

THE INTERACTION OF BOWS, BOW STROKES, AND COMPOSITIONAL STYLES IN
SELECTED VIOLIN CONCERTOS OF THE CLASSICAL AND THE ROMANTIC PERIODS

by

Qiao Chen Solomon

(Under the Direction of David Haas and Levon Ambartsumian)

ABSTRACT

This study presents a historical and stylistic approach to issues of bowing and style in three major violin concertos from the eighteenth and nineteenth centuries. The works to be analyzed are: Mozart's Violin Concerto no. 4 in D major, K.218 (representing the Early Classical repertoire), Beethoven's Violin Concerto in D major, Op.61 (Late Classical/Early Romantic), and Brahms's Violin Concerto in D major, Op.77 (Romantic). The commentaries on the interpretation of these works will be based on information of bow types and bow strokes from different historical periods in relation to basic principles of present-day pedagogy for sound production.

INDEX WORDS: Violin bow, Sound production, Bow stroke, Bowing, Mozart violin concerto, Beethoven violin concerto, Brahms violin concerto

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CHAPTER 1

INTRODUCTION

The intent of this document is to provide a historical and stylistic approach to issues of bowing technique in three major violin concertos from the eighteenth and nineteenth centuries. The works to be analyzed are: Mozart's Violin Concerto no. 4 in D major, K.218 (representing the Early Classical repertoire), Beethoven's Violin Concerto in D major, Op.61 (Late Classical/Early Romantic), and Brahms's Violin Concerto in D major, Op.77 (Romantic). The commentaries on the interpretation of these works will be based on a combination of historical knowledge and basic principles of present-day pedagogy for sound production.

Bow technique is the foundation of good tone quality, which enables the production of a stylistically appropriate sound. Stylistically appropriate sound in turn, serves as the key to the highest level of musical interpretation. High-quality sound (inasmuch as it can be defined) comes from good bow technique and a proper understanding of the tonal color and character desired for a specific style. More than two centuries ago, Leopold Mozart wrote:

The bowing gives life to the notes...it produces now a modest, now an impertinent, now a serious or playful tone; now coaxing, or grave and sublime; now a sad or merry melody; and is therefore the medium by the reasonable use of which we are able to rouse in the hearers the aforesaid emotions.¹

This statement emphasizes the point that it is the player's bow technique that reveals one's musical personality and taste without explicitly minimizing the importance of a precise left-hand technique for perfect intonation and proper vibrato. The bow is responsible for

¹ Leopold Mozart, *A Treatise on the Fundamental Principle of Violin Playing* (New York: Oxford University Press, 1951), 34.

drawing innumerable colors from the emotional spectrum—some stark and dramatic, others more subtle and refined. Upon listening to earlier violinists’ recordings, such as Kreisler, Elman or Heifetz, one can quite easily recognize and identify the violinist simply by listening to a few notes. Therefore, studying the recordings of earlier violinists such as Kreisler, Elman, or Heifetz will, within just a few notes, allow a listener to easily recognize and identify these great artists through their personal, varied bow techniques.

What is a “good” violin sound? The attempt to answer this question has served as a point of contention among violinists for many years. A “good” sound is difficult if not impossible to define, due in part to the fact that sonic beauty lies in the ears of the listener. Despite the subjective disparity of what constitutes a good sound, the author would argue that the best violin sound is the most “stylistic” sound, which conforms to the style (defined by practice) of the historical period in which the musical work being performed was composed. Therefore, violin sound may be objectively quantified to some extent, and performers can learn ways in which to adjust their overall sound to complement musical works of various style periods. For instance, playing a sonata or partita by J.S. Bach requires the performer to imagine himself playing the period instrument (Baroque violin) to create the Baroque-style sound quality. However, if the same violinist performs one of Beethoven’s sonatas for violin and piano, he surely needs to have a much broader dynamic range and richer sound quality to match the grander “heroic” style associated with Beethoven.

In a violin master class that the author attended years ago, after one student’s performance of the first movement of the Fifth Mozart Violin Concerto, the teacher said: “you have excellent intonation and proper tempo...however, I couldn’t tell you were performing Mozart!” The comment shocked that student as well as all the other students in the master class.

The pedagogue was indicating that the student had not performed with the proper stylistic sound. Indeed, music is a special language, which reflects the expressions, feelings, culture, and background of the composer and the historical period in which the composer lived. Without the proper stylistic sound and interpretation, the music loses its full expressive potential.

Literature Review

There is a great deal of material written about the development of violin bow construction, the development of violin bow playing techniques, and violin sound production. *The Book of the Violin*, edited by Dominic Gill, touches on nearly every aspect of the violin.² In Chapter 2, entitled “The Bow,” Jaak Liivoja-Lorius presents detailed information about bow construction and bow making from the seventeenth–nineteenth centuries, emphasizing the bow construction changes from pre-Tourte model to Tourte model.

Robin Stowell’s *Violin Technique and Performance Practice in The Late Eighteenth and Early Nineteenth Centuries* surveys numerous violin treatises written during the designated time period.³ The most useful chapters to my research were chapter 1 on the development of the bow, chapter 4 on bow holds and bow strokes, chapter 6 on timbre and tone production and chapter 8 on “bow strokes and their execution.”

Robert Gerle’s *The Art of Bowing Practice* points the way to a more expressive bow technique, sound production, and to the more meaningful, varied, and individual interpretations

² Dominic Gill, *The Book of The Violin* (New York: Rizzoli International Publications, INC, 1984)

³ Robin Stowell, *Violin Technique And Performance Practice In The Late Eighteenth And Early Nineteenth Centuries* (Cambridge: Cambridge University Press, 1985)

that such a technique can accomplish.⁴ The basic principles of bow technique are reviewed together with their practical and musical applications.

The third chapter of Raphael Bronstein's *Science of Violin Playing*, entitled "Right Hand Technique and Development of Practice Habit," offers a scientific analysis of bow technique and sound production.⁵ It provides information about the bow arm, grip, arm motion and basic bow strokes.

Bernard Fischer's article "The Violinist's Bow Technique" offers a number of insights on violin bow technique. Concerning bow pressure, bow speed, and point of contact in legato playing, as well as in the *Martelé*, *Staccato*, *Spiccato* and *Portato* strokes.⁶

Robin Stowell's *The Cambridge Companion to the Violin* is a fine collection of articles written by renowned violinists and violin educators that deal with almost every aspect of violin.⁷ It includes the origins and the development of the violin and the bow, the physics of the violin, the violinists of the Baroque and Classical periods, the nineteenth-century bravura tradition etc.

Sara Freiberg's article "Got Tone? –Sound Advice from the Experts on Improving your Tone Production" provides advice about sound production from internationally known violinists and makes a claim for the importance of imagination in sound production.⁸

Several other texts provided useful information pertaining especially to the three concerti that are analyzed in this document. Constance Renee Chevalier's "Imagination in the Music of Mozart: Eighteenth-Century Guidelines to Shaping Musical Expression" is a dissertation

⁴ Robert Gerle. *The Art of Bowing Practice* (London: Stainer & Bell, 1991)

⁵ Raphael Bronstein, *Science of Violin Playing* (N.J: Paganiniana Publications, Inc, 1977)

⁶ Bernard Fishcher, "The Violinists Bow Technique," *ASTA* 5, (1955): 5.

⁷ Robin Stowell, *The Cambridge Compaion to The Violin* (New York: Cambridge University Press, 1992)

⁸ "Sarah Freiberg, " Got Tone? Sound Advice From The Experts On Improving Your Tone Production," *Strings Magazine* 113 (Oct 2003):46.

focusing on selected works by Mozart, including his violin concertos.⁹ The analyses of these concertos are based upon principles derived from theoretical writings of the eighteenth century. In the introduction the role of the imagination in the creative process is reviewed.

The Complete Mozart: A Guide to the Musical Works of Wolfgang Amadeus Mozart, edited by Neal Zaslaw, lists and provides information of Mozart's violin works including his violin concertos.¹⁰ It is a useful reference with information on date and place of compositions, the historical context, style, and form.

Norman Del Mar's *In Conducting Beethoven* provides a movement-by-movement guide to the performance of Beethoven's Violin Concerto.¹¹ It offers advice on tempo, dynamics, phrasing, the choice of cadenza, and notes errors in certain editions.

Robin Stowell's *Beethoven: Violin Concerto* provides a broad, scholarly guide to the concerto.¹² It explores the concerto in the context of Beethoven's *oeuvre* and the music (particularly French music) of his time. Stowell discusses its performance since its premiere by Franz Clement, documents its textural history from the sketches to its published editions, and offers stylistic and structural analyses.

Günter Weiss-Aigner's *Johannes Brahms, Violinkonzert D-Dur* offers a guide to this violin concerto.¹³ The first section reviews the origins and early performance history of the concerto, the second provides a movement-by-movement analysis, and the third reproduces various commentaries on the work.

⁹Constance Renee Chevalier, "Imagination in the Music of Mozart: Eighteenth-Century Guidelines to Dhaping Musical Expression" (Ph.D Dissertation, Stanford University, 1982)

¹⁰ Neal Zaslaw, *The Complete Mozart: A Guide to the Musical Works of Wolfgang Amadeus Mozart* (NY: W.W. Norton & Company, 1990)

¹¹ Del Norman Mar, *In Conducting Beethoven* (Oxford: Oxford University Press, 1993)

¹² Stowell Robin *Beethoven: Violin Concerto* (Cambridge: Cambridge University Press, 1998)

¹³ Weiss-Aigner, Günter *Johannes Brahms, Violinkonzert D-Dur* (München: Wihelm Fink Verlag, 1979)

Methodology

My research brought together several categories of information. First, I reviewed book chapters and articles pertaining to the developments in violin bow construction and playing technique from the seventeenth to nineteenth centuries in order to relate the trends both to broad changes in musical style and to the understanding of stylistically appropriate sound production.

Second, I surveyed standard descriptions of the fundamentals of violin sound production, including the mechanical, physiological, and conceptual factors of violin sound production. Since these distinct factors are interrelated, it is necessary to combine all three in order to create one's "ideal" fundamental violin sound.

Last, I chose typical passages from three familiar eighteenth- and nineteenth-century violin concertos as test cases for determining stylistically appropriate bow strokes. Mozart's Violin Concerto No. 4 in D Major (1775) represents the Classical period in musical style and the transitional period in the construction of violin bows. From a stylistic standpoint, Beethoven's Violin Concerto in D Major (1806) is a bridge from Classical period to the Romantic period. The work was written at the same time that the Tourte bow model was developed. Finally, Brahms's Violin Concerto in D Major (1878) represents the late Romantic period and new requirements for bow stroke combinations.

Chapter Organization

Chapter Two will open with a historical survey of violin bow construction and playing technique development from the seventeenth through the nineteenth centuries. Since any of developments or improvements in instrument making (including bow making) are reflected in the changes in musical compositions of different historical periods, it is therefore necessary to review

the development of violin bow construction in order to understand and relate to the changes of style inherent in musical composition and, furthermore, to achieve a true understanding of stylistic sound production.

In Chapter Three I will examine the factors that affect violin tone production: the mechanical, physiological, and conceptual aspects. According to Robert Gerle's book *The Art of Bowing Practice*, there are three main elements that affect the mechanics of sound production: 1) bow speed; 2) bow pressure; and 3) the distance from the bridge. In this chapter I will also examine the physiological aspect of violin playing. Violin playing is an activity that involves the whole body, even though some parts matter more than others. In the bow arm, the most important and directly involved large muscles are the forearm and upper-arm muscles. But other equally crucial muscles (in layman's terms) include the right chest muscle and the back muscles, especially the area on the side of the spine, just below and inside the shoulder blade.

This chapter will also discuss the conceptual factors in violin tone production. The internationally-known concert violinist and educator Ida Kavafian states: "If you can define and hear what kind of sound you want then you will find ways to get it."¹⁴ In another words, imagination plays a very important role in sound production. While many mechanical elements are important in creating a good sound, an equally important element is a person's concept of sound.

In Chapter Four, the previously presented background information concerning bows, sound production, and bowing possibilities will be brought to bear on the selected violin concertos of Mozart, Beethoven, and Brahms. Each work's commentary will begin with a brief

¹⁴ Sarah Freiberg, "Got Tone? Sound advice from the experts on improving your tone production," *Strings Magazine* 113 (Oct 2003): 46

historical introduction, followed by a discussion of that work's bowing issues, centered around musical examples that are representative of the work's main challenges to the performer.

CHAPTER 2

SURVEY OF DEVELOPMENTS IN VIOLIN BOW CONSTRUCTION AND PLAYING TECHNIQUE FROM THE SEVENTEENTH THROUGH THE NINETEENTH CENTURIES

This chapter will include information on violin bow construction and playing technique in three periods: 1) the seventeenth century; 2) the period just prior to the Tourte bow; and 3) the Tourte bow period. In each section I will comment on both bow construction and bowing technique (bow grips and bow strokes).

Violin Bow Construction and Playing Technique in the Seventeenth Century

It has been said that the bow is the “soul” of the violin.¹ Indeed, the violin is useless without the bow just like the bird is unable to fly without its wings. Although the violin bow has as long a history as the violin, the relationship between violin and bow has not always been equal. Before the middle of the eighteenth century, the bow was always viewed as an accessory because bow making had not yet become a specialized craft; instead, bows were simply made by apprentices in the violin makers’ workshops.²

The information about bows of the early seventeenth century (1600-1650) largely comes from various treatises and iconography, but rarely from extant bows themselves, owing to the fact that hardly any bows from this period have survived. At that time, it was much easier to make a

¹ David Dodge Boyden, *The History of Violin Playing From Its Origin To 1761* (New York: Oxford University Press, 1990), 391.

² Dominic Gill, ed., *The Book of The Violin, The Bow*, by Jaak Liivoja-Lorius (New York: Rizzoli International Publications, 1984), 49.

new bow than to repair a broken or defective one. As a result, early seventeenth-century bows differ from standardized modern bows in terms of length, weight, shape, elegance of appearance, and craftsmanship.³

According to David Boyden, there were two types of bows in the early seventeenth century. One was intended for performances of dance music: this bow was usually short, with the bow hair measuring an approximate length of fourteen inches. The other type was the Italian Sonata bow. It was generally longer than the dance-music bow, the length of playing hair being about nineteen inches long.⁴ When compared with the twenty-five-and-a-half inches of the modern violin bow, both of the seventeenth century bows were significantly shorter.

The breadth of the bow hair was narrower than that of the modern bow and the bow hair was usually fixed in tension and non-adjustable. Nevertheless in the picture from Mersenne's *Harmonie Universelle*, a knob can be seen at the nut-end of the bow stick, as shown in Figure 1.⁵



Fig. 1 Violin bow from Mersenne's 'Harmonie Universelle' (1636-7)

This knob might have been purely ornamental or it may have adjusted the tension of the hair (as with the modern bow). However, in Mersenne's treatise, the function of the knob is not mentioned or illustrated.

³ Boyden, 112.

⁴ Ibid.

⁵ The illustration is reproduced from: Boyden, *The History of Violin Playing*, 113.

In the early seventeenth century, the bow hair was well separated from the lower half of the bow stick, but the hair usually met the bow stick at a narrow point since the bows from that period generally did not have a distinct head, as indicated in Figure 1. The playable length of the bow hair was greatly reduced because of the gradually decreasing space between the hair and stick from frog to tip.

The Italian bow's stick is outwardly curved, or convex. As mentioned earlier, there is no distinct head so the bow itself curves down to meet the hair. The bow stick is either round or octagonal. The preferred choice of wood for the early seventeenth-century bows is snakewood. According to Boyden, pernambuco (a superior variety of Brazil wood) is the preferred wood for bow stick construction of the modern bow, a design which is generally claimed to have first been used by François Tourte in the late eighteenth century. However, in his *Le Traité des Instruments de Musique* (1631), Pierre Trichet writes: "bows...of brazilwood, ebony, or other solid wood, are best and most esteemed."⁶ Thus it seems that Brazil wood had already been in use, at least as early as the seventeenth century.

There were no standards in bow making of the early seventeenth-century with respect to shape, weight, length, etc., and the bows varied a great deal among makers and nations. Bows constructed at that time were rarely signed or dated. The first known bow to be dated and signed was made in 1694 (Hill Collection, in their shop, 140 Bond Street, London), shown here in Figure 2.⁷



Fig. 2 Bow dated 1694

⁶ Ibid.

⁷ The illustration is reproduced from: Boyden, *The History of Violin Playing*, 114.

The violin bow underwent a greater number of experiments and innovations in the second half of the seventeenth century, which were ultimately spurred by the musical requirements in different nations. In France, players used a relatively straight and short bow stick for French dance music. In Italy, the new instrumental genres such as the sonata and concerto inspired players to use slightly outwardly curved and longer bows to accomplish more dynamic contrast and more subtly varied bow strokes. The most varied types of bows appeared in Germany with different lengths and more distinct and outwardly curved bow sticks to suit their fondness for multiple stops. By the end of the seventeenth century, the device of the screw nut had been introduced into bow making. This device was used to tighten the bow hair to the desired tension.⁸

The violin bows in the second half of the seventeenth century were still far from standardized. However, the craft and appearance of the bow became more elegant, which reflects the fact that the bow makers realized the importance of balance, flexibility, and the need for a greater variety of bow strokes. A representative bow for this time of change is the bow in the Ansley Salz Collection at the University of California at Berkeley. Boyden suggests that this bow, shown in Fig. 3, might have been made by none other than Stradivari around 1700.⁹



Fig. 3 'Stradivari' bow (c. 1700)

⁸ Ibid., 206.

⁹ The illustration is reproduced from: Boyden, *The History of Violin Playing*, 207.

Although the most popular choice of wood in this period was snakewood, the “Stradivari” bow was made of Pernambuco wood. The shape resembles a pike’s head, which became the typical head for the early eighteenth-century bow. The frog was made in the form of an ivory lute, which was movable by a screw mechanism, as used on a modern bow. The total length of this bow was 28.25 inches, and the playing hair was twenty-four inches long.

Various bow grips existed in the early seventeenth-century. The two most common manners of bow grips were the “French grip” and the “Italian grip”. Both of these bow grips already existed in the sixteenth century. The “French grip” was also known as the thumb-under-hair grip since the player must keep the thumb in direct contact with the bow as shown in Figure 4.¹⁰



Fig. 4 Violinist playing in French style. Lithograph of a painting by Gerard Dou, dated 1665.

Despite its name, this bow grip was used not only in France but also in Italy and elsewhere. The French bow grip brings firmness to the bow stroke, but was lacking in subtlety

¹⁰ The illustration is reproduced from: Boyden, *The History of Violin Playing*, plate 22.

or nuance. However, it was very effective for French dance music, which calls for simple rhythmic and articulated bow strokes.

With the “Italian grip”, the thumb was placed between the hair and the stick, as depicted in Figure 5.¹¹

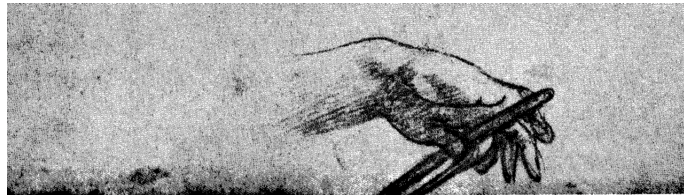


Figure 5: A sketch by Lodovico Caracci (1555-1619), showing the Italian bow grip.

The advanced Italian players were fond of using longer bows to play sonatas. Compared to the “French grip”, the “Italian grip” was more flexible and it was more suitable to the varied and subtle strokes of the more sophisticated and versatile Italian playing.

With both of these bow grips, the arm and the elbow must be kept loose. As a result, the bow strokes were not heavy and powerful but light, separated, and clearly articulated. The ideal way of playing the bow was to play well into the string. Francesco Rogoni (1620) speaks of the bow being “well pressed to the *viola da braccio* as the good players do.” The location of the fingers in relation to the frog was dependent upon the length of the bow and its balance. With the shorter bow (the prevailing type during used this period), the right hand usually grips the frog itself.¹²

¹¹ The illustration is reproduced from: Boyden, *The History of Violin Playing*, plate 16.

¹² *Ibid.*, 153.

The basic bow stroke in the early seventeenth century was the single down-bow and up-bow stroke without further differentiation, e.g., into modern *staccato*, *martelé*, etc. The bow was held at a right angle to the strings and was carefully placed between the bridge and the fingerboard, modified in accordance with the required dynamics and tone quality. As mentioned earlier, the typical bow stroke was light, clearly articulated, and separated. Neither dot [·] nor stroke [|] symbols were used in the music and treatises to indicate the degree of separation. Instead, slurs were used to distinguish groups of two or more notes playing in one bow from the individual bow strokes.¹³

Although there was much variety in the shapes and lengths of bows in the second half of the seventeenth century, in general violin bows of this period share similar characteristics with the violin bows of the first half of the seventeenth century. The playing technique had many similarities as well, with respect to the bow grips and the use of separated and clearly articulated bow strokes. The bows were still shorter and lighter than the modern bows and produce the “natural” articulated and detached bow strokes. Boyden identified a particular strength of the “Stradivari” bow:

In particular, the “Stradivari” bow is superior to the modern bow in articulation of detached notes in the upper third of the bow. In effect, the bow produces a crystal-clear *spiccato* sound of its own free will, without actually bouncing, and the brilliance of sixteenth-note passages when played near the point is especially noticeable. For a virtuoso there is no difficulty in producing the ‘flying staccato’.¹⁴

Because of the “give” (relative lack of tautness) of the bow hair in the seventeenth-century bows, it is easier to produce triple stops with this bow than with the modern Tourte bow. However, the modern Tourte bow has the advantage of producing continuous melodic lines and sustained bow strokes. The seventeenth-century bow has a lighter and shorter bow stick and uses

¹³ Ibid.

¹⁴ Ibid., 207.

a narrower ribbon of hair. With this early bow, it is impossible to produce a sustained *cantabile* phrase with as much power as is producible with the modern bow.

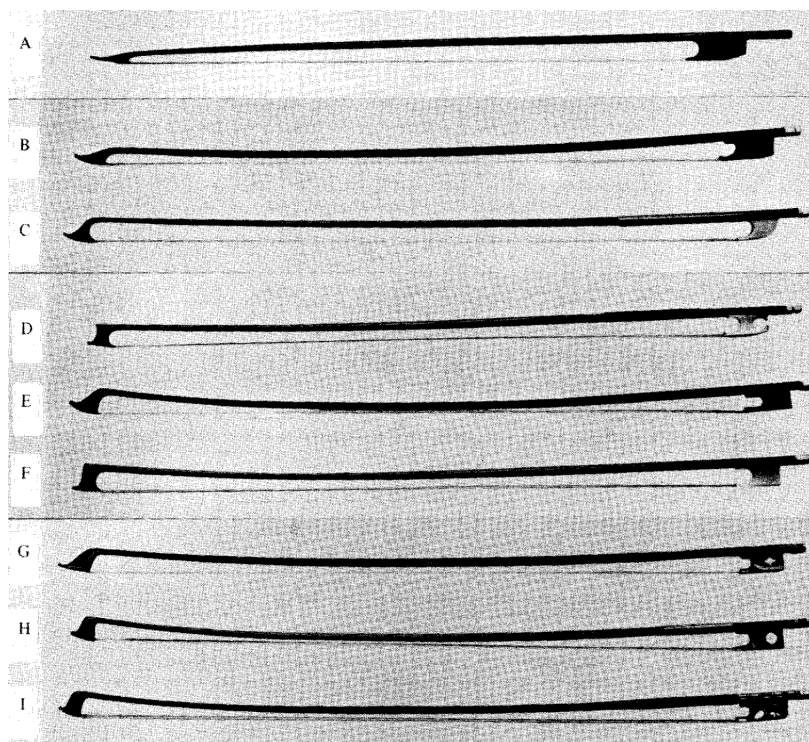
Violin Bow Construction and Playing Technique Prior to the Tourte Bow (1790)

The development of a musical instrument is habitually influenced by changes in musical style and expression. The demand for increased volume that also led to developments in violin construction, in the *cantabile* style of melodic writing, and a wider dynamic range in musical compositions of the eighteenth century also encouraged the development of longer and straighter bow sticks, such as the “Stradivari Bow” mentioned earlier. The straighter bow stick requires modifications of the height and curve of the pike’s head in order to provide adequate space between the bow stick and the hair. Toward the middle of the eighteenth century, makers began to anticipate the *camber* (inward curve) of the “modern stick.”¹⁵ Robin Stowell found evidence of this in the collection of violin bows from circa 1700–1820, preserved in the Hill collection of musical instruments in the Ashmolean Museum, Oxford. These bows are pictured in figure 6.¹⁶ Figure 6 clearly demonstrates the developments and changes of bow heads and bow sticks, from the pike’s head of bow A to the modified pike’s head and concave camber of bow B. Bows C, E, and G represent the transitional bows. Bow C has a raised pike’s head, and bows E and G have varying degrees of concave camber as well as differing dimensions of the pike’s head. Bows D and F have the hatchet head. Finally, the “modern” head bows H and I closely represent the model standardized by François Tourte during the 1780s.¹⁷

¹⁵ Robin Stowell, *Violin Technique and Performance Practice in The Late Eighteenth Centuries* (Cambridge: Cambridge University Press, 1985). 12.

¹⁶ The illustration is reproduced from: Stowell, *Violin Technique and Performance Practice*, 16.

¹⁷ Ibid.



1. Violin bows c. 1700 - c. 1820 preserved in the Hill collection of musical instruments in the Ashmolean Museum, Oxford

		weight (g)	overall length (cm)	playing length (cm)
A	Anon. c. 1700	51	70.4	55.9
B	Anon. c. 1740	58	70.2	59.5
C	Edward Dodd? c. 1750	46	73.0	62.0
D	Anon. c. 1750	52	71.1	63.1
E	Tourte <i>père</i> c. 1760	49	73.8	64.4
F	Edward Dodd c. 1775	48	73.4	62.8
G	John Dodd c. 1780	49	73.7	64.1
H	John Dodd c. 1800	53	73.0	63.1
I	Anon. (German) c. 1820	63	74.6	64.5

Fig. 6 Violin Bows c.1700–c.1820 preserved in the Hill Collection of Musical Instruments in the Ashmolean Museum, Oxford.

The lengths and dimensions of the bows varied drastically in the eighteenth century before François Tourte standardized the modern bow. However, the bow sticks and playing hair grew steadily in length toward the latter part of the century. As Sir John Hawkins stated in 1776: “The bow of the violin has been gradually increasing in length for the last seventy years; it is

now about twenty-eight inches. In the year 1720, a bow of twenty-four inches was, on account of its length, called a sonata bow; the common bow was shorter; and...the French bow must have been shorter still.”¹⁸

Early eighteenth-century bows were often fluted and generally lighter than the modern bows. Compared to the modern bows, the balance point of early-eighteenth century bows is generally lower and closer to the frog, due to the lightness of the bow head. The modification in bow design during that century appeared mostly in the shape and length of the bow stick as well as in the shape of the bow head (as mentioned earlier).

The type of nut used in the early eighteenth century for regulating the bow hair tension varied from a fixed nut to a screw-nut attachment. The screw-nut mechanism technique was used as early as the very beginning of the eighteenth century with the “Stradivari” bow (1700). Thus it is incorrect to credit the invention of this device to *Toute père* (i.e., father to François Tourte), as has been claimed.¹⁹

As previously stated, bow making did not become an organized craft of its own until the second half of the century. Although few bow makers before 1750 stamped their names on their bows, it is still possible to find the relationship between existing early eighteenth-century bows and the main performers who championed the various developments in eighteenth-century bow design. Fétis’s *Notice of Anthony Stradivari*²⁰ included illustrations of four eighteenth-century bow types, which are named after Corelli, Tartini, Cramer, and Viotti. They are included in the set of bows provided in Figure 7 below.²¹

¹⁸ Cited in: Stowell, Robin, *Violin*, 12.

¹⁹ Boyden, 327.

²⁰ Cited in: Boyden, *The History of Violin*, 14.

²¹ The illustration is reproduced from: Gill, *The Book of The Violin*, 50.

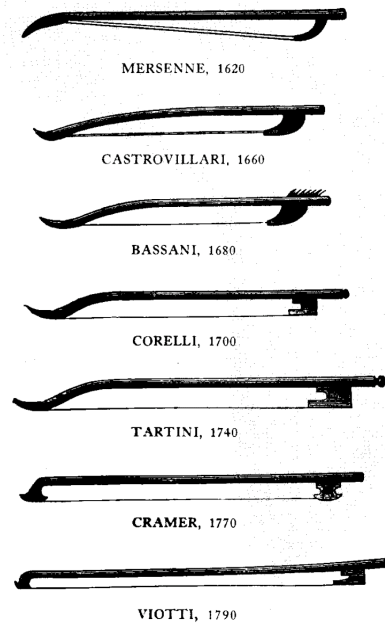


Fig. 7 Fétis's illustrations of 17th–18th century bows.

The “Corelli Bow” was a common type of early eighteenth-century Italian sonata bow, which has a straight or slightly convex bow stick and pike’s head. The “Tartini Bow,” as compared to the “Corelli Bow,” appears to have a longer bow stick. According to Fétis, it was constructed from lighter wood, fluted, and with a lower control point. The transitional bow period spans from approximately 1760 to 1785.²² The “Cramer Bow” and “Viotti Bow” stand as one of the many transitional types in bow development existing between the various early bow models and the François Tourte bow model. It is longer than most of the early bow models but slightly shorter than Tourte’s later standardized model. The hair is wider than the “Corelli bow” but is still narrower than the Tourte bow. It has a slightly concave *camber* of its stick and a shaped frog. According to Boyden, the design of the bow head is a sort of “battle-axe” head with a peak in the front of the head and a peak in the back of the head.

²² Dominic Gill, ed., *The Book of The Violin, The Bow*, by Jaak Liivoja-Lorius (New York: Rizzoli International Publications, 1984), 50.

At the beginning of the eighteenth century, the bow grip varied according to national style, musical style, and personal taste. However, according to Boyden, the “French grip” (with the thumb placed under the bow hair) gradually became outdated after 1725.²³ The “Italian grip” (with the thumb placed between the bow hair and the bow stick) gained in popularity with the increasing fame of the genres of sonata and concerto. Although the basic manner of “Italian grip” is to place the thumb between the bow hair and the bow stick, the positions of the hand, thumb, and fingers on the bow were described variously in different treatises prior to the Tourte bow period. According to Geminiani, “the bow is to be held at a small distance from the nut (frog).”²⁴ In contrast to Geminiani’s thought, L’Abbé *le fils* suggests holding the bow at the frog instead of slightly above the frog as suggested by Geminiani:

The end of the little finger should be placed on the part of the bow fastened to the frog; the index-finger should be placed in such a way that the bow is in contact with the second joint of the finger, which, in order to gain greater power, must be slightly separated from the others. The thumb should be opposite the middle finger and must take the full weight of the bow.²⁵

To a certain degree, L’Abbé *le fils* anticipates the modern bow grip with his concepts. German writers were more traditional, continuing to insist well into the nineteenth century that the bow be held not *near* the frog but *at* the frog. Löhlein for example, states: “The bow is held with the thumb and the first two fingers, just where the frog ends and not almost in the middle, in such a way that it lies inside the first joint of the index-finger.”²⁶

The number of different bow strokes employed with pre-Tourte-model bows in the eighteenth century was small compared to the Tourte-model bows. The standard bow stroke with the pre-Tourte bow was still a clearly articulated and separated stroke, due to the

²³ Francesco Geminiani, *The Art of Playing on the Violin*, ed. David D. Boyden (Oxford: Oxford University Press, 1952), 7.

²⁴ Ibid.

²⁵ Stowell, 59.

²⁶ Ibid.

characteristics of the bow itself and to the manner of holding the bow. Because of the give of the bow hair, the bow is unable to make an attack (i.e., an articulation, or accent) at the beginning of each bow stroke. As a result, the bow does not produce the full sound immediately at the beginning of each bow stroke but does so after some finger pressure has been applied. The bow naturally produces spaces between the notes. The degree of articulation varies from one player to another, as does the regulation of the bow speed, pressure (or “weight”), and contact point in accordance with different tempi and the different length of the notes.²⁷ Nevertheless, a number of basic strokes were employed by all players using the pre-Tourte bow. A brief survey of these strokes follows.

Brisure and Batterie

According to Boyden, there are two complementary types of separate bow strokes, the *brisure* and the *batterie*. These strokes were employed more commonly at the beginning of the eighteenth century as opposed to later in the century. Both strokes require the flexibility and the elasticity of the right hand for the best effect. *Brisure* involves bowing alternately on non-adjacent strings, as shown in example 2.1.



Ex. 2.1 *Brisure*

Batterie requires the alternate use of adjacent strings as shown in ex. 2.2.²⁸

²⁷ Ibid., 167.

²⁸ David Dodge Boyden, *The History of Violin Playing From Its Origin To 1761* (New York: Oxford University Press, 1990), 406.



Ex. 2.2 *Batterie*

Staccato

The eighteenth-century *staccato* stroke is entirely different from the modern *staccato* stroke.²⁹ It was used more as a means of indicating breath and separation between the notes to a somewhat greater degree of articulation than the normal bow stroke. According to Tartini (1760), the *staccato* notes are “separate and detached...played as if there were a rest after every note.”³⁰ This bow stroke is played either on the string or off the string, depending on the tempo of the music. In a slow tempo, the *staccato* stroke usually is played by lifting the bow from the string; however, in the fast tempo the bow must remain on the string. The notation of the *staccato* strokes varied from treatise to treatise. Hiller (1795) says that the word “*staccato*” should be placed under the notes, but strokes [|] or teardrops ['] are often used in addition to make the composer’s intent more clear. A dot [•] is used by Corrette to indicate the *staccato* stroke. Labadens, however, uses both notational systems to indicate the *staccato* stroke; assigning strokes for half notes and dots for eighth notes.³¹ Yet Leopold Mozart only uses the stroke as the notational marking of *staccato* stroke, as shown in ex. 2.3.

²⁹ The modern *staccato* stroke was explained on p.31.

³⁰ Cited in: Goldsmith Pamela, “The Transition to the Tourte Bow and its Effect on Bowing Articulation” [lecture demonstration online] (Journal of the American Viola Society, lecture demonstration and article, 1986); available from http://www.zvonar.com/PamelaGoldsmith/articles/Transitional_Bowing.html; Internet, 7.

³¹ Cited in: Robin Stowell, *Violin Technique*, 168.



Ex. 2.3 Leopold Mozart’s staccato marking

Playing Long Notes

Corrette (1782) gives the following instructions on playing in an *adagio* manner: “In order to swell the tone on a long note, one must begin by drawing the bow on the string with softness, then increasing it in the middle according to the value of the note and finish as one began, vibrating the finger a little on the string.” Here, Corrette implies that long notes are to be played with a “*crescendo-diminuendo* stroke,” which resembles the *messa di voce* (◀▶) vocal ornament wherein the vibrato increases as the volume increases and then decreases again. This vocal mannerism was very popular in the eighteenth century.³² Although the normal bow stroke with the pre-Tourte bow was the articulated non-legato stroke, the theorists in the mid-eighteenth century gradually encouraged the violinists to apply *cantabile* ideals to play legato strokes and imitate the human voice.³³ This suggestion of playing *adagio* in a *cantabile* style may also have promoted the contemporary developments in bow design and construction.

Portato

In 1774, Löhlein explained the *portato* strokes as follows:

These slow and sad tunes must be delivered with a firm clinging bow, and well connected...when here dots stand over notes, one gives such notes a pressure, and the

³² Goldsmith Pamela, 7.

³³ Stowell, Robin, *Violin Technique and Performance Practice in The Late Eighteenth Centuries* (Cambridge: Cambridge University Press, 1985), 170.

bow again relaxes, by which the notes are separated from each other, however a connection is still produced through the light clinging of the bow.³⁴

According to Stowell, the *portato* stroke (Fr. *Craquer*) is an articulated, slurred bowing that incorporates two or more notes of under the slur; it is generally indicated by dots or lines under the slur.³⁵ The effect is closely related to the slurred staccato, although the pre-Tourte bows produce a quality of articulation that differs from the modern staccato stroke. The modern *staccato* stroke is to use the Tourte model bow playing two or more *martéle* strokes in one bow. Since the *Martéle* stroke requires the “bite” at beginning of each stroke, the modern *staccato* produces a more distinct and sharp separation between the notes. Compared to the *staccato* stroke, the *portato* stroke requires less separation between the notes as discussed in the quotation above.³⁶ The *portato* stroke is used mainly in a slow tempo, e.g., for repeated notes as given in ex. 2.4.



Ex. 2.4 Repeated *portato* notes

The François Tourte Bow Construction and Playing Technique from 1790 to the Present

The construction of the “Viotti” bow” is fairly close to the Tourte bow model. The design of the bow head is the “hatchet-like” head with a peak only in the front (unlike the “Cramer” bow, which has the peak both in the front and the back of the head). It is also longer than the “Cramer” bow and has more hair. The nut is lower and employs the screw-nut attachment.

³⁴ Goldsmith Pamela, 8.

³⁵ Stowell, 176.

³⁶ For more information of *martéle* please see page 30-31.

Fétis states in his *Notice of Anthony Stradivari* that “about this time [1780], Viotti came to Paris. Soon convinced of Tourte’s superiority over other bow-makers, he asked him to look for a way of preventing the hair from becoming bunched, keeping it evenly spread at the frog.”³⁷ Fétis implies that there was some collaboration between Viotti as the rising star violinist and the bow maker François Tourte. However, it is unclear if the Viotti bow is the same design as the Tourte bow but under a different name: Baillot, for one, suggests that the Viotti bow and the Tourte bows are two distinct models. The Viotti bow is 28.5 inches long, which is slightly shorter than the Tourte model at 29.29 inches (i.e., approx. 29 1/3”).³⁸ In any case, François Tourte would certainly have been influenced by performers like Viotti, who often visited his workshop either to suggest ideas or simply to examine and play examples of his works.

François Tourte (1747-1835) was originally an apprentice in the clock-making business. Eventually he settled into the family bow-making business and became his father’s (Tourte *père*) assistant. Tourte *père* and his contemporaries had already developed bow construction to such a high standard that François Tourte can hardly be described as an innovator. However, he did establish standards of bow making that are still being employed today.

Tourte standardized the weight of the bow to approximately fifty-six grams and its total length to approximately 29.5 inches with 25.5 inches of playing hair. Tourte also increased the amount of bow hair from 8,100 to 15,200 strands, resulting in an increase in volume and an improvement in tone quality. In order to keep the ribbon of hair spread flat, Tourte applied the ferrule to the frog. The ferrule was originally made of tin and later made of silver. The concave camber of the bow stick became the basic design. Together with the modern hatchet head it resulted in a balance of beauty and gracefulness.

³⁷ F.J. Fétis, *Notice of Anthony Stradivari*, tr. John Bishop (London, 1864), 124.

³⁸ Stowell, Robin, *Violin Technique and Performance Practice in The Late Eighteenth Centuries* (Cambridge: Cambridge University Press, 1985), 18.

Tourte fully understood the contemporary violinists' need for the increasing variety of bow strokes demanded by the change in musical taste and style during the late eighteenth century. He experimented with various kinds of wood in order to find the best kind, one that combined qualities of lightness, strength, and elasticity. Eventually he concluded that pernambuco wood satisfied all of these conditions. Tourte created the camber not by cutting it into a curve but by thoroughly heating the straight stick and bending it to the desired camber in order to preserve the natural elasticity of the wood. The new design of the bow head is higher than both the pike's head and the variety of hatchet head. This solved the problem of the hair touching the stick. This modification naturally affected the balance of the bow (the balance point shifted toward the head of the bow). In order to keep an equal balance between the bow head and the frog, Tourte loaded the nut with metal inlays,³⁹ which equalized the balance of the bow head and the frog and brought the point of greatest control close to the hand. The balance point of the Tourte bow is further up toward the bow head (7.4 to 7.8 inches from the frog) than was typical with the early eighteenth-century bow with its relatively lighter head. Figure 8 shows bows that were made by Tourte *père* and François Tourte.⁴⁰

According to Rode, the only later improvements to the Tourte bow model included an invention by François Lupot junior (1774-1837).⁴¹ He incorporated an under-slide for the frog to prevent the damage to the nut caused by the friction with the stick. Also, Jean-Baptiste Vuillaume (1798-1875) introduced the indentation of the channel and track to the bow and the combination of the rear and heel plates into one right-angled metal part. Despite these minor additions, the Tourte bow was universally accepted and imitated by all succeeding bow makers. Its innovation and influence remain unsurpassed.

³⁹ The inlays are generally in the form of gold, silver or even tortoiseshell.

⁴⁰ The illustration is reproduced from: Gill *The Book of The Violin*, 54.

⁴¹ J. Roda, *Bows For Musical Instruments of The Violin Family* (Illinois, 1959), 53.

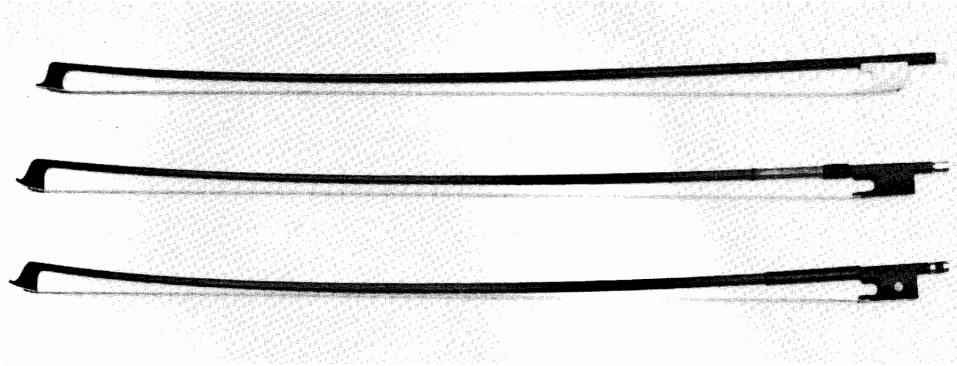


Fig. 8 Violin bows (from top) by Tourte *père*, Paris c. 1770; François Tourte, Paris c. 1790; François Tourte, Paris c. 1820.

By the beginning of the nineteenth century, most of the violin treatises were giving instructions on bow grips and hand positions. Suggested bow grips varied from writer to writer. Rode, for instance, suggested in 1803: “ The bow should be supported by all fingers; care should be taken to place the side and the tip of the thumb against the frog and opposite the middle finger.”⁴² However, there were other writers such as Mazas and Bruni who suggest that the thumb and hand should be near but not right at the frog.⁴³

By the twentieth century, writers started categorizing the bow grips geographically. Carl Fleschs’ *The Art of Violin Playing* (1921) suggested that there are three schools of bow grips, which he explains as follows:

1. *The older (German) manner.* The index finger presses upon the stick with its lower surface, on an approximate level with the knuckle between the first and second joint, whereby the remaining fingers are brought into the position thus determined, the thumb lying opposite the middle finger. All fingers are pressed closely together, and the bow-hair is moderately tensed. [See my fig.9]⁴⁴

⁴² Rode et al., *Method.*(1803), art.3, 5.

⁴³ Stowell, 60.

⁴⁴ Figures 9–11 are reproduced from: Carl Flesch, *The Art of Violin Playing*, 51.

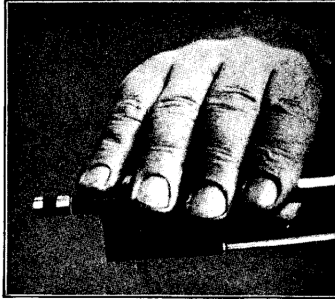


Fig. 9 The older German manner

2. *The newer (Franco-Belgian) manner.* The index finger comes into contact with the stick at the extreme end of its second joint, which is hereby thrust further forward to a noticeable degree. There is an intervening space between index and middle fingers, with the thumb opposite to the middle finger; the bow-hair being at an excessive tension and the stick in an inclined position. [See fig. 10]



Fig. 10 The newer Franco-Belgian manner

3. *The newest (Russian) manner.* The index finger touches the stick at the line separating the second from the third joint, and in addition embraces it with its first and second joints. There is a very small interval between the index and middle finger. The index finger assumes the guidance of the bow, and the little finger only touches it at its lower half while playing. The bow hairs being slack, the stick is held straight.”⁴⁵ [See fig. 11]

⁴⁵ Carl Flesch. *The Art of Violin Playing*, trans. Martens. H. Frederick (NY: Carl Fischer, INC. 1924), 51.



Fig. 11 The newest Russian manner

However, as one observes the historic pictures of famous violinists, one will notice that the manner of each bow grip becomes a variation on a theme, adequately suited for the individual's hand, and sometimes the distinction between the bow grip schools is blurry. Thus it would seem that the "ideal" bow grip should be the one that fits an individual performer and best does the job of emoting the subtleties of the musical style.

By the time of Beethoven, the bowing articulations and technical requirements of the bow strokes had changed significantly from earlier in the 18th century. Before a discussion of the Tourte-era bow strokes (1800-onwards), it will be useful to review the playing characteristics of the Tourte bow. Certainly the Tourte bow is longer and has much more elasticity than all the pre-Tourte bows; thus it produces an evenly sustained tone instead of the clearly articulated and separated bow stroke of the Pre-Tourte bow model.

Baillot says in his *L'Art du Violon*:

The sustained tone must be equally loud from one end of the bow to the other. In order to maintain this equality, it is necessary to increase the strength in proportion as one approaches the point of the bow, which is naturally weaker, pressing the stick with all the fingers, especially the thumb.⁴⁶

⁴⁶ Baillot Pierre Marie François de Sales, *L'Art du Violon* ed. and trans. Goldberg Louise (Illinois: Northwestern University Press. 1991), 228.

The Tourte bow is also more capable of producing greater contrast between *forte* and *piano*, and articulated strokes that are more accented and defined. Furthermore, because of the greater versatility of the Tourte bow, more complex and mixed bow strokes could be introduced in the musical works of the nineteenth century. All these factors combined together to form the Tourte bow's different technical capabilities. As a result, the bowing vocabulary became wider and the use of the bow became more complex and varied.

During the nineteenth century, treatises were written about details of construction and various uses of the bow. Baillot's *L'Art du Violon* was written around 1830 and the *Méthode de Violon* was written around 1802 by Baillot, Rode and Kreutzer. The approach to bow strokes in these works is much more sophisticated than earlier works; they revealed the possibilities of the Tourte bow in its full development.

In *L'Art du Violon* Baillot divides the bow into three equal parts- frog, middle, and tip, as shown in fig.12.⁴⁷

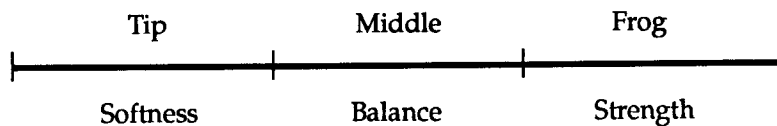


Fig. 12 Bow divisions by Baillot

He described the characteristics of the three parts as follows:

The frog has strength; it marks the beat, strikes the chords and produces with energy the nuances which demand a certain power of tone....The middle possesses balance, tempered strength for sweetness; it is mellow in its fullness, elastic in lightness, it is, so to speak, the center of expression: it breathes. The point, removed from the propelling source, has not, however, lost its power. Its lack of elasticity makes it proper for weakening sounds, and for the heavy

⁴⁷ Ibid.,158.

without pressure after the note is played, and leave a short rest between each note.⁵⁰
 [Please see ex. 2.6]



Ex. 2.6 *Martelé* bow stroke

The last bow stroke is *staccato*, which has a very different meaning in the Pre-Tourte era than it does in the Tourte era.⁵¹ In the Tourte era, the *staccato* stroke is performed by playing two or more *martelé* bow strokes in one bow. Baillot’s instruction for playing the *staccato* stroke: “Play all the notes in a single up-bow, ‘biting’ them very evenly...stop the bow very short on the string after each of these *piano* notes.”⁵² [See ex. 2.7]



Ex. 2.7 *Staccato* bow stroke

Baillot’s category of strokes exploiting the elasticity of the bow contains five different strokes. The first of these is *light détaché*, to be produced as follows: “Hold the bow on the string lightly. Separate each note, take the advantage of the elasticity of the stick to give an imperceptible and slightly elongated ‘bounce’.” In modern terminology this is usually called

⁵⁰ Ibid., 174.

⁵¹ See page 21 for the information of *Staccato* bow stroke in Pre-Tourte bow period.

⁵² Ibid., 175.

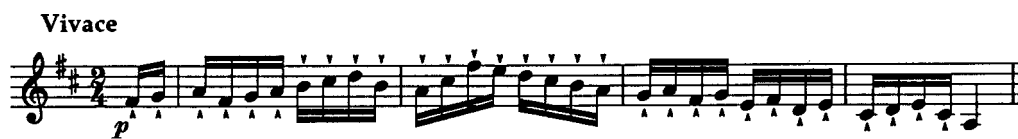
“brushed stroke”.⁵³ In ex.2.8, taken from Viotti’s Concerto No. 25, the first line gives the notation and the second line the effect when played.



Ex. 2.8 Viotti Violin Concerto No. 24 in B minor. I, mm 284-85

The next bow stroke is *perlé*,⁵⁴ for which Baillot gives the following instructions:

“Separate each note in the same way as for the *light détaché* in the middle part of the bow, taking advantage of the elasticity of the stick. Give very little length to the bow stroke because of the speed.”⁵⁵ [See ex. 2.9]. Compared to the *light détaché* stroke, *perlé* is played with a smaller amount of bow (almost bouncing at the same point in the center of the bow), and the sound is more crisp.



Ex. 2.9 Haydn, String Quartet in D Major, Hob. III, 63. IV, mm. 1–4

⁵³ Ibid., 186.

⁵⁴ Galamian refers this bow stroke as *sautillé* in his *Principles of Violin Playing & Teaching*.

⁵⁵ Baillot, 186.

The next stroke is *spiccato*, produced as follows: “Make the bow bounce lightly in the same place, leaving the string a little.” [See ex. 2.10]⁵⁶



Ex. 2.10 Paisiello, *Judicabit*. Allegro non troppo, mm 184-96

The next stroke is *ricochet*, which Baillot explained as follows:

Ricochet can be played down-bow or up-bow, but it is usually done in down-bow. The player throws the bow at the lower end of the middle third, and from about 2.31 inches above the string; the bow rebounds and ‘bites’ several notes by itself. When playing up-bow, the violinist must lift the bow quickly off the string after each note.” [See ex. 2.11]⁵⁷



Ex. 2.11 R. Kreutzer, Violin Concerto No. 10 in D Major, I, mm. 371–76

The last bow stroke that can be put under this category is the *flying staccato*, which Baillot did not include in his *L’Art du Violon*. As its name implies, it is different from ordinary *staccato*. The *flying staccato* is played with the same motion as the solid *staccato*, except that the pressure on the bow is lightened and the bow leaves the string after playing each note. According to

⁵⁶ Ibid., 187.

⁵⁷ Ibid., 184.

Galamian, the *flying staccato* can be effectively “recovered” by using a repeating circular motion of the bow. This technique also keeps the bow’s placement point essentially in one spot, instead of allowing each succeeding bow stroke to travel closer to the frog.⁵⁸ A typical passage for it is given in example 2.12.



Ex. 2.12 Mendelssohn Violin Concerto in E minor, Op. 64, III, mm. 129–132

Baillot’s category of sustained bow strokes contains two bow strokes, the first of which is the *sustained détaché*. He defines it as follows: “It is played in the middle or at the tip of the bow. The player should keep the bow pretty much on the string. It is played in such a way that there is no separation between the notes.”⁵⁹ The direct English translation of *détaché* is “detached;” however, the modern interpretation of *détaché* is to play a single stroke per bow, so that the strokes are sustained and well connected to each other.⁶⁰ [See ex. 2.13]



Ex. 2.13 Rode, Caprice, Op. 22, No. 8 mm1-4.

⁵⁸ Galamian Ivan, *Principle of Violin Playing and Teaching* (N.J.: Prentice-Hall, Inc, 1962), 80.

⁵⁹ Baillot, 188.

⁶⁰ Robert Gerle, *The Art of Practicing the Violin with useful Hint for All String Player* (London: Stainer & Bell, 1985), 66.

The last bow stroke is *flautando* or *détaché* with *very light pressure*, to be produced as follows: “Place the tip of the bow lightly over the fingerboard, about 1 inch from its end. Play each note *piano*, holding it a little, and playing evenly with a sort of nonchalance.” [See. ex. 2.14]⁶¹



Ex. 2.14 Boccherini, Quintet in E-flat Major for 2 Violins, Viola, and 2 Cellos, G Major. II, mm.21–24. Violin

⁶¹ Baillot, 190–191.

CHAPTER 3

MECHANICAL, PHYSIOLOGICAL, AND CONCEPTUAL FACTORS OF SOUND PRODUCTION

In violin performance the violin and the bow play equal roles. However, the violin bow plays the most essential role in the sound production of violin playing. In *The Art of Bowing Practice*, Robert Gerle described the process in detail:

It is the sum total of a constantly changing balance of forces, a sensitive and delicate adjustment of bow speed and pressure, of constant alternations of tension and release between the muscles and the bow. It is the blending of countless physical, physiological and acoustical properties of the instrument and instrumentalist with the laws of nature, the perfect union between the mechanics of the bow and the actions of the player in the service of musical expression in performance.¹

Compared with violin bow technique, left-hand technique is more readily apparent (visually observable) and directly measurable. Violin bow technique is more complicated because each violinist has a different physical build, arm length, and arm weight. Moreover, each individual bow is different in size and weight. Because so many factors are involved, it is not only difficult to produce a beautiful sound but also to theorize about it. In this chapter the author will examine the chief components in violin sound production (using the Tourte bow model): 1) bow mechanics; 2) biomechanics (i.e, the interaction of finger grip, hand, and arm); and 3) the player's mental conception of violin tone quality. A brief review of these three factors will provide a foundation for approaching the topic of historically informed sound production.

¹ Robert Gerle, *The Art of Bowing Practice* (London: Stainer & Bell ltd, 1991), 43

The Mechanical Factors in Sound Production

According to Ivan Galamian, the mechanical factor in sound production is comprised of three main elements: 1) the speed of the bow stroke; 2) the pressure that the bow puts forth on the string; and 3) the point at which the bow contacts the strings, i.e. “sounding point”. These three elements are interdependent. They change in proportion to each other in a steady dynamic sum total. The three elements interact as follows:

1) A faster bow stroke requires a smaller amount of pressure be put on the string; the sounding point will be at a greater distance from the bridge;

2) A slower bow stroke requires a greater amount of pressure be put on the string; the sounding point will be at a smaller distance from the bridge.²

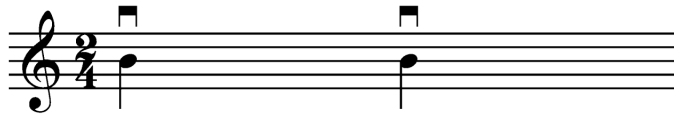
The interactions described above exist within the context of a steady dynamic level. The following paragraphs will discuss each of the three elements mentioned above individually.

Speed

If the pressure on the string remains the same, then the change in bow speed will produce a change in dynamic; the greater the bow speed, the greater the amount of energy transmitted to the string and the greater the dynamic level. In contrast to this, a decrease in bow speed will reduce the dynamic level.

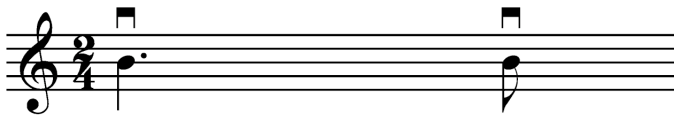
The simplest way to produce a steady dynamic level is to play each note with equal speed, equal pressure, and a consistent sound point. A logical and well-controlled bow division is a very important part of keeping a steady dynamic level and desirable tone quality. For instance, if one plays two quarter notes in a whole bow, then each quarter note needs to be played using half of the bow as shown in ex. 3.1.

² Galamian Ivan, *Principle of Violin Playing and Teaching* (N.J.: Prentice-Hall, Inc, 1962), 55.



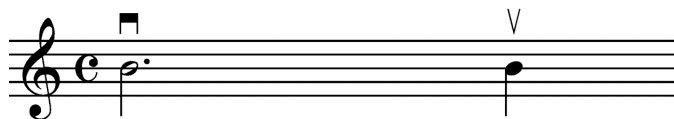
Ex. 3.1 The playing of two quarter notes using a whole bow

However, if one plays a dotted quarter note and a eighth note in one bow, then the dotted quarter note needs to be played in three-fourths of the bow and the eighth note needs to be played in one-fourth of the bow as shown in ex. 3.2.



Ex. 3.2 The playing of a dotted quarter note and an eighth note using a whole bow

Finally, if one wants to play the pattern of one dotted half-note in down bow and a quarter note in up bow, then one needs to play the down bow three times slower than the up bow as shown in ex. 3.3.



Ex. 3.3 The playing of a dotted half note and a quarter note in two separate whole bows

The sudden change of bow speed as shown in ex. 3.3, as forced by certain rhythmic patterns, will cause a sudden increase in sound. However, if a dynamic change is not desired, then the player needs to reduce the pressure by an exact amount to balance the increase in bow

speed. A common mistake is to expend too much bow at the beginning of the stroke and not leave enough bow for rest of the stroke. When this situation occurs the violinist will start squeezing and pinching with the small remainder of the bow and an undesirable sound quality will arise.

In places where the dynamic level does not need to be even, e.g., for a *crescendo*, accent, or subtle *piano* etc., it is necessary to shape the musical phrase with varying bow speeds; these are applied in order to fulfill sudden changes in dynamics. It is most likely that the corresponding changes of pressure will be involved as well. For instance, when playing three quarter notes with an up bow in a *crescendo* motion, one needs to save half of the bow or more for the last note in order to achieve the *crescendo*.³

Pressure

The pressure that the bow applies to the string is comprised of a combination of the weight of the bow itself, the weight of the hand and the arm, and the controlled muscular action. A look at the shape of the violin bow reveals that the bow stick is not designed evenly from the tip to the frog; consequently, the weight it produces at the point of contact on the string is not equivalent from the tip to the frog. It has the least weight at the tip and increases gradually towards the frog, where the weight of the bow is the heaviest. This requires the muscles to synchronize the bow action with the uneven design of the bow weight. The resultant consistency of dynamic control and sustainability of the long bow stroke is produced by the uneven pressure-weight combination. For a down-bow, the pressure has to increase towards the bow tip as the bow weight decreases towards the bow tip. For an up-bow, the pressure has to decrease towards the frog as the bow weight increases towards the frog.

³ Ibid., 56.

Sounding Point

The “sounding point” has been defined as the place where the bow hair and the string make contact. This is generally located between the bridge and the fingerboard, and the “good” sounding point is defined as the area that produces the best tonal result.⁴ In order to locate the appropriate sounding point it is necessary to place the bow parallel to the bridge. As mentioned above, the sounding point changes with varying bow speeds and pressure. In addition to these factors, the thickness, length, and tension of the strings also have an influence on the sounding point.

The violin’s four open strings (G, D, A, E) differ in diameter: the higher the pitch of the string, the thinner it is. On the thinner strings the sounding point is closer to the bridge than it is on the thicker strings. The left-hand position is another factor for determining the sounding point. A higher left-hand position creates more tension in the strings, and therefore the sounding point is closer to the bridge than it would be if the hand were located in a lower position. Subsequently, if the speed and pressure of the bow remain the same, then the violinist needs to constantly change the sounding point by alternating between strings and left-hand positions on the strings.

Physiological Factors in Sound Production

In order to produce a quality sound on the violin one must understand not only the mechanical factors of the instrument, but also the physical motions of the right arm, hand, and fingers. Violin playing involves the whole body. In the bow arm, the most important and directly involved muscles are the forearm and upper-arm muscles. The right chest muscle and the back muscles are involved as well, especially the area on the side of the spine, just below and

⁴ Ibid.,58.

inside the shoulder blade. When these muscles successively assume the majority of the physical work in bowing, the smaller muscles of the hand and fingers become available for the more delicate tasks of articulation, phrasing, and expressive characterization.⁵

The bow arm can be roughly divided into three main parts: upper-arm, forearm, and hand with its fingers. It should be noted that each successive unit decreases in length. The sections of the bow arm can function separately or in combination. As a general rule, the faster the stroke, the shorter the arm section and bow length that will be used. From this, the following three principles can be derived:

1. Very fast strokes such as *spiccato* and *sautillé* use a hand motion with a very small amount of bow in the middle or upper half of the bow.
2. Moderate speed strokes such as *grand détache* and *martéle* use hand and forearm motion with more bow length than fast bow strokes and utilize the middle or upper half bow division.
3. Slow speed strokes such as *legato* (in slow tempo), use a whole arm motion (upper arm + forearm + hand) with the whole bow.

We can now discuss the physiological motions of the three sections of the bow arm in more detail.

Motion of the Upper Arm

The upper arm has the widest range of the areas of the bow arm; however, the wide range of the upper arm also limits its motions. The most useful motions of the upper arm can be divided into two categories: vertical motion and horizontal motion.

⁵ Robert Gerle, 48.

Vertical motion is used mainly in conjunction with the string crossing technique. This motion enables the elbow to swing away from the body and allows the elbow to drop close to the side of the body. *Horizontal motion* is used mainly when the bow moves up and down in the lower half of the bow. The combination of these two upper arm motions is often used in all of the various slant and curve motions. For instance, when one plays bow strokes on the G string, it involves the horizontal motion of the upper arm. This motion becomes a combination of the horizontal and vertical motions when one crosses from the G string to the E string.

Motion of the Forearm

The motion of the forearm occurs when the forearm initiates and makes movements with very little hand motion.⁶ The motion of the forearm is the most important of all the bowing movements since almost every type of bow stroke uses it. The motion of the forearm is dependent on the elbow joint and its influence on the closing and opening of the arm. The forearm can also rotate in the elbow joint around the length of its range; this is mainly used for string crossing technique.

Motion of the Hand

Before discussing the motion of the hand, it is necessary to review the grip-hold of the bow. The survey of the bow grip from the seventeenth century to the nineteenth century was discussed in the previous chapter. In addition to the German, Russian, and Franco-Belgium bow holds, the Galamian hold has been labeled with increasing frequency as the “American school” of current bow holds. The figures below show different views of the Galamian bow hold.

⁶ Ibid., 18.

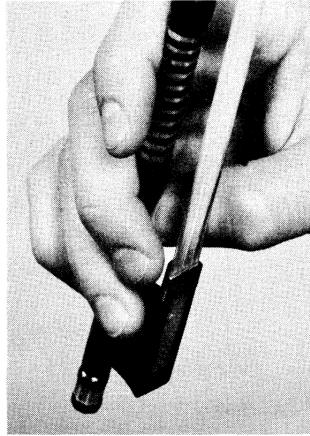


Fig. 13 a

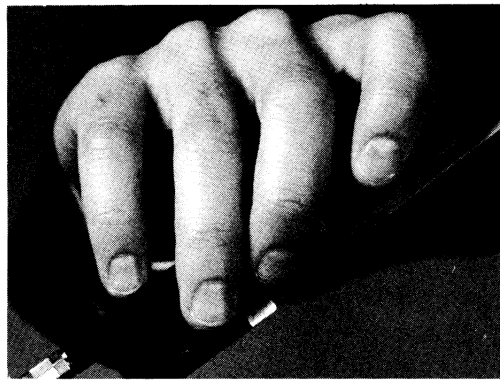


Fig. 13 b

The Galamian bow hold shares many similar characteristics with the Franco-Belgian bow hold. These include such elements as the rounded fingers, especially the rounded little finger; this is the opposite of the straight little finger in the Russian hold. In addition, this hold features a smaller spread between the index finger and the middle finger and a flatter wrist than the Franco-Belgian bow hold.

There is no “best” school of holding the bow. Choosing which school of bow hold to utilize is a personal choice that relates to an individual’s physical characteristics. However, a

good bow hold must be a comfortable one, which will enable all of the fingers to be curved in an easy and natural way with the joints and knuckles remaining relaxed. Under these conditions the natural springs of the hand and fingers will function well. In practice, the bow hold is modified and adjusted as the bow moves from the tip to the frog and the violinist changes dynamics, bow strokes, and tonal qualities. Similar to the motion of the upper arm, the most useful motions of the hand can be divided into two categories: vertical motion and horizontal motion.

Vertical motion of the hand refers to the fact that the hand can move up and down in relation to the forearm. In order to discuss the “up” and “down” motion of the hand, a neutral position needs to be established. This can be found when the middle point of the bow is put on the string, with the palm downward, the wrist flat, and the forearm and hand held horizontally. The upward motion of the hand creates a low wrist due to the bending of the fingers and the downward push of the wrist. The downward motion of the hand forms a high wrist by gradually straightening the fingers and raising the level of the wrist.

Horizontal motion of the hand: Another motion of the hand is the horizontal motion. Once again, the middle point of the bow should be placed horizontally on the string with the forearm and palm facing downward. The hand can have a certain amount of lateral motion. All five fingers bend to direct the bow toward the left; in contrast, the straightening of all five fingers directs the bow toward the right. Certainly, this movement has a much smaller range than the vertical motion of the hand, but it is essential in many types of bowings. As with other arm motions, these two motions of the hand can be combined to allow the hand to move in the desired direction and to produce a smooth bow change.⁷

Good violin bow technique is measured by an individual’s ability to flexibly combine and employ the motions of all the arm sections (upper arm + forearm + hand) to accomplish the

⁷ Galamian, 48-50.

various bow strokes, phrasing, and dynamic changes contained in the music. The foundation of the entire bow technique is rooted in the ability to draw a straight bow stroke, parallel to the bridge and create a steady sound of good quality. By contrast, a curved bow stroke would cause the bow to change its contact point with the string and consequently produce an unfocused sound quality.

Drawing a straight bow stroke does not come easily, since it involves a well-coordinated combination of a circular motion of all of the arm sections. This complicated motion does not occur in any natural human activities.⁸

The Conceptual Factor in Sound Production

Imagination plays a very important role in sound production. While many mechanical elements are important in creating a good sound, a person's concept of sound is of equal significance. A player will find the most success if he or she can combine the mechanical elements of producing a good tone with a physiologically well-directed route towards an imagined, ideal sound. Galamian articulated the matter well in 1962:

What is important is that the springs⁹ be in good working order and adaptable to various grades as an organic unity. Thereafter, the musical imagination, desiring certain sounds and the ear, listening attentively for positive results, will automatically bring forth the necessary coordination of all elements involved. Thus, listening ability becomes of paramount importance in finding the right procedure to adopt.¹⁰

Anything that is created must first be imagined: a cup must first be in the potter's mind before the clay is shaped in his or her hands; a piece of music is heard by the composer before he

⁸ Ibid., 51.

⁹ Galamian states that bow arm technique is based on a system of springs that function in a manner that is similar to mechanical springs.

¹⁰ Galamian, 58.

or she commits it to paper. Therefore a violinist can hardly be expected to produce the ideal sound without first “hearing” it in his/her mind.

Internationally known concert violinist and educator Ida Kavafian summarized the matter well:

The first thing that is responsible for a good tone is what each individual has in his or her ear, heart, and mind. Each individual has his or her own concept of sound and its importance. While many technical things are important in creating a good sound, the most important aspect is a person’s concept of sound. If you can define and hear what kind of sound you want, then you will find ways to get it.¹¹

Once they have mastered the art of producing the specific kind of sound that they have in mind, most violinists also believe that various types of sound production should factor into the actual music making. Above all, it is essential to use different types of sounds for different stylistic repertoires. In another words, one should not use a generic sound for one’s entire repertoire. As Kavafian put it, “What you use for Debussy is not what you want to use in Brahms, and vice versa. Everything should originate from the repertoire one is playing--using the appropriate sound for the repertoire, and the character you want in and within a movement.”¹²

Imagination is of the utmost importance when attempting to produce a good and stylistically accurate sound. However, it is sometimes unclear as to what approach or method to use in this endeavor. Ultimately, the best source of inspiration may come from the violinist’s own voice. The violin is probably the closest instrument to the human voice; this makes it the most natural instrument to touch someone’s heart. The vocal approach is a very successful in formulating phrasing and shaping sound in violin playing. People tend to sing better phrases than they play because the voice is one’s natural instrument; it is a part of the body. For this reason, it

¹¹ Sarah Freiberg, “Got Tone? Sound Advice from the Experts on Improving Your Tone Production,” *Strings Magazine* 113 (Oct 2003): 46

¹² *Ibid.*, 2.

is very easy to sing a continuous phrase: the bow, however, is a “foreign” object, outside of and detached from one’s body. The distribution of weight in the bow is a further challenge, since it is lighter at the tip and heavier at the frog. For this reason, it is natural to make a diminuendo as one approaches the tip. As mentioned earlier, one can only avoid this diminuendo by applying more weight proportionately towards the tip. However, if one not only applies the mechanical knowledge of producing an even sound but also imitates his or her own voice while approaching the sustained sound, the result will be the most natural and successful process for producing a good sustained sound.¹³

Musicians have long acknowledged the benefits of mental practice. Mental practice as a stage of preparation for performances is an excellent way to support skill development. In order to avoid disturbing his motor skills by practicing on a piano other than his Steinway, Horowitz supposedly practiced mentally before his concerts instead of actually rehearsing with the piano in the concert hall.¹⁴

Mental practice involves the imagined performance of a task as opposed to its actual performance. In other words, when engaging in mental practice, one imagines performing without actually doing anything. When engaging in mental practice, an individual can not only rehearse the basic elements of pitch, rhythm, and tempo in a composition, but also the phrasing, sound quality, tone color, and many more interpretive factors. This process is very similar to the process of imagining the kind of sound in one’s mind before physically producing it. If one can apply the mental practice theory to the imagined ideal of sound production, audible improvements are very likely to follow.

¹³ Ibid., 4.

¹⁴ Alvaro Pascual-Leone, “The Brain That Plays Music Is Changed by It,” *Annals of the New York Academy of Sciences* 930 (2001):321.

CHAPTER 4

PRODUCING THE STYLISTIC SOUND OF A GIVEN HISTORICAL PERIOD OF MUSIC: FROM MOZART TO BRAHMS

A performance of a written work of music involves an artistic reproduction of the music that requires an engagement with the musical style of the composer. However, any composer's style also bears the imprint of one or more historical styles, which in turn reflect the instruments, genres, and playing idioms of the time. Before deciding matters of personal interpretation, it is absolutely necessary to develop a concept of the fundamental sound ideal, based on the evidence of the instruments and musical works of a specific style period. Carl Flesch describes "stylistic feeling" in his *The Art of Violin Playing* as follows:

The manifold ways in which style may be conceived results in our speaking of the *Bach* or *Mozart* style, as well as of the *operatic* or *church* style, of the *vocal* or *instrumental* style, of the *chamber music*, *sonata* or *virtuoso* style. Furthermore, types of style may be aesthetically characterized as pathetic, Naïve, sentimental, romantic, classic, dramatic, heroic, lyric, graceful or folk-wise. The more or less strongly pronounced national character of a composition may also call for recognition as a "style": we speak of a Russian, French, Viennese, Hungarian style... The musician who has devoted his life to acting as an intermediary in making musical works known to the world at large must be able to understand the nature of the greatest possible number of kinds of style, and do justice to their peculiarities.¹

This chapter will focus on how the violin bows and bow strokes used at a particular time directly influenced compositional choices and habits of notation and should thus be carefully considered by any performer concerned with achieving a stylistically appropriate sound ideal. As previously stated, the three representative works are the respective first movements of

¹ Carl Flesch, *The Art of Violin Playing*, vol. 2, trans. Frederick H. Martens Cooper (New York: Cooper Square, 1930), 60.

Mozart's Violin Concerto No.4 (1775), Beethoven's Violin Concerto in D major (1806) and Brahms's Violin Concerto in D major (1878). Mozart's Violin Concerto in D major was composed while the transitional bow model was still in use. The "give" of the transitional bow led to the establishment of the separated and clearly articulated bow stroke as the foundational bow stroke in the musical compositions of the transitional bow period. Beethoven's Violin Concerto in D major was composed at the beginning of the period in which the Tourte bow was in use. The Tourte bow was the first bow that was able to produce a sustained sound; this influenced the writing of many composers and is evidenced in the appearance of long-slurred melodies in Beethoven's violin concerto. From then on, various modern bow strokes began to come into use. Brahms composed his violin concerto during the time when the Tourte bow had become the favorite choice of every violinist in the world. He not only used a greater variety of bow strokes in his violin concerto but also began to apply more complex bow strokes. More specific bow stroke issues will be discussed in the following sections.

The Transitional Bow and Mozart's Violin Concerto in D major, K.218

While still a teenager in the service of the Salzburg court, Wolfgang Amadeus Mozart (1756-1791) composed his Violin Concerto in D Major K.218 in 1775. Mozart's violin concertos are notable for the beauty of their melodies and their skillful use of the expressive and technical characteristics of the instrument. Mozart's music stands as a typical example of the Classical style. His works spanned the period during which that style changed from one in which *galant* style² traits predominated to one that began to incorporate some of the contrapuntal complexities of the late Baroque, complexities against which the *galant* style had been a

² In music, Galant was a term referring to a style, principally occurring in the third quarter of the 18th century, which featured a return to classical simplicity after the complexity of the late Baroque era.

reaction. Mozart's own stylistic development closely relates to the development of the Classical style as a whole. The central mannerisms of the Classical style—clarity, balance, and transparency—can all be identified in Mozart's music.

Mozart was himself a very good violinist. While he was on tour in Munich in 1777 he performed his “Divertimento in B Flat Major, K 287” in a private concert. The performance of the Divertimento was clearly a success. Mozart reported to his father Leopold Mozart: “ They all opened their eyes! I played as though I was the finest fiddler in the whole Europe.”³ Leopold replied with a blend of anxiety and pride: “ You yourself do not know how well you play the violin.”⁴ It is no surprise that Mozart’s compositions for violin demonstrate his understanding of the instrument and its technique.

Mozart’s father was also his violin teacher. His famous violin treatise *Violinschule* was published in the same year of Mozart’s birth 1756. The *Violinschule* gives important information about Mozart’s violin training as a child. When Mozart first started playing the violin, the bows probably had a pike’s or swan’s head. There is a greater distance between the bow hair and the bow stick at the frog than there is at the head. This is evidenced below in Fig.14, which is a portrait painted by Carmontelle of Leopold Mozart with a violin.⁵

This painting shows Leopold using a bow that has a pike’s head; this is the type of bow that is featured in the *Violinschule*. In this treatise he states: “The weight of a violin bow contributes much, as does also in no less degree its length or shortness. A heavier and longer bow must be used more lightly and retarded somewhat less; whereas a lighter and shorter bow

³ 6 October 1777, *The Letters of Mozart and his Family Chronologically Arranged, Translated, and Edited with an Introduction, Notes and Indices*, trans. E. Anderson (London, 1985), 300.

⁴ 18 October 1777, *Letters*, .331.

⁵ See Leopold’s letter from Paris, 1 April 1764: ‘...our portraits which M. de Carmontelle (an amateur) has painted excellently well. Wolfgang is playing the clavier, I am standing behind his chair playing the violin...’ *Letters*, 44.

must be pressed down more and retarded more.”⁶ This statement implies that there were different types of bows in use at that time and each type needed to be treated differently.



11 Leopold Mozart, *Streich einer grossen Violinistade* (Augsburg, 1763). From Hepner
EARLY MUSIC FEBRUARY 1982 19

Fig. 14 A portrait painted by Carmontelle of Leopold Mozart with a violin

As discussed in Chapter One, the period between 1760-1785 is known as the “transitional period” in violin bow construction. Mozart composed his Violin Concerto in D major during this time. It is impossible to know what type of bow Mozart used or had in mind while he composed his violin concertos. However, it is known that during the transitional bow period the violin bow had not yet become standardized in terms of weight, length, and shape; nevertheless, the fundamentals of bowing technique were kept almost the same. One of the most pronounced changes was the greater length of the bow sticks with a slightly concaved camber.

In order to understand the following analysis of Mozart’s Violin Concerto in D major, K.218, it is necessary to recall that the basic bow stroke of the transitional bow is a separated,

⁶ Leopold Mozart, *A Treatise on the Fundamental Principles of Violin Playing*, 119.

clearly articulated stroke. This is produced because of the characteristics of the bow itself and the manner of gripping the bow, which caused the bow to create space between the notes.⁷

The following paragraphs will outline the bow strokes and bowing analysis of the Mozart Violin Concerto in D. The purpose of this analysis is to attempt to make modern violinists aware of the intricate interpretive demands of Mozart's highly articulated and nuanced bowing technique.

Mozart's Staccato Markings and His Autographs

The *staccato* bow stroke used in the transitional bow period presents that era's manner of separation, breath, and articulation. In addition to the natural separated bow strokes, the *staccato* stroke implied a greater degree of articulation between each note. Mozart's fondness for using *staccato* bow strokes probably stemmed from his sense of articulation, especially in the fast movements

The first curiosity that arises when studying Mozart's usage of *staccato* stroke is his system of notational markings. In an article from a recent issue of *Early Music*, Frederick Neumann lent support for the theory that Mozart used two signs to indicate *staccato*: the dot [•] and the stroke [|], each of which had its own distinct meanings.⁸ The latter appears in a wide range of sizes and shapes in Mozart's autographs [see ex. 4.1]. Although the construction of the bow in the transitional period had changed slightly from the earlier models, musicologists have argued about the proper interpretation of strokes and dots in relation to the *staccato* stroke for more than a century. The most important eighteenth-century treatise that indicates a difference between strokes and dots is Quantz's *On Playing the Flute* (1752). In the chapter, "Of the

⁷ Please see page 19 and 20 for details.

⁸ Clive Brown, "Dots and Strokes in Late 18th-and 19th-Century Music," *Early Music* 21, No.4 (Nov., 1993): 593.

Ripieno Violinists in Particular,” Quantz defines the dualism of the *staccato* stroke in the following manner: “The notes with a stroke must be played with completely detached strokes, and those with dots simply with short strokes and in a sustained manner.”⁹



Ex. 4.1 is the autograph of Mozart’s String Quartet in D, K 575, Menuetto, bar 44-7.

However, there are other violin treatises and theorists that support the theory that only one mark was necessary to notate the unslurred *staccato*. Leopold Mozart supports this idea in his *Violinschule* (1756), where he explains that the staccato marking is notated by placing small vertical strokes above or below the notes.¹⁰ The only situation in which Leopold uses dots is in combination with slurs to indicate *portato*.¹¹ W.A. Mozart’s usage of dots and strokes is clearly derived from his father’s notational practice.

⁹ Johann Joachim Quantz, *On Playing the Flute: The Classic of Baroque Music Instruction*, trans. Edward R. Reilly (Boston: Northeastern University Press, 2001), 223.

¹⁰ Leopold Mozart, *A Treatise on the Fundamental Principles of Violin Playing*, 45-46.

¹¹ *Ibid.*, 43.

Nevertheless, Mozart's usage of the *staccato* notation is unclear and inconsistent in this example. We see a mixture of dots and small strokes in the violins and cello parts but the viola part clearly uses bold strokes. Why would Mozart put dots and strokes at a point in the music where all of the parts have the exact same rhythmic pattern? Did dots and strokes indicate the same degree and type of articulation here? As one of the most careful composers of the eighteenth century, Mozart had a high respect for such things as dynamics and phrasing; it would be out of character for him to show neglect by using inconsistent notational markings of dots and strokes if that was not his intention. It is much easier to believe that Mozart believed that the varied purposes of *staccato* marks (more than two types, according to Neumann) should be determined by their musical context in the music rather than by their appearance.

Paul Mies based his observations of Mozart's notational practice on his listing of nine *Schreibregeln* [notational principles]:

1. All of the early Mozart's autographs use stroke as the *staccato* marking.
2. Individual notes receive a stroke.
3. Individual notes that are separated by rests receive strokes as *staccato* signs, less often dots or both signs mixed.
4. Chords, also when repeated and in series, receive strokes.
5. Longer series of notes in one direction received dots, only very rarely strokes.
6. Broken chords in one direction, only ascending or only descending, receive strokes or dots and strokes mixed, dots only seldom.
7. Broken figures in various directions (zig-zag movements) bear strokes, dots, or a mixture of both.
8. Dots greatly predominate in tone repetitions.

9. In combination with the legato slur and as *portato*, Mozart uses dots.¹²

Interpretations of Staccato Markings

The modern editions of Mozart's Fourth Concerto often neglect the different degrees of the stroke marking. Among the editions in current use, the Bärenreiter edition is considered to be the edition closest to the autographs. It contains two kinds of notations for the *staccato* stroke: a dot and a stroke. According to Robert Riggs, the wedge [▼] that appeared in some printed editions is only used in those editions and it may be regarded as a stylized stroke.¹³ The Peters edition of the same concerto only uses dots to indicate the *staccato* stroke.

How then can one properly interpret Mozart's *staccato stroke* marking when preparing the work for performance? First of all, the Bärenreiter Kassel edition is recommended since it is generally considered to be the edition that is the closest to the autographs. Secondly, the ability to interpret these notational markings with a degree of accuracy largely depends on the awareness and capability of the performer to recognize the significance of the *staccato* notational markings in their given condition. It is regrettable that Mozart himself never clearly indicated in his autograph how he wanted the *staccato* notes performed. However, by keeping in mind that the basic bow stroke in the transitional period is a separated, clearly articulated stroke, it is possible to conclude with a reasonable level of certainty that any marking from that period indicates a greater degree of articulation than the basic separated stroke. Robert Riggs gives the best appraisal of this situation:

The inevitable conclusion is that it is not the shape of the staccato signs, but rather their melodic, rhythmic, and harmonic context and of course the character of the passage that is the only reliable arbiter of how they should be performed. The attempted separation of

¹² Paul Mies, "Die Artikulationszeichen Strich und Punkt bei Wolfgang Amadeus Mozart," 438-40.

¹³ Robert Riggs, "Mozart's Notation of Staccato Articulation: A New Appraisal," *The Journal of Musicology* 15, no. 2 (Spring, 1997): 231.

dots from strokes does not aid interpretation. Rather, dualism can, and often does, give performers cues that Mozart could never have intended.¹⁴

Ideally one would want to treat every staccato note individually regarding the piece's particular musical context and musical style. As mentioned earlier, Quantz's method of performing different markings of *staccato* notes is informed by his belief that the stroke requires a definite separation and (whenever the tempo permits) a lifting of the bow off the string; the dot requires articulation with short bows but the separation between notes is to be minimized and the bow is to remain on the string. Quantz's commentary implies that the stroke marking has a stronger articulation than the dot marking. The decision to lift the bow from the string or stay on the string is also strongly dependent on the tempo and the character of the piece, the duration of the staccato notes, and the dynamic level.

Example 4.2 shows the opening theme from the first movement (*Allegro*) of Mozart's Concerto No.4 in D major, as printed in the Bärenreiter edition. In m.5 and m.7, there are four eighth notes separated by rests and the stroke markings are used to indicate the *staccato* stroke. According to Quantz's theory these *staccato* notes should be played by lifting the bow with a strong sense of separation. In measure 11 three *staccato* eighth notes [D-C-D] are also marked with a stroke. However, because they do not have rests between them (as in m. 5), the degree of lifting the bow should be reduced; the degree of separation will be decreased as well. In each of the following measures, two *staccato* eighth notes are notated with stroke markings. These staccato notes would be played in the same manner as the *staccato* notes in the previous measure if the dynamic level remained the same. However, because the dynamic level in m. 12 and m.13 is *forte*, as opposed to the *piano* in m.11, it is necessary to play with greater separation and a

¹⁴ Ibid., 258.

more pronounced lift of the bow off the string in m. 12 and m. 13; this will achieve the *forte* dynamic level.

KV 218
Wolfgang Amadeus Mozart
Allegro
f *p*
6 *f* *p* *f* *p*
11 *cresc.* *f* *p*

Ex.4.2 Mozart Violin Concerto in D major, I, mm 1–14

In addition to Mies's nine *Schreibregeln*, a further principle can be given, based on the usage of dots and strokes in the D-Major Concerto. The stroke mark is never used on any sixteenth *staccato* notes in the *Allegro* movements. The shortest note value with a stroke marking is the eighth note. The only time the stroke marking appears on a note value that is less than the eighth note is in m.215 of the *Rondeau* movement, as shown in Example 4.3.

212

Ex. 4.3 Mozart Violin Concerto in D major, III, mm. 212–216

Once again, in accordance with Quantz's theory, this means that all of the *staccato* sixteenth notes of the *Allegro* movement should be performed without lifting the bow off the string, thus producing a minimized separation between each pair of notes.

Having examined the matter in detail, we can now ask to what extent modern performers make use of this historical data pertaining to the proper playing of sixteenth notes with dot markings. A comparison of two recordings of the concerto will be instructive. The first, made in 1994, features Monica Huggett playing solo violin and conducting the Orchestra of the Age of Enlightenment.¹⁵ The other recording, made in 1983, features Itzhak Perlman playing violin solo and James Levine conducting the Vienna Philharmonic.¹⁶

The Orchestra of the Age of Enlightenment is a period instrument ensemble. According to the orchestra director Marshall Marcus, the orchestra performs on instruments that are either originals of the period or copies of them. They typically study treatises that were written in or are related to the period, which describe performance practice as well as actual performances. In addition, they are committed to using manuscripts and early editions, rather than relying on modern editions. These preparations are the key to the distinctiveness of their interpretation. In this recording Monica Huggett plays all of the *staccato* sixteenth notes with a dot marking in a very smooth and mildly articulated manner; this conforms exactly to Quantz's previously mentioned instruction to "use a short bow and minimize separation with the bow on the string."

By contrast, Perlman's interpretation of *staccato* sixteenth notes with dot markings sounds more like the modern concept of *spiccato*. The *spiccato* bow stroke has a similar meaning to the *staccato* bow stroke of the eighteenth century. Brossard (1665-1730) defines *spiccato* in the following way: "*separer, disjoindre*: detach or separate the sounds from the others. A special

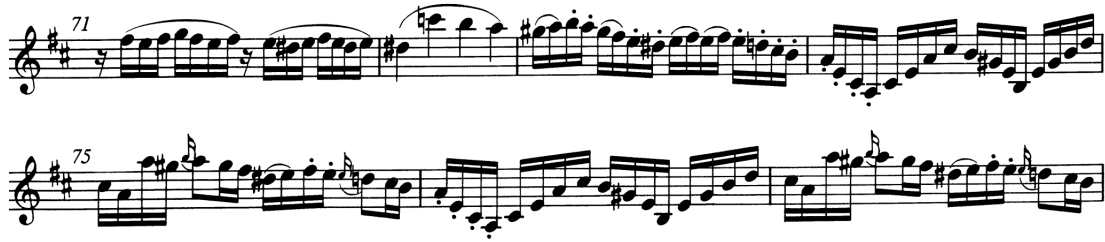
¹⁵ Wolfgang Amadeus Mozart, *The Five Violin Concertos*, Orchestra of the Age of Enlightenment, Veritas VB 7243.

¹⁶ Wolfgang Amadeus Mozart, *The 5 Violin Concertos*, Wiener Philharmoniker, Deutsche Grammophon 445 535-2.

term for stringed instruments, a bit like *staccato*.”¹⁷ The modern understanding of *spiccato* as a thrown stroke requires that it be played by bouncing the bow on the string, which is very comfortable when one uses the modern Tourte-model bow. As a result of his bowing choice, Perlman’s interpretation of *staccato* sixteenth notes with the dot marking is more crisp and bouncing than Monica Huggett’s interpretation.

In the section of mm.74–77 [see ex. 4.4] Perlman performs mm. 74 and 75 without bouncing the bow and mm.76 and 77 with a thrown *spiccato* stroke. Clearly mm. 76 and 77 are the repetition of mm. 74 and 75. Why then should the interpretation of bow stroke be changed in a manner that is inconsistent with the performance practice of the historical period? In our contemporary age of rapid technological change, many people tend to assume that if something is newer it must be better. However, with music this is not really the case. The modern Tourte bow can facilitate an impressive array of bow strokes to produce thrilling sound effects that the transitional bow is unable to match. This does not mean that a performance with a modern Tourte bow should license a performer to disregard the bowings and sound ideals of the transitional period. It can certainly be argued that the ideal performance practice would be to make use of the appropriate period instrument for each piece of music. When it is not realistic to do so, one should at least keep the right tonal concept in one’s head and work to imitate this in a performance using a modern instrument and bow. With the Tourte-model bow, one might accomplish the eighteenth century *staccato* tonal concept by using *light détaché* - also generally called “brushed stroke.” This stroke produces distinct separation between each yet not as percussive as the modern *spiccato* stroke.

¹⁷ Sébastien de Brossard, *Dictionnaire de Musique* (Paris, 1703), as quoted in Tarling, op. cit.,p.136.



Ex. 4.4 Mozart Violin Concerto in D major, I, mm.71–77

Transitional Bow and Slurred Bowing

The separated and clearly articulated bow stroke is the natural bow stroke of the transitional bow period. The transitional bow was not as efficient at making long sustained strokes as the modern Tourte bow. The transitional bow had lesser capabilities in this area because of its short and straighter bow stick, narrower ribbon of bow hair, and lesser elasticity in the bow stick as compared with the Tourte bow. It is precisely these features that must be remembered when bowing decisions for Mozart’s violin compositions are made.

There are never more than eight notes under one slur throughout the entirety of Mozart’s Fourth Concerto. Ex. 4.5 gives typical examples of eight-note slurs. A slur is usually put on top of two or more notes to indicate the *legato* bow stroke. In the eighteenth century the manner of playing *legato* is very similar to the technique of swelling a long individual stroke. As suggested by Leopold Mozart, it is desirable to play with a ‘small softness’ at the beginning and the end of the bow stroke in order to produce the old *messa di voce* vocal style ($\leftarrow \rightarrow$). The inherent limitation of playing the *legato* stroke with the shorter bow stick explains the fact that there are no more than eight notes included in one slur in the entire violin concerto.



Ex. 4.5 Mozart Violin Concerto in D major, I, 82–93

The notation of several staccato dots under a single slur indicates the *portato* bowing [see ex. 4.6]. When discussing this topic, Leopold Mozart insisted that “all these notes (under the dots) within the slur must be taken in one bow stroke but must be entirely separated from each other.”¹⁸ Quantz agreed with L. Mozart’s conception, when he asked that in the case of slurs alone, the notes should not be pushed or touched boldly as would happen with dots under slurs.¹⁹ This *portato* bowing marking is very similar to the notation of the modern concept of the *staccato* bow stroke. However, they have a very different acoustic result. The modern *staccato* stroke is played by using multiple *martèle* strokes in one direction. Compared with the modern *staccato*, the separation between the notes of *portato* should be understated, resulting in less note separation and a smoother effect.



Ex. 4.6 Mozart Violin Concerto in D major, II, mm. 31–35

¹⁸ Quantz, 223.

¹⁹ L. Mozart, 45.

Mozart's Violin Concerto in D major represents well the possibilities and limitations of the historical period when the transitional bow was in use. The choices connected with bowing and the bow strokes used during this time are intimately related to the construction of the transitional bow. The arrival of the Tourte bow at the beginning of the nineteenth century brought new concepts of bow strokes into the realm of performance practice. Consequently, changes appeared in the choices made that related to bow strokes and bowings in the nineteenth century violin repertoire. Detailed information about the bow strokes and bowing facilitated by the Tourte bow will be discussed in the following section, using examples from the Beethoven Violin Concerto in D major.

The Early Tourte Bow and Beethoven's Violin Concerto in D Major, Op.61

By the time of Beethoven's middle compositional period (1802-1814), significant changes in violin bowing articulations and bow strokes had taken place. Above all, the Tourte bow made it possible for a violinist to create a basic stroke that produced an evenly sustained tone, more dynamic contrast between *forte* and *piano*, and articulations that were more accented and distinct.

In 1806 Beethoven (1770-1827) composed his Violin Concerto in D and dedicated it to the Viennese violinist Franz Clement. The premier of the concerto was not very successful. A reviewer in the Viennese *Zeitung für Theater, Musik und Poesie* of January 8, 1807 reported: "The verdict of the cognoscenti is unanimous: they concede that it has some beauty, but maintain that the continuity is often completely fragmented, and that the endless repetition of some commonplace passages might easily prove wearisome. They assert that Beethoven could put his

undoubtedly great talents to better use”.²⁰ After Clement’s appearance, the next performance was not given until 1828 when Baillot played the same concerto in Paris for a Beethoven gala. This time the critics gave more acclaim to the concerto. Fétis describes the work as “one of the most beautiful musical conceptions that one can imagine.”²¹ However, the significant acceptance of the Beethoven Violin Concerto did not occur until thirteen-year old violinist Joseph Joachim played it with the London Philharmonic in London, in a performance that Mendelssohn conducted. Interestingly, Joachim integrated many of his own ideas about bowing and fingering in the performance. In addition, he wrote three sets of cadenzas for the work that definitely reflect the influence of Beethoven’s style.

Beethoven was undoubtedly more at ease when writing concertos for the piano than for the violin. However, his ten sonatas for violin and piano and two short romances for violin and orchestra are proof of his understanding of the violin. He first attempted to write a violin concerto during his last years in Bonn (1790-92). The surviving autograph includes the first nineteen pages of the first movement of his Violin Concerto in C major, containing 259 measures; the rest is lost.²² The only other violin concerto that Beethoven ever wrote is also the most well known; it is the Violin Concerto in D major Op. 61.

Beethoven and the French Violin School

Beethoven’s piano works reflect his own keyboard virtuosity; he was less familiar with violin. As a youth in Bonn, he played the violin and the viola. In Vienna he took violin lessons and tried to compose some violin sonatas with Ferdinand Ries, but did not get very positive feed-

²⁰ Ed. By Alan Tyson, *Violin Concerto in D Major, Op. 61*, by Beethoven Von Ludwig (London: Ernst Eulenburg Ltd, 1967), I.

²¹ Lawrence Sommers, “Beethoven’s Violin Concerto,” *Music & Letters*, Vol. 15, No. 1. (Jan., 1934), 48.

²²Tyson, I.

back.²³ He received advice regarding violin composition from Viennese violinists such as Franz Clement, Ignaz Schuppanzigh, and Joseph Boehm, with whom he worked. He also gathered valuable information about the French violin style through the visits of Rudolphe Kreutzer (1776-1831), Jacques Rode (1774-1830) and Pierre Baillot (1771-1842).²⁴

Kreutzer, who was accompanying the French ambassador, General Bernadotte, came to visit Vienna in 1798, by which time Beethoven had become a frequent visitor at the French embassy at that time. Beethoven thought highly of Kreutzer's musical ability and dedicated his Violin Sonata Op. 47 ("Kreutzer Sonata," 1802) to him. In 1804 Beethoven described Kreutzer as "a good, amiable man who during his stay here gave me much pleasure. His unaffectedness and natural manner are more to my taste than all *extérieure* or *intérieure* of most virtuosos."²⁵

Beethoven did not compose another sonata for violin and piano until the famous French violinist Pierre Rode came to visit Vienna in 1812; this would be his last sonata for violin and piano. Beethoven prepared this, his tenth sonata for violin and piano Op. 96, for a performance by Rode and Archduke Rudolph.²⁶

Pierre Baillot was introduced to Beethoven in 1805.²⁷ Ten years later Beethoven's friend Karl Amenda mentioned Baillot's name in a letter to Beethoven:

There, in Mitau, I also heard Baillot from Paris. Oh, what a powerful instrument is the violin when it speaks through Baillot's soul... He was in Vienna, spoke with enthusiasm about you, preferred your compositions to all others, and admitted that he played for you only once, but in great embarrassment...²⁸

²³ F. Ries, in Sonneck, *op. cit.*, p.58.

²⁴ Kreutzer, Rode, and Baillot are all students of Viotti's and violin professors of Paris Conservatory.

²⁵ Beethoven's letter to Simrock, Oct. 4th, 1804.

²⁶ Boris Schwarz, "Beethoven and French violin school," *The Musical Quarterly* 44, No.4 (Oct., 1958): 441.

²⁷ *Ibid.*, 442.

²⁸ Thayer-Deiters, *Beethoven*, 2nd ed., Leipzig, 1911, III, 502.

This letter did not mention when and where Amenda spoke to Baillot, however, it did intimate the respect that Baillot had for Beethoven. Baillot's performance of the Beethoven's Violin Concerto in 1828 received positive comments from Fétis.²⁹

Kreutzer, Rode, and Baillot were not only great violinists, but also excellent violin pedagogues. Some of their legacy has been preserved in two publications, sponsored by the French Conservatories that employed them. One is *The Méthode de Violon* of 1802, which was jointly written by all three. The other one is Baillot's *L'Art du Violon*, which was written around 1830. These two works are very much alike in method, content, and organization. The detail and various types of information related to the usage of the bow in these treatises is very impressive. With regard to bowing, the three authors presented a much more sophisticated approach to the usage than any earlier work. They provided valuable information regarding the various bow strokes and bow techniques of the Tourte bow, which was already in use in the early nineteenth century. The friendships between Beethoven and these three preeminent French violinists (and pedagogues) brought him valuable information about the new bowing techniques of the Tourte bow, which he applied in his violin concerto.

In the following examples one can find the similarities of bowing technique between Beethoven's violin concertos and the concerto repertoires of Viotti and Kreutzer. For instance, the broken octaves, which appear in the first and third movements of Beethoven's Violin Concerto in D major, were also used in a similar manner in concertos by Viotti and Kreutzer.



Ex. 4.7 Broken octaves in Viotti's Concerto No.1 (1782)

²⁹ Sommers, 48.



Ex. 4.8 Broken octaves in Beethoven's Violin Concerto (1806): First Movement Solo Violin



Ex. 4.9 Broken octaves in Kreutzer's Concerto No.6 (1790)



Ex. 4.10 Broken octaves in Beethoven's Violin: First Movement (1806) Solo Violin

Kreutzer's technique of melodic embellishment is reproduced almost identically in Beethoven's Violin Concerto.



Ex. 4.11 Embellished passage in Kreutzer Concerto No. 16 (1805)



Ex. 4.12 Embellished passage in Beethoven Violin Concerto (1806)

The use of double stops seems almost entirely avoided in Beethoven's Violin Concerto; only one phrase in the last movement contains double stops, which suggests that a phrase from Viotti's Violin Concerto No. 5 might have served as a model.



Ex. 4.13 Double stops in Viotti's Violin Concerto No. 5



Ex. 4. 14 Double stops in Beethoven's Violin Concerto, III

Beethoven's Violin Concerto and the Tourte Bow

By the end of the eighteenth century, the construction of the violin bow had gradually reached its peak through the refinements of François Tourte. As previously discussed, he standardized the length, weight, and selection of wood of the bow, etc. The Tourte bow was longer and had much more elasticity than the transitional or other older bow models. His model met the technical demands of contemporary violin compositions.

There are several new kinds of passages that the Tourte bow brought to the nineteenth-century violin repertoire. These will be discussed below.

More Notes Under One Slur

The Tourte bow naturally produces a sustained bow stroke and it has the ability to make longer *legato* phrases than the pre-Tourte bow models. An awareness of this is reflected in Beethoven's Violin Concerto in D major. The following example 4.15 demonstrates the composer's familiarity, for he has written four groups of triplet notes under one slur. Slurs of such length never occurred in Mozart's Violin Concerto.



Ex. 4.15 Beethoven's Violin Concerto, I, mm. 94–96

Beethoven wrote sixteen sixteenth-notes under one slur to indicate the *legato* phrase that he desired, as shown in Ex. 4.16. If Mozart had composed the same passage as shown in ex. 4.16 he would not have used as big a slur as Beethoven notated. This choice would have been due to the fact that the transitional bow was incapable of producing the effect.



Ex. 4.16 Beethoven Violin Concerto, I, mm. 116–119

The two long slur patterns illustrated above appear many times in different movements of Beethoven's Concerto. The passage shown in ex. 4.17, taken from the Rondo, provides another example of this type of bowing.



Ex. 4.17 Beethoven Violin Concerto, III, mm.124–130

In the second movement *Larghetto*, the use of the slur marking exceeds twelve notes under one slur. As shown in ex. 4.18, there are twenty-one notes under one slur in m. 30.



Ex. 4.18 Beethoven Violin Concerto, II, mm.30–31

These examples demonstrate that Beethoven’s knowledge of the Tourte bow encouraged him to include long slurs to heighten the aspect of his expression and to produce more sustained “singing melodic lines” in his compositions. The evidence that the innovative Tourte bow was available to meet the challenge is in the notation itself.

Détaché in Beethoven’s Violin Concerto

The *détaché* stroke in the early nineteenth century differed fundamentally from its counterpart in the previous period. The French term *détaché* translates in English to “detached bow stroke”. Historical evidence can be found to prove that *détaché* was indeed originally used to signify the truly detached style of bow stroke. This detached bow stroke was the fundamental

idiom of the pre-Tourte bow before the nineteenth century. In Tartini’s 1760 letter to Maddalena Lombardini, he quoted a very ordinary passage by Corelli [see ex. 4.19] and added an instruction as to its actual execution [see ex.4.20]. He asked that the notes be played “separate[ly] and detached, with a little space between each one...as if there was a rest after every note, in this manner.”³⁰



Ex. 4.19 Passage by Corelli



Ex. 4.20 Illustration of the *détaché* performance style of the same Corelli passage

The modern concept of *détaché* is interpreted as an un-slurred and well connected, yet separated bow stroke; therefore the actual sound is smooth. Baillot makes a distinction between three types of *détaché* in his *L’Art du Violon-Grand Détaché, Light Détaché, and Sustained Détaché*, the last of which is also called “*Détaché* with pressure.” Altogether, they take into account every conceivable way of interpreting un-dotted, separated bow strokes. Among these three types, the “sustained *détaché*” or “*détaché* with pressure” has the same definition as the common interpretation of the modern concept of *détaché*. Ex. 4.21 gives a good example of the *détaché* bow stroke from Rode’s Caprice op. 22.

³⁰ Robert Jacoby, *Violin technique-A practical Analysis For Performers* (Great Britain: Novello & Company Ltd.), 17.

Similar passages can be found in Beethoven's Violin Concerto. For example, mm. 134–136 [see ex. 4.22] of the first movement contains all un-slurred sixteenth notes. According to Baillot's instruction, these notes should be played using the modern *détaché* bow stroke.



Ex. 4.21 Rode's Caprice, Op. 22, No. 8, mm. 1–4



Ex. 4.22 Beethoven Violin Concerto, I, mm. 134–136

The *détaché* bow stroke may also be applied to the un-dotted triplet notes in mm. 432–434 [see ex. 4.23], since they are notated without dots or slurs.



Ex. 4.23 Beethoven Violin Concerto First Movement mm. 432–434

Martelé in Beethoven's Violin Concerto

The *martelé* is a modern bow stroke, which is best performed by the Tourte bow.

Usually, the *martelé* bow stroke is indicated with a dot above or below the notes, as shown in the following excerpt from Beethoven's Sonata for Violin and Piano No. 7 [see ex. 4.24].



Ex. 4.24 Beethoven Sonata For Violin and Piano No. 7, I, mm.29–32

Since the dot marking of the *martelé* bow stroke is the same as the eighteenth century *staccato* dot marking, it can be difficult to decide which bow stroke one should apply when performing; knowing who composed a work can lead to an informed decision. If a performer did not know who composed the passage in example 4.24, it would be difficult to decide between an eighteenth-century style *staccato* or nineteenth-century *martelé* interpretation of the notation. If the excerpt was composed by Mozart, then one would have to play the dotted notes with the eighteenth century *staccato* stroke. The *martelé* stroke would not be used since it was not in use in eighteenth-century violin performance practice. However, if it was an excerpt from Beethoven's composition of 1802, then the performer could apply the *martelé* bow stroke when performing the dotted notes. Certainly, dots as a notational marking in Beethoven's composition do not automatically mean *martelé*. It truly depends on the tempo and the character of the excerpt. If the tempo marking for ex.4.24 was *Adagio* instead of *Allegro con brio*, and if the rhythmic pattern of the excerpt would be even eighth notes instead of a dotted eighth note with a sixteenth note (which suggests a lively character), then the "brush stroke" would be more

appropriate for this excerpt. Ex. 4.25, with a tempo marking *Allegro ma non troppo* and a *forte* dynamic marking, provides a good example of the *martelé* bow stroke in Beethoven's concerto.



Ex. 4.25 Beethoven Violin Concerto, I, mm. 328-331

Articulation Markings in Beethoven's Violin Concerto

Compared to Mozart's Violin Concerto No. 4 in D major, the use of dynamic markings in Beethoven's Violin Concerto is more dramatic and showcases greater contrasts. In this regard, it is worth remembering that Beethoven's Symphony No.3 in E-flat Major (Eroica) was composed in 1803, just three years before the Violin Concerto. In the following example [see ex. 4.26], the *sf* marking is used in nearly every measure from mm.26–37.



Ex. 4.26 Beethoven Symphony No. 3 in E-flat Major, mm.26-37 p. 245

The *sf* appears as early as m.35 in the first movement of the concerto. [See ex. 4.27]

A musical score for the first movement of Beethoven's Violin Concerto, measures 33-36. The score is arranged in a standard orchestral format with staves for Flute (Fl.), Oboe (Ob.), Clarinet (Cl.), Bassoon (Fg.), Horn (Cor. (D)), Trombone (Tbe. (D)), Timp., Violin (Vl.), Viola (Vla.), and Cello/Double Bass (Vc. e B.). The key signature is one sharp (F#) and the time signature is 3/4. The score shows various dynamics, including *sf* (sforzando) and *p* (piano), and includes articulation marks like accents and slurs. The violin part is particularly prominent, showing a complex rhythmic pattern.

Ex. 4.27 Beethoven Violin Concerto, I, mm. 33–36

The *sf* appears in the third measure of the solo violin part for the first time. [See ex. 4.28]

A musical score for the first movement of Beethoven's Violin Concerto, measures 89-93. The score is arranged in a standard orchestral format with staves for Clarinet (Cl.), Bassoon (Fg.), Violin (Vl.), Viola (Vla.), and Cello/Double Bass (Vc. e B.). The key signature is one sharp (F#) and the time signature is 3/4. The score shows various dynamics, including *sf* (sforzando) and *p* (piano), and includes articulation marks like accents and slurs. The violin part is particularly prominent, showing a complex rhythmic pattern. The score is marked "Solo" and "90" at the beginning of the section.

Ex. 4.28 Beethoven Violin Concerto mm.89–93

The usage of the *sf* demonstrates Beethoven's knowledge of the Tourte bow, which had the ability to make a far more sudden and attacking articulation than earlier bows. Mozart, on the other hand, never used any *sf* markings in his Violin Concerto. The most emphasized articulation that he ever used in his Violin concerto was the *fp* as shown in ex 4.29.



Ex. 4.29 Mozart Violin Concerto in D major: *Rondeau* mm.23–32

Due to the give in the transitional bow, it was not adept at making sharply articulated bow strokes such as the *sf*. This fact probably influenced Mozart's decision making in his articulation markings.

Another important articulation marking is the accented articulation within the slur. [See ex. 4.30]

4



Ex. 4.30 Beethoven Violin Concerto, II, mm.42–44

In order to play the accent markings ‘>’ in measure 43–44, it is necessary to speed-up the bow and exert more weight on the accented notes to properly render this punctuated phrase. Because the Tourte bow has a greater length and a greater capability of producing sudden

changes of dynamic or emphasis within a sustained legato slur, it is able to perform the 16 sixteenth notes with their three accents under one slurred bowing. Due to the limitations of the transitional bow, Mozart only notated smooth phrases without any additional articulation within the legato slurs of his Violin Concerto in D major.

Dynamic Markings in Beethoven's Violin Concerto

Compared to Mozart's Violin Concerto in D major, Beethoven also uses a greater range of dynamic markings. The dynamic range in Beethoven's Violin Concerto is from *pp-ff*. In Mozart's Violin Concerto in D major the dynamic range is from *pp*, which is only used once at the end of the last movement, through *f*.

Beethoven seems very fond of using dynamic markings to express sudden changes of feeling or affect. For instance, in ex. 4.31 tutti section, he writes two measures of *pp* at mm. 26–27 and then suddenly moves to the *ff* dynamic level.

At the end of the second movement of the concerto, in mm.87–88 [see ex. 4.32], the tutti is notated at the *ppp* dynamic level, yet there is a strong *f* pick-up to measure 89, at *ff*, which lasts through the end of the second movement.

In addition to sudden dynamic changes, Beethoven uses crescendos and diminuendos within a long phrase to enhance the musical intensity. In the third movement, during mm.165–172 [see ex. 4.33], the solo violin part starts at a *pp* dynamic at m. 165 and crescendos for four measures from mm.168–171, finally reaching *ff* at m. 172.

Ob. *cresc.*
Cl. *cresc.*
Fg. *cresc.*
Cor. (D) *cresc.*
Vl. *cresc.*
Vla. *cresc.*
Vc. e B. *cresc.*
Fl. *ff*
Ob. *ff*
Cl. *ff*
Fg. *ff*
Cor. (D) *ff*
Tbe. (D) *ff*
Timp. *ff*
Vl. *ff*
Vla. *ff*
Vc. e B. *ff*

Ex. 4.31 Beethoven Violin Concerto, I, mm.22–32

Cor. (G) *Tutti* 90 *Solo*
Vl. pr. *tr* *Cadenza ad lib.*
Vl. *ppp* *senza sord.* *f* *ff*
Vla. *ppp* *senza sord.* *f* *ff*
Vc. e B. *f* *ff* *Attacca subito il Rondo*
E. E. 3804

Ex. 4.32 Beethoven Violin Concerto, II, mm. 87–91



Ex. 4.33 Beethoven Violin Concerto, III, mm165–172

The bow stroke and bowing analysis of Beethoven's Violin Concerto in D major presented above has highlighted the ability of the Tourte bow to make sustained singing lines, exhibit dramatic dynamic contrasts, and differentiate distinct articulations, etc. The Tourte bow was recognized as a better tool than the transitional bow, and it was quickly accepted and sought after by violinists from all over the world. Towards the mid-nineteenth century, the usage of the Tourte bow reached its mature period. More combined bow strokes came into use in musical compositions and the choice of bow strokes became more closely related to the characters of the music. The following section will discuss the bow strokes and bowing issues in the Brahms Violin Concerto in D major, which reveal the development of the utilization of the Tourte bow's capabilities in the later nineteenth century.

The Mature Tourte Bow and Brahms Violin Concerto in D Major Op.77 (1879)

Some of the finest compositions in the repertoire were written especially for friends of the composers to perform. For instance, Mozart composed his solo clarinet works for his lodge brother, Anton Stadler, and Mendelssohn dedicated his E minor Violin Concerto to Ferdinand

David, a close friend of his and the concertmaster of Mendelssohn's Leipzig Gewandhaus Orchestra. Brahms's Violin Concerto is one of the most illuminating examples of the collaboration between composers and performers. It was written for and with violinist Joseph Joachim. Taking note of this, Edward Hanslick commended it in the following manner: "Brahms seems to have projected his concerto through Joachim's image of modest, unadorned greatness."³¹

The friendship between Brahms and Joachim began in 1853 when twenty-year-old Brahms arrived in Hanover to be the piano accompanist of Hungarian violinist Edward Reményi. At that time Joachim was already a concertmaster of the Hanover Court Orchestra; he welcomed his fellow Hungarian and also met young Brahms. He eventually invited Brahms to come back to Hanover several times and they became close friends.³²

Brahms began composing a violin concerto for Joachim in the summer of 1878, while he was on vacation in Pötschach, a village in Austria. Brahms himself was not a violinist but he did retain some knowledge about string playing from the cello lessons he took for a short period of time as a teenager. Brahms must have been concerned about the practicality of what he was writing because he sent his first movement solo violin part of the concerto to Joachim requesting, "You should correct it, not sparing the quality of the composition.... I shall be satisfied if you will mark those parts that are difficult, awkward, or impossible to play."³³ Luckily, Joachim was not only a virtuoso violinist but also a composer; he composed his own concertos, among which the *Hungarian Concerto* received wide acclaim.³⁴ The premier of Brahms's Violin

³¹ Edward Hanslick, *Vienna's Golden Years of Music, 1850-1900*, ed. Henry Pleasants (New York, 1950), 79 (review of Joachim's debut in Vienna, 1861).

³² Boris Schwarz, "Joseph Joachim and the Genesis of Brahms's Violin Concerto," *The Musical Quarterly* 69, No. 4. (Autumn, 1983), 504.

³³ *Ibid.*, 507

³⁴ *Ibid.*, 504.

Concerto happened on January 1st of 1879, featuring Joseph Joachim playing violin with the Gewandhaus Orchestra in Leipzig.³⁵

It is clear that the collaboration with Joachim influenced Brahms's Violin Concerto, especially in its idiomatic writing for the violin. To discuss the bowing and bow strokes of Brahms's Violin Concerto, it is necessary for one to be acquainted with the playing style of Joachim, since he worked closely with Brahms while this concerto was being created. Even though Joachim's playing style would ultimately exemplify the German School of violin playing, his master teacher Joseph Boehm's violinistic mentors were Rode and Viotti, who are the most recognizable representatives of the French School of violin playing. At the age of eleven Joachim moved to Leipzig, where he frequently sought advice from Ferdinand David, who was the most distinguished student of Spohr.³⁶ Henry Joachim's comments about Joseph Joachim's playing extol Joachim's strong techniques of bow control and sound production:

Joachim's bow arm, the weakest point when he was a child became in his maturity his most conspicuous technical asset. A firm grasp of the fingers, combined with a supple wrist-it enabled him to pass the bow in the air over the strings-gave him perfect control over tone volume and color, thereby lending the bow a degree of expressiveness only comparable to the breath control of a great singer. With this ideal treatment and conception of the function of the bow, Joachim produced a broad, singing tone, a perfect symbol of his great noble soul, whilst the most delicately ethereal inspiration of life's mysticism issued forth from his instrument with a simplicity that may make the listener oblivious of the medium.³⁷

Without question, Brahms composed the concerto with the Tourte bow in mind. From the beginning of the nineteenth century onward, the Tourte bow was gradually introduced to the rest of the world beyond Paris, its city of origin. All violinists found the Tourte bow conducive to producing a naturally sustained melodic line with greater tonal volume. Composers recognized the ability of the new "tool" and fully employed the Tourte bow to create music that

³⁵ Ibid., 508.

³⁶ Ludwig (or Louis) Spohr (1784-1859) is the founder of the great German School of violin playing.

³⁷ Henry Joachim, "Joseph Joachim: First Violinist of a Modern Art," *Music Times* (Sep. 1933):798.

corresponded with the ideals of Romanticism. Also, more complex bow strokes were applied to convey the profound expressions of the composers.

Brahms's Violin Concerto was composed in 1879, nearly eighty years after the Tourte bow model was first introduced to the world. If Beethoven's Violin Concerto in D major is representative of the beginning stages of composers using the Tourt model era, then Brahms's Violin Concerto is the prime example of the Tourte-model era in its maturity. The following section will discuss the use of bowing and bow strokes in the Brahms's Violin Concerto in D major, Op. 77.

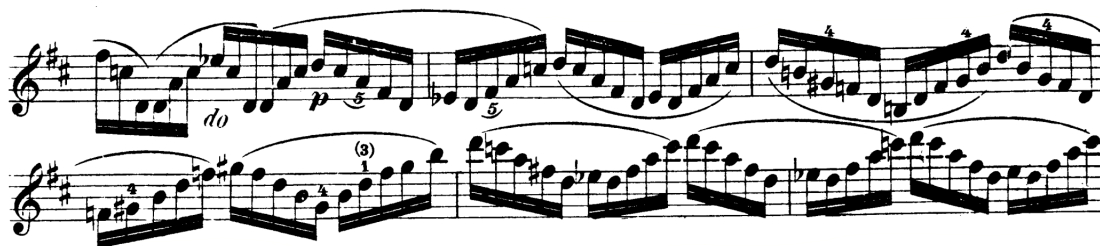
Since the modern bow strokes *détaché*, *martelé*, and long slurred *legato* occurred in Beethoven's Violin Concerto and were discussed earlier, the same content will not be repeated in this section.

Combined usage of bow strokes

Compared with Beethoven's Violin Concerto, the Violin Concerto by Brahms uses more combined bow strokes. In measure 90 [see ex. 4.34], the solo violin plays a combined bow stroke of an on-the-string down-bow plus a *martelé* stroke, which is introduced at the very beginning of the solo violin part. Since these two bow strokes are tied with a slur and have an *f* dynamic marking, one needs to stop the bow after playing a strong on string down-bow on D and press the bow again in order to accurately produce the *martelé* note E.

Another similar example can be found in mm.312–314 [see ex. 4.35.] The marking *tranquillo leggiero ma espressivo (grazioso)* is indicated under the passage and it gives the performer a hint that this passage needs to be played lightly in the upper one third of the bow.³⁸ It

³⁸ The use of the bow's upper third for a "weakening" of the sound was discussed in the commentary about Baillot's idea on bow division on p.29-30.



Ex. 4.36 Brahms Violin Concerto in D major, I, mm.104–109

In Ex. 4.37 Brahms hides the melodic line in the slurred triplet pattern. The string-crossing in the triplet pattern indirectly highlights the melody.



Ex. 4.37 Brahms Violin Concerto in D major, I, mm.179–182

Sustained *Martelé*

According to Ivan Galamian, in addition to the *martelé* stroke that was discussed in reference to Beethoven’s Violin Concerto, there is another type of *martelé* called sustained *martelé*. The notational marking for this bow stroke is a wedge on top of the notes along with a tenuto marking under the wedge to indicate the release after the “bite” at the start of each *martelé* stroke.³⁹ However, a tenuto marking is not applied in every case of sustained *martelé*, as exemplified in m.91 of ex. 4.38.

Sustained *martelé* is an expressive *détaché* with a *martelé* stroke start. All aspects of simple *martelé* technique can be applied in the execution of the sustained *martelé*. In order to avoid the scratchy sound quality, one needs to play the articulated attack at the beginning of the sustained *martelé* with a fast bow speed followed by a sustained long tone. Sustained *martelé* is

³⁹ Ivan Galamian, *Principle of Violin Playing and Teaching*, 71.

distinct from the *détaché* stroke since sustained *martelé* requires the initial “bite” at the beginning of each stroke. This technique produces a slight gap between each bow stroke. Simple *détaché* on the other hand, requires that the bow strokes be well connected to each other so that there is no rest between the strokes.



Ex. 4.38 Brahms Violin Concerto in D major, I, mm.90–91

Martelé and Spiccato

These are two very different bow strokes that share the same notational marking of a dot above or below the notehead. In ex. 4.39 and ex. 4.40, both passages have dot markings on top of the notes. In such passages it can be difficult to interpret which bow strokes should be applied.



Ex. 4.39 Brahms Violin Concerto in D major, I, mm. 90–94



Ex. 4.40 Brahms Violin Concerto in D major, I, mm. 110–112

According to Professor Levon Ambartsumian of the University of Georgia, one can best determine whether to use *martelé* or *spiccato* by the tempo, the duration of the notes, and the character of the passage. In general, *martelé* is not suitable for the very fast passages because it is played on the string with strong articulation.⁴⁰ Since *martelé* is produced by the pressing and releasing of the arm weight, it is suitable for strong dynamic passages such as the one in ex. 4.39.

Spiccato is played off the string and by bouncing the bow in the same place lightly. It is appropriate to use *spiccato* to play fast and light dynamic passages such as in ex. 4.40. Brahms also applies a *spiccato* stroke in the third movement of his violin concerto [ex. 4.41].



Ex. 4.41 Brahms Violin Concerto in D major, III, m. 43

The Modern *Staccato* Concept and Transitional Period *Portato*

As discussed in the section of the section related to Mozart's concerto, the *staccato* bow stroke in the transitional bow period presents a manner of separation, breath, and articulation with the notation marking either a stroke or a dot on the non-slurred notes. The modern concept of the *staccato* stroke involves two or more *martelé* strokes in one direction, up-bow or down-bow and the notational marking is the same as that of the transitional bow period's *portato* stroke, which was also mentioned in the discussion of the Mozart Violin Concerto. The notational markings for the *portato* stroke in the nineteenth century have never been standardized. Ferdinand David in his *Violinschule* uses horizontal lines under slurs to indicate a *portato* stroke. Another author, Hermann Schröder, who was highly influenced by David's

⁴⁰ Professor Levon Ambartsumian, interview with author, Athens, Georgia, 16 January 2006.

theoretical notation of articulation markings, also uses horizontal lines under slurs to indicate a *portato* stroke. The use of the horizontal line under a slur to indicate a *portato* stroke was adopted by numerous composers in the second half of the nineteenth century, including Wagner, Dvorak and Bruch. Brahms on the other hand insists upon using dots under a slur to indicate a *portato* stroke even after Joachim's correspondence on the subject championed using horizontal lines under the slur to indicate the *portato*.⁴¹

The main distinction between the transitional bow's *portato* stroke and the modern *staccato* articulation is the sound quality. Due to the 'give' in the transitional bow, it plays a *portato* stroke with a gentle and round sound. The modern *staccato*, when played by the Tourte bow, permits the bow to produce successive, strongly articulated *martelé* strokes with a clear "bite" at the beginning of each note.

Just because the *staccato* stroke can be produced on the Tourte bow does not mean that every dotted, slurred passage should be played in the *staccato* manner. It depends on the character, tempo, and dynamic level of the particular movement of the concerto or the particular piece. For instance, the passage in ex. 4.42 contains dotted and slurred sixteenth notes from the *Adagio* movement of the Brahms Violin Concerto in D major. If this passage appeared under a tempo marking of *Allegro*, then it is more than likely that it would be played with a *staccato* bow stroke to express the vigor of the slurred sixteenth notes. However, within a tempo marking of *Adagio*, it is more appropriate to use a *portato* bow for this passage to give each sixteenth note enough attention and time to suit the graceful character of this passage and *piano* dynamic level.

⁴¹ Clive Brown, "Dots and Strokes in Late 18th-19th Century Music," *Early Music* 21 (Nov., 1993): 609.



Ex. 4.42 Brahms Violin Concerto in D major, II, mm. 110–116

Within an *Allegro* tempo, ex. 4.43 is more properly played using a *staccato* bow stroke.



Ex. 4.43 Rudolph Kreutzer 42 Studies, 4, mm. 1–5

Broken Octaves and The Influences of Beethoven and Viotti

Brahms’s compositional style is heavily informed by the Beethovenian style. His works contain several obvious borrowings from Beethoven, such as the beginning of his First Piano Sonata, which resembles the opening of Beethoven’s *Hammerklavier* Sonata. As another example, the main theme from the Finale of Brahms’s First Symphony is reminiscent of the main theme of the Finale from Beethoven’s Ninth Symphony.

It is also possible to trace some similarities between Brahms’s Violin Concerto in D major and Beethoven’s Violin Concerto in D major, especially in their similar use of broken octave passages. A broken octave passage involves the combination of two kinds of bow techniques: bow change and string crossing.

Beethoven was very fond of using broken octaves in the first and last movements of his Violin Concerto. Similarly, Brahms asks for broken octaves in every movement of his concerto.

Examples 4.44 and 4.45 show similar uses of broken octaves in triplets. Examples 4.46 and 4.47 show a parallel case involving sixteenth notes.



Ex. 4.44 Beethoven Violin Concerto in D major, I, mm.150–153



Ex. 4.45 Brahms Violin Concerto in D major, I, m. 190–194



Ex. 4.46 Beethoven Violin Concerto in D major, III, m.173



Ex. 4.47 Brahms Violin Concerto in D major, II, m.84

In the third movement of Brahms's Violin Concerto in D major, the appearance of the broken octave seems more indirect. Brahms employs broken chords plus two conjunct notes to form the 'broken chord variation,' excerpted in ex. 4.48.



Ex. 4.48 Brahms Violin Concerto in D major, III, mm. 290–295

After viewing all of the examples shown above, one may want to draw the conclusion that Brahms's broken octave passage is a result of imitating Beethoven's Violin Concerto. However, Brahms himself was very fond of Viotti's Violin Concerto No.22. As Brahms wrote to Clara Schumann in 1878: "The Viotti Concerto is a particular favorite of mine... a glorious piece...."⁴²

Joachim also mentioned Brahms's fondness for Viotti's Concerto No.22 in A Minor in his essay from 1902. He claimed that it is possible to trace a "subconscious echo" of Viotti in the first movement of the Brahms Concerto.⁴³ Certainly Viotti's use of broken octaves material in his Violin Concerto No. 22 [see ex. 4.49] points to a possible link.



Ex. 4.49 Viotti Violin Concerto in a minor, No.22, II, B-13–14

⁴² Litzmann, *Letters of Clara Schumann and Johannes Brahms*, II, 34.

⁴³ Schwarz, 513.

It is therefore quite possible that Brahms used both the Viotti's Violin Concerto No.22 and Beethoven's as models when he composed his own. That being said, it is still impossible to decide which influence is the primary one. However, as was stated in the discussion of Beethoven's Violin Concerto in D major, one can find a similarity in the violinistic use of broken octaves between Beethoven's Violin Concerto and the concertos written by the French violin school composers such as Kreutzer and Viotti. Viotti and Kreutzer's violin concertos appeared much earlier than the Beethoven Violin Concerto. So, it is possible that Beethoven consulted the violin concertos by Viotti and was interested in the broken octave patterns. Whatever the case, we can safely conclude that Brahms's broken octave usage was influenced by the French Violin School.

This final example represents the main challenge for a stylistically informed performance of Brahms's violin concerto. Though he composed in the late 19th century, he allowed his expert historical knowledge to influence his composition in numerous ways so, without however losing his own individual compositional voice in the process. Nevertheless, it is the duty of the performer to give attention to the separate influences.

These three D Major concertos by Mozart, Beethoven, and Brahms hold important positions in the violin repertoire. They are often used as pedagogical violin materials in the classroom and performed regularly on the concert stage. Individual violinists interpret the same musical composition differently depending upon their own understanding of the piece. Personalized interpretations are generally encouraged and prized. In addition to the performer's own understanding of the piece, it is important for both violin teachers and violin students to have the knowledge regarding the unique circumstances that different composers faced and what resources they had when they created these musical compositions. This will also aid the

performer in being able to perform these compositions in the proper historical style. As early as 1739 Johann Mattheson stated:

The greatest difficulty associated with the performance of someone else's work is probably the fact that keen discernment is necessary in order to understand the real sense and meaning of unfamiliar thoughts. For those who have never discovered how the composer himself wished to have the work performed will hardly be able to play it well. Indeed, he will often rob the thing of its true vigor and grace, so much so, in fact, that the composer, should he himself be among the listeners, would find it difficult to recognize his own work.⁴⁴

By acquiring knowledge about the characteristics of the transitional bow that Mozart himself used at the time he composed his Violin Concerto in D Major, one will fully understand why it is suggested to play Mozart's violin works in a *non-legato* manner. Beethoven composed his Violin Concerto in D major when the Tourte bow was in its infancy. Due to the Tourte bow's ability to produce a singing melody, an increased number of sustained *legato* phrases appear in this composition. The greater flexibility and longer length of the bow encouraged Beethoven to notate the more forceful articulations that are applied in his Concerto. The representative example of the Tourte Bow in its period of maturation is Brahms's Violin Concerto in D major. In this period, more modern bow strokes were developed and a greater combination of bow strokes were applied in his Concerto—a work that enlarged the vocabulary of bow stroke and bowing vocabulary compared to Mozart's violin concerto of the transitional bow era.

It was the aim of the author to offer the modern violinist a more detailed level of stylistic awareness and enhanced interpretative options as to bow strokes and bowings, in order that he or she may achieve an optimal sound production in performances of masterworks from various style periods. This study has provided an examination of the factors that are related to the

⁴⁴ Cited in: Robin Stowell, *The Early Violin and Viola: A Practical Guide* (Cambridge: Cambridge University Press, 2001), 13.

stylistically accurate sound production of compositions in contrasting styles by highlighting the specific issues related to the bow strokes and bowing styles. This has been demonstrated through an analysis of the bow strokes and bowings called for in three violin concertos, each from a different period of the development of the bow and bowing techniques.

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