accent. When using the pre-Tourte bow, it was impossible to maintain constant pressure with the hand and index finger. The bow was unable to keep the width of the hair constant throughout the bowing stroke and the tip was light, making it difficult to execute bowings, naturally played at the tip, such as *martelé*. Tartini confirmed these facts.

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182 Walls, op. cit.
by mentioning that if the immediate attack is applied at the start of the stroke, the sound will be harsh. Mozart indicates with the marking \textit{fp} a close resemblance to “modern” martelé, except that this stroke does not have the beginning accent (see Example no. 4.11).

Example no. 4.11

\begin{center}
\includegraphics[width=0.5\textwidth]{example411.png}
\end{center}

“Thrown” Bowings

The “thrown” bowings such as flying \textit{staccato}, \textit{spiccato}, and \textit{sautillé} were used seldom in the first half of the eighteenth century but became more prominent as Tourte’s elastic bow and other transitional bows emerged. The musicians made virtuoso effects by using these strokes.

Matte mentioned in his dissertation that in baroque music \textit{spiccato} did not differ greatly from other basic strokes because all of them were played with the bow raised off the string between the separated notes. Therefore, there was a rest between the bow changes. Bouncing of the bow off the string produced \textit{spiccato}. Mozart advised lively pieces to be played with strokes that are “lifted” off the string. Since with the pre-Tourte bow it was natural to make a “lift” after each stroke, Mozart apparently considered that those fast pieces needed even more lift of the bow than usual. Thrown bowings had virtuoso character in the eighteenth century, but they were seldom mentioned in the treatises of that time. The first written evidence of the \textit{col legno} effect (softly striking the string with the bow stick) occurred in 1605 when the English composer and viol player Tobias Hume (?1579-1645) specified “drum this with the back of your bow” in his The First Part of Ayres (London). When describing \textit{col legno} stroke, Woldemar suggested that its performance should resemble \textit{ricochet} stroke (Example no. 4.12).

\begin{footnotes}
\footnote{Stowell, \textit{Violin Technique}, 168-169.}
\footnote{Matte, op. cit., 267.}
\footnote{Ibid.}
\footnote{Ibid., 267.}
\end{footnotes}
Example no. 4.12

Execution: Notes Should Be Lightly Hit with the Bow Stick.

**Bowstrokes with Tourte-Model Bow (after c. 1780)**

After the Tourte’s new bow was developed in the mid-1780s, the majority of bows shared its characteristics. At the same time as this transformation from baroque to the modern bow happened, there was a change in the aesthetic preferences regarding the basic bowing stroke. The amount of special bowings also expanded in this period. While in the baroque period the basic stroke was naturally articulated, by the end of the eighteenth century, a new style arose that highlighted legato playing. Even though Tourte’s bow was in use by the mid-1780s, it was not immediately accepted as the only type of bow. Nevertheless, according to the treatises of that period, modifications in the performance of bowing strokes were used in the nineteenth century.

In the period that preceded the emergence and popularity of the Tourte bow there were bows of different weights and lengths. Although the nineteenth-century violin methods provide copious information, a universal notation system for bowings was absent. Dots, vertical strokes, and horizontal dashes were combined with slurs and had multiple connotations in connection with the various bowing strokes, ranging from *portato* to flying *spiccato*.

A prominent feature of right-hand technique was the low position of the elbow that persisted after 1800. Italian violinist Bartolomeo Campagnoli (1751-1827) advised in 1824 that the elbow should be connected to the musician’s body with a chord that would prevent it from being raised. Such elbow placement is evident in the illustrations of nineteenth-century
musicians, for example, Adolph Menzel’s drawing (1854) of the Austro-Hungarian violinist Joseph Joachim (1831-1907) playing the violin.\(^{187}\)

**Down-Bow and Up-Bow**

Since the up-bow was capable of producing the same strong sound as the down-bow in the nineteenth century, the use of up-bow strokes increased. However, in ensemble playing the rule of down-bow was still applied in order to have everyone’s bows traveling in the same direction. In 1833, Louis Spohr affirmed this by stating that a musician should play the strong beats with a down-bow and the weak beats with an up-bow. Therefore, each measure should begin with a down-bow and consequently finish with an up-bow.

**Slow Smooth (Legato) Strokes and the Legato Slur**

The slow *legato* strokes were more suitable for the Tourte bow than for the baroque one because the Tourte bow was capable of producing a voice like sound. The capability of playing an endless legato is probably the most advantageous feature of the Tourte bow. Baillot, however, did not divide this stroke into various groups, but only highlighted its sustained character. Legato strokes are suited to making various dynamic contrasts as well as inaudible bow changes.

The number of notes under a single slur increased in the early nineteenth century. These long slurs designated entire phrases, which should be played in sustained *legato* manner, using more than one stroke, if necessary. Long slurs implied the *cantabile* aspect that was crucial in expressing musical ideas during this period. Nineteenth-century writers explained that along with bow division, it was left-hand finger pressure and mobility of the left hand that articulated slurred bowings. Baillot supported this standpoint by mentioning the importance of left hand fingers falling from a considerable height to have a great impact.\(^{188}\)


\(^{188}\) Stowell, *Violin Technique*, (Citation: Baillot, *L’art …* (1834), p. 19), 197.
Legato was the popular stroke in the early nineteenth-century treatises. Baillot, Rode, and Kreutzer were fond of *legato* in their *Méthode*, which was written for Paris Conservatoire in 1803. Walls mentioned that Stowell (*Violin Technique*, p. 197) correctly observed that the original Haydn quartet editions did not contain as many slurred bowings as they appear in the early nineteenth century editions, which indicated their expanded popularity.\(^{189}\)

**Tremolo**

This stroke in modern sense is found in the orchestral literature. From the mid-nineteenth century and after, it appears occasionally in chamber and solo repertoire. *Tremolo* is derived by multiple repetitions of small separated strokes, usually in a fast tempo and at the tip of the bow (Example no. 4.13).

Example no. 4.13

![Example no. 4.13](image)

**The “Kreutzer” Bowing**

This stroke has two notes played with slurred *staccato* and two notes that are slurred. The second note of the slurred *staccato* is played *sforzando*. Kreutzer was probably the first violinist who used this bow stroke, while Spohr was the only author that mentioned this stroke (Example no. 4.15).\(^{191}\)


\(^{191}\) Ibid., (Citation: Spohr, *Violinschule* (1832) p. 137), 200.
Portato

Portato is a bow stroke that consists of re-articulated notes, which are connected within a single stroke. Galeazzi described its articulation as “dragged,” which meant that it is neither slurred nor separated. Leopold Mozart explained this stroke in his earlier treatise, but did not call it portato. Baillot mentioned that portato produces a sort of oscillation in the sound instead of the listener hearing each note separately. He offered two different notations for portato, one with a wavy line (according to Baillot, it also indicates vibrato) and another with dots under the slur. The notation for portato was standardized later in the nineteenth century and it used lines under a slur (see Example no. 4.16).

Example no. 4.16

Bariolage and Ondeggiando

Bariolage was used occasionally in early nineteenth century, depending on the style of the piece. Baillot described it as a stroke that interrupts the even sound of notes played on the same string. Bariolage mixes pressed fingers on one string with an open adjacent string (Example no. 4.17). It can be used in passages where notes, which are expected to be played on the same string, are played on different strings. It is also used when the open string is played
instead of the reasonably expected stopped string. One must keep in mind the character of the piece before *bariolage* is taken in consideration. If the piece consists of a light texture then this stroke can be used.\(^\text{192}\)

Example no. 4.17

Habeneck was one of the nineteenth-century authors that mentioned *ondeggiando* but did not differentiate it from *bariolage*. He discussed technical manners of performing *ondeggiando*. Habeneck’s advised free movements in the arm and agility of the wrist in order to create smooth bow changes across the strings (Example no. 4.18).\(^\text{193}\)

**Multiple Stops**

The double stops and chords were used in violin performances from the early seventeenth century. Triple and quadruple stops can be performed in various ways. Some of the possibilities are arpeggiating the notes (individually playing each notes), breaking the chord by playing two strings at a time, or playing an entire chord at once, which is possible if the bridge is flat enough. The last option would be more successful in the case of the triple stops because there are fewer notes to be played simultaneously. The late-eighteenth and early-nineteenth-century performance practice dictated playing the bass note on the beat. The upper notes were allowed to be placed after the beat, elongating the beat. This method is specified in

\(^{192}\) Ibid., 198-199.

\(^{193}\) Ibid., 199-200.
Galeazzi’s commentary. On the contrary, Spohr first depicted the modern method of breaking the chord in pairs, where the upper notes are played on the beat (Example no. 4.19).^194

Example no. 4.18

Example no. 4.19, Spohr: *Violin-schule* (1832)

A series of chords are more frequently performed in an arpeggiated manner. There are two options for designating the arpeggiation: (1) the first chord in the progression is a written out arpeggiated version of the chord in order to indicate how it should be performed (Example no. 4.20) and (2) the term *arpeggiando*. In the nineteenth century, composers preferred creative methods of arpeggiating the chords by using diverse bowings, highlighting the lowest or the highest note, or emphasizing the melody.

Example no. 4.20

**Spiccato**

In the baroque period *spiccato* performing style was primarily identical with *staccato*. Beginning in the nineteenth century it became a short off-the-string stroke and was regarded as similar to *sautillé*. *Spiccato* in the romantic period had a brilliant character and was marked with dots. The passages played *spiccato* were long, and musicians had to be skillful in order to make the bow bounce. *Spiccato* is not suitable for performing very fast music, in which it would be difficult to achieve the arm movements in the bouncing stroke (Example no. 4.21).

Example no. 4.21, Allegro moderato

\[...\]

**Special Effects**

Musicians used sound effects such as *sul ponticello* (drawing the bow near the bridge) and *sul tasto* or “*sulla tastiera*” (drawing the bow or plucking the string near or over the fingerboard, producing airy sound) before they were actually mentioned in the treatises. *Sul ponticello* makes a glassy sound. While Haydn and Boccherini favored *sul ponticello*, it was still considered a special effect in the nineteenth century. Galeazzi regarded it as an “extreme” violin technique.

*Sul tasto* makes a velvety sound. Galeazzi explained this effect and Baillot provided plenty of information regarding this stroke. *Sul tasto* describes closely the term *flautando*, which will be discussed later under the “Dragged *détaché*” section.

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196 Ibid.
Détaché Strokes

When Tourte’s bow appeared in the late eighteenth century, it brought many new strokes into existence. Varying combinations of bow speed and articulation were significant elements in Baillot’s survey of bow strokes. Baillot described in detail various détaché strokes and divided bowing strokes based on their speed into two groups: slow and fast. Baillot advised that in Adagio, for example, the bow should be drawn slowly in order to express an emotional character. In a rapid stroke, the bow should be drawn quickly across the strings and the strokes should be light. These fast strokes are utilized in passage-work. If martelé or staccato, which requires more pressure are used, then Baillot suggested that these strokes should be used to play clearly articulated notes with good sound quality.

Baillot introduced composite bowing strokes in which both slow and fast strokes are employed at the same time. An example is found in Fiorillo’s Etude no. 32 where there is a slow melody in the top voice over a contrasting, fast melody in the lower voice. A performer should use a dragged, slow bow for the top line, while the bottom voice simultaneously plays fast, separated notes. The purpose of simultaneously hearing two different bowings is to create an impression of two unrelated melodic ideas (see Example no. 4.22).197

Example no. 4.22

![Example Image]

Détaché denotes separated notes that are not slurred.198 It is crucial to know how détaché is executed in general, as well as in its variations, for example, knowing which part of the bow should be used. Although there are various détachés, they all can be treated as fundamentally the same stroke. According to Baillot, détaché strokes can be divided into three subgroups depending of how they sound: muted, elastic, and dragged.

197 Stowell, Violin Technique and Performance Practice, 177-179.
198 Peter Walls, “II. Bowing; 3. Bowstrokes after c.1780” in Grove Music Online.
“Muted” détachés. Three kinds of détaché belong to muted strokes: the grand détaché, the martelé, and the staccato. Sudden stopping of the bow on the string after the note is played stops the vibrations to produce the “muted” accent making it the muted détaché.199

1. Grand détaché

Baillot described that the grand détaché is made by putting the bow on the string with a slight pressure at a distance from the bridge, drawn with a quick motion. The bow should be stopped on the string shortly after the stroke is drawn without any pressure (Example no. 4.23).

Example no. 4.23, Allegro

![Example](image)

Execution: the bow does not leave the string

The length of the distributed bow stroke depends on the tempo of the passage.200 French violinist François-Antoine Habeneck (1781-1849) supports this description of this stroke except that he called it the grand détaché porte. He added that there should be a lift after each stroke in order to experience the lightness of the bow as well as the free vibrations of the strings.201 In the early nineteenth century, the French violinist Pierre Rode (1774-1830) did not call this stroke the grand détaché. Neither Spohr or the French violinist Jacques-Féréol Mazas (1782-1849) described the grand détaché.

2. Martelé

The Martelé stroke did not exist until 1800 according to Boyden.202 It would be unsuitable to play accented notes in the baroque period, and martelé would be impossible to perform with the pre-Tourte baroque bow because it was not suited to make a striking accent at the beginning of the note.203 On the other hand, staccato existed in the baroque period and thus

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199 Ibid.
200 Stowell, Violin Technique and Performance Practice, 180-181.
201 Ibid. (Citation: Habeneck, Methode… (c. 1840), p. 51-52), 181.
202 Ibid., 265.
203 Boyden, History of Violin Playing, 399.
it was lighter in character. From 1800 to present, sheet music contains markings such as wedges or dots below or above the notes, which denote notes separately bowed. This indicates that notes should be played either martelé, or as separately bowed staccato strokes.

Martelé is a hammered on-the-string stroke that is performed with a sharp attack at the start of the stroke, producing a sforzando effect. It is then followed by a fiery release of bow pressure at the end of the stroke. The arm is consequently involved in the stopping, which results in a rest before the next stroke is made. It is difficult to perform the martelé stroke in fast tempos because it requires some time to place the bow on the string before the stroke is played. Martelé is best managed between the middle and the point of the bow. Baillot provided an illustration where the upper third of the bow is shown for playing martelé. It is typically notated in the music by dots or arrow-head strokes (Example no. 4.24).

Example no. 4.24

Baillot describes martelé as a short stroke that is regulated mostly by the wrist and some with the forearm. If the tempo is slower, there is a short break between the strokes. He advises that on the E string the stroke should be a little longer to make up for the bright sound of the higher strings. Habeneck agreed with Baillot’s statements and added that the bow should be stopped prematurely with a wrist that is slightly less flexible than in the grand détaché stroke.

3. Staccato

In the romantic period, staccato signified brilliant character. It was usually played with an up-bow and marked with a slur and dots above several notes. Although staccato means detached, it is not specified whether it is played with separate or slurred bowings. However, in the late-eighteenth century and later it generally implies playing several notes separately on a

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204 Matte, op. cit., 265.
205 Ibid., 266.
single bowstroke, usually an up-bow (although a down-bow is also found elsewhere). This type of *staccato* belongs to the “muted *détaché*,” as described by Baillot (Example no. 4.25).  

![Example no. 4.25](image)

A single note drawn in a short, sharp manner down-bow and followed by a series of *martelé* up-bow notes make the *staccato* or *détaché articulé* stroke. The tempo of the piece, as well as number of the notes involved in the *staccato*, dictates how long these bow strokes will be. If there is a difficulty in performing the *staccato* at a fast tempo, then it should be practiced in a slower tempo in order to learn the process of motions. The hand should hold the bow firmly to create enough thumb pressure against the stick. When practicing *staccato*, the first note of the each beat should be accented to maintain the same tempo throughout the stroke. This preservation of the tempo leads to all the notes being played equally in the fast tempo. Baillot mentioned that in some compositions the last note in a *staccato* stroke needs to be lifted off the string, and he suggested practicing this motion. Baillot offered series of *staccato* examples, among which are notes played on the same and different strings, in stepwise motion, broken chords, arpeggios, in both ascending and descending directions, etc. The *staccato* should be played in both down and up-bow. When playing it, the musician should strive for flexibility, lightness, and speed in the passage-work.

**Elastic *détachés***. There are several elastic *détaché* strokes: the *détaché leger*, the *perle*, the *sautille*, and the *staccato à ricochet* or the thrown and rebounding *staccato*. Baillot stated that the elastic *détaché* considers all the lifted strokes. The bow’s elastic features should be used when playing these strokes. Occasionally, slight bouncing, and therefore lifting of the bow off the string, will occur.

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210 Ibid, 189.

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1. *Détaché léger*

*Détaché léger* is not mentioned by other authors of that time. Baillot explained that it is played in the middle third of the bow and that the right hand needs to be relaxed while holding the bow. Each note that is played with a single bow stroke needs to be separated. Because of the relaxed bow hold, the stick’s elasticity creates an inaudible bounce between the strokes (Example no. 4.26).

Example no. 4.26

![Example no. 4.26](image)

Execution (below)

![Execution](image)

2. *Détaché perlé*

This stroke is played in similar way as the previous *détaché léger* except that it uses less bow, because it is found in pieces with a faster tempo. It uses the middle third of the bow. When playing this stroke, Baillot emphasized that all the notes have to be even and rounded (Example no. 4.27).

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212 Stowell, *Violin Technique and Performance Practice*, 189.
3. Déchê sautillé

Baillot placed sautillé in the group of the “elastic déchê” strokes. If the bow is allowed to spontaneously bounce at its middle part in very lively tempo, then it is the best solution to use déchê sautillé stroke. It is played in the same place of the bow (see Example no. 4.28). Here, the bow stick’s bounce is heard when employing this stroke. Its notation uses dots or arrow-headed strokes. The best replacement for spiccatò in fast pieces would be sautillé, the stroke that was also performed with the bow lifted off the string. Sautillé emerged in the eighteenth century, especially after Tourte’s bow appeared on the music scene. Flexibility and the taut hair of that bow made possible the successful execution of sautillé. The player should perform short bowing strokes in a very fast tempo on the bow’s balance point, resulting in a natural bounce of the bow off the strings. Sautillé is performed when it is impossible to involve arm movements in the bouncing process of the bow. If a passage with bouncing strokes has both piano and forte dynamics, it is advisable to play the former with spiccatò and latter with the fast déchê. It is unusual to play spiccatò in a loud and long musical passage. Paganini’s Moto Perpetuo is a good example of either fast spiccatò or sautillé because it exploits these techniques during the whole piece.\(^{213}\)

While Rode et al., Mazas, and Spohr do not refer specifically to déchê sautillé, Habeneck mentioned in his Méthode (1840) that this stroke is played slightly below the bow stick’s middle part. He also claimed that it is found in very fast pieces where the grand déchê can not be played. The wrist and the forearm both participate in creating a déchê sautillé stroke. The amount of arm movement that is involved depends on the tempo and the volume of a piece. There are suggestions by some authors that the stroke is more successfully performed

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\(^{213}\) Matte, op. cit., 268.
if the forearm is turned inwards. The distance between the top of the wrist and the bow stick is forty-five degrees.²¹⁴

Example no. 4.28, Allegro non troppo

4. *Staccato à ricochet, détaché jetté, flying staccato, staccato volante or flying spiccato*

This bowing stroke is accomplished in the upper half of the bow, which involves throwing the bow on the string and letting it bounce. It then rebounds or “ricochets” at least two times, if not more. The bow should hit the string on the lower part of the middle third of the bow. It can be played an up or down-bow, but usually it is performed with a down-bow. Every note that is played up bow, before the series of down-bow notes, has to be lifted quickly off the string, approximately two inches above the string so that the bow bounces properly for the down-bow notes (see Example no. 4.29). As the amount of notes in the down bow increases, then the bow needs to be raised higher above the strings to execute this bowing stroke.

According to Baillot, Niccolò Paganini was the first who included *staccato à ricochet* into his performing repertoire.²¹⁵ However, Habeneck stated that thanks to Paganini *staccato à ricochet* or *staccato élastique* regained its popularity in the nineteenth century. Rode *et al.* and Spohr did not explain *staccato à ricochet* stroke and Mazas mentioned it but only sparingly. Habeneck named this stroke *staccato élastique*, stating that similar strokes were occasionally used throughout the eighteenth century.

German composer Karl Guhr (1787-1848) and Habeneck both thought that string crossings complicate the execution of *staccato à ricochet*, making it extremely difficult. In

²¹⁴ Stowell, *Violin Technique and Performance Practice*, 190-191.
²¹⁵ Ibid., 189.
general, modern writers support involvement of all the hair when playing it with the bow stick inclined towards the fingerboard. The nineteenth-century authors did not mention that this position of the hair and the bowstick is important. Although there are various designations for this stroke, it is the character of the piece that determines whether *ricochet* should be employed. As in other *staccato* strokes, the dots under the slur identify the *ricochet* stroke.

**Dragged détachés.** The dragged bowing strokes are the *detached plus ou moins appuyé* and the *detache flûte*. These strokes can be considered as mixed bowings because the bow is dragged in very lively fashion across the strings, combining both fast and slow bowing strokes.\(^{216}\) Baillot implied that dragged *détaché* (*détaché traîné*) should not have any breaks in sound between each note.

Example no. 4.29, Allegro moderato

![Example no. 4.29](image)

1. *Détaché traîné ou appuyé*

*Détaché traîné* is played either at the tip or at the middle of the bow. When playing *détaché traîné* at the middle, greater pressure on to the strings will be involved, but if played at the tip less pressure is needed. All the bow strokes should not be separated. The *tremolando* and sixteenth note passages in the symphonic repertoire are examples of technical figures where *détaché traîné* is applied (Example no. 4.30).\(^{217}\)

\(^{216}\) Ibid., 181.

\(^{217}\) Ibid., 191.
Example no. 4.30, Allegro vivo

The *détaché appuyé* is played at the tip, creating a weaker and mellower sound than the *martelé* stroke. That is why the bow is kept on the string when playing this stroke. Such execution of *détaché appuyé* is influenced by Rode who usually played the passage-work with it. Therefore, Stowell advised that this stroke should be rarely used except in the following example from Rode’s composition (see Example no. 4.31). Stowell may have suggested that the passage-work should be played with some other more appropriate stroke (such as *spiccato*, *sautille* or on the string stroke at the middle of the bow). It is also possible to play the *détaché appuyé* in the middle of the bow. Continuous arpeggios, also known as batteries, use this stroke. All the notes in batteries are performed detached, using little bow. The notes have to be well-articulated and played in the fast tempo. The bow should remain on the string during this stroke.218

Example no. 4.31, Moderato assai (Rode: Caprice no. 10)

With a little pressure at the point

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218 Ibid., 192.
2. *Détaché flûté* (very little dragged)

This stroke has several names and they are: *flautato* or *stracinato*, *flûté* or *traîné*. Its sound is similar to the flute but only when played on the middle A and D strings (Example no. 4.32).

Example no. 4.32, Minuetto (Boccherini: Quintet no. 69), stracinato

The point of the bow should be placed one inch from the fingerboard. *Flautando* (or *flautato*) indicates that the bow should be drawn fast and lightly. It is difficult to play in a flute-like style on the other two strings, E and G. The bow can not be placed over the fingerboard because of the violin corners. Because of this constraint, a violinist has to come to the closest point possible to the end of the fingerboard and then draw the bow. If *flautando* is played close to the fingerboard, it sounds more powerful. Paganini also described *flautando* as playing “over the fingerboard imitating the flute” in his Caprice no. 9 (see Example no. 4.33).219

Example no. 4.33

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Baillot analyzed with detail the various kinds of détaché bowings. However, some contemporary authors created bowings that are not found in Baillot’s treatise, making it difficult to determine their place in Baillot’s survey of bow strokes.\footnote{Stowell, op. cit., 193.}

**Accented Bowings (Other Than Martelé)**

1. **Saccade**

   Among the strokes that strongly articulate notes under a slur is saccadé, which attacks the second of two slurred notes (Example no. 4.34). In 1834 Baillot precisely defined saccadé, while in 1833 Spohr described this as resembling a “Viotti” bowing. It is also used to play irregular accents. This stroke brings sudden contrast because it combines normal notes and those that have markings such as sf. The purpose of saccade is to make an energetic effect or to break the boredom. Because of the potential roughness of the sound, this bowing stroke should be mixed with other softer sounds.\footnote{Ibid., 193.}

   ![Example no. 4.34](image)

   All the sfs should be played softly with somewhat longer bow

2. **Fouetté**

   Spohr highly promoted this stroke in comparison to his contemporary authors. The major feature of fouetté is a “whipping” and accented effect that it gives to the notes (Example no. 4.35). It is performed in fast tempos, where the bow is thrown forcefully on the string in an
up bow. This is done close to the tip of the bow in order to avoid shaking of the bow stick. 

_Fouetté_ is indicated by accents and dots over or below the notes. Raising the bow evenly after each stroke, is a bit difficult. This is important because the aim is to play all the notes with an equal length. Spohr thought that _fouetté_ is an effective bow stroke if played correctly.\(^{222}\)

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**Example no. 4.35**

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\[\text{Music notation}\]
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**The Lifted Bowing Stroke**

This stroke is less used in early nineteenth century because of the contemporary _cantabile_ style and the elastic features of the new Tourte bow, which set up new standards in ideal sound production. The main example of a lifted bow stroke can be seen in the figure of a dotted eighth and sixteenth notes (Example no. 4.36).

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**Example no. 4.36**

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\[\text{Music notation}\]
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In the early nineteenth century, lifting the bow was avoided; instead, the bow was abruptly stopped after the dotted eighth note and the second note was then played using a small wrist motion. As Habeneck mentioned, this figure should be practiced both starting with an up-

\(^{222}\) Ibid., (Citation: Spohr, _Violinschule_ (1832), p. 137), 195.
bow and down-bow. He also stated that when passages containing such figures are supposed to sound long and loud, hooking (playing both notes in an up or down-bow) these two notes was a good solution. Habeneck further advised that the first note should use a lot of bow while the second one should be played with an attack using the wrist. However, Spohr supported the use of a lifted stroke in some occasions, which suggests that these strokes were not entirely excluded from the performing repertoire.

**Mixed Bowings**

Many nineteenth century authors combined various kinds of bowings in order to keep the constant attention from the audience. Baillot assigned the appropriate bow strokes in relation to the musical style of the piece (Example no. 4.37).

Example no. 4.37

\[ \text{Energetic passage} \]

**Bowing Indications**

Bowing markings became an important factor in understanding how music should be stylistically performed. Problems arose when these markings started to vary between different composers and writer. For example, Quantz was supporter of dots representing on the string strokes and wedges designating off the string strokes (Example no. 4.38).

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223 Ibid., (Citation: Habeneck, *Méthode* … (c. 1840), p. 68), 196.
224 Ibid., (Citation: Baillot, *L'art* … (1834), p. 111-120), 201.
Habeneck had an opposite understanding of these signs, except when he suggested dots for playing *martelé* and *grand détaché porté*. Rode *et al.* were not supporters of wedge markings, and therefore used dots for various bowing strokes. Spohr and Mazas, among other authors, used all these signs freely and variably. They did not provide detailed clarification regarding their notation. The musician must carefully analyze the music in order to perform the music in its original style.\(^{225}\)

In the nineteenth century, Tourte’s modern bow enabled performing various strokes. The violin schools had different opinions regarding preferred strokes and performing styles. The main dilemma referred to whether the notes in moderate or fast tempo should be played on the string or with a bouncing stroke. The same musical piece could be performed in three different ways: with broad on the string, *spiccato* or *sautille*, and *staccato* (short on the string) strokes. Nineteenth-century music was not precisely notated and it did not prescribe what kind of stroke should be utilized. Based on the facts, bouncing strokes were preferred for early examples of Tourte’s bow of 1780s and 1790s because they enabled the achievement of a brilliant character in fast passages.

The first violinist who employed *spiccato* and related strokes in 1770s and 1780s was Wilhelm Cramer (1746-1799).\(^{226}\) However, in the first decade of the nineteenth century, a new expressive style that stressed broad and *martelé* strokes, rich sounds, accents, and singing elements emerged. The popularity of bouncing strokes weakened because the romantic period arose, emphasizing intensity and expressiveness. Louis Spohr was not fond of *spiccato* bowing and used the broad strokes in the faster passages instead. The same performing style was

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\(^{225}\) Ibid., 201.

noticeable among French composers (followers of Viotti), such as Baillot, Rode, and Kreutzer.227

CONCLUSION

Today’s musicians are able to revive the Baroque style thanks to preservation of pre-Tourte bows and performance practices from this period. Bow and violin makers are continuing the tradition of making seventeenth-century and early eighteenth-century bows and instruments because there is still an interest in performing and listening to this musically rich style which contrasts that of the modern period. Performances on period instruments expose the public to the eighteenth-century performance technique and style.

The pre-Tourte bow and the modern bow have contrasting features but each one in its own way has good qualities. The pre-Tourte bow is capable of achieving different dynamic shadings within a single bow stroke. The music of its period is light and transparent in comparison to that of the modern era. In addition to being able to produce various dynamic nuances with a single bow stroke, the Tourte modern bow also allows the performer to start the stroke with an initial accent. Therefore, the music of the modern period achieves a sound quality that is rich in volume and offers wide possibilities for musical expression.

In the eighteenth century, the bow was transformed from its early form to the version that exists today. Tourte’s bow entirely fulfilled the needs of the expressive style, found in nineteenth-century classical and romantic music. As usual, the transformation of the bow would not have been successful without the involvement of distinguished performers in the process. Their advice was of immeasurable value to the makers (such was Viotti’s influence on Tourte’s work). Thanks to Tourte’s great achievements in bow construction, the resulting sound and bowing techniques were expanded. They enabled outstanding accomplishments in the performances of today’s admirable violinists.

227 Ibid., 103.
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