

A Pedagogical Analysis of Dvorak's Cello Concerto in B Minor, Op. 104

by

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Abstract

I first heard Antonin Dvorak's *Cello Concerto in B Minor, Op. 104* when I was 13 years old. It was a memorable experience for me, and I was struck by the melodies, the power, and the emotion in the work. As I became more familiar with the piece I came to understand that it holds a significant position in the cello repertory. It has been praised extensively by cellists, conductors, composers, and audiences, and is one of the most frequently performed cello concertos since it was premiered by the English cellist Leo Stern in London on March 19th, 1896, with Dvorak himself conducting the Philharmonic Society Orchestra.

In this document I provide a pedagogical method as a practical guide for students and cello teachers who are planning on learning this concerto. Using a variety of historical sources, I provide a comprehensive understanding of some of the technical challenges presented by this work and I propose creative and effective methods for conquering these challenges.

Most current studies of Dvorak's concerto are devoted to the analysis of its structure, melody, harmony, rhythm, texture, instrumentation, and orchestration. Unlike those studies, this thesis investigates etudes and student concertos that were both precursors to – and contemporary with – Dvorak's concerto. Through an understanding of those works I present an approach that will assist players in achieving high technical and artistic standards for their own performances of the concerto.

To do this, I focus on the methodological and technical aspects of cello playing in the concerto, exploring the history of cello techniques up to Dvorak's time, and examining the

contribution of Hanus Wihan to the composition of the concerto. I also explain the methodological and pedagogical value of cello exercises and repertoire that existed before and during Dvorak's time, and show how those contributed to the development of techniques required for the performance of the concerto. Specific excerpts are analyzed with reference to left- and right-hand cello techniques as found in the concerto, and strategies and explicit repertoire for developing these techniques are discussed.

Preface

This dissertation is an original work by Zhuojun Bian. No part of this dissertation has been previously published.

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Chapter 1: Introduction

Dvorak's *Cello Concerto in B Minor* is a hugely important work in the cello repertoire, with musical materials that often demand advanced cello technique. However, the concerto did not come about in isolation: Victor Herbert's *Second Cello Concerto* had a very strong influence on the conception and creation of Dvorak's work, for Dvorak's understanding of the possibilities of combining solo cello and full orchestra was deepened upon hearing Herbert's concerto. Additionally, cellists such as Hanus Wihan provided significant guidance to Dvorak during the composition of the work, and we should note Dvorak's development up to that point as a composer capable of writing convincingly for large orchestra. We should also be aware of the historical development of the cello as a solo instrument over the previous one hundred years. As a result of this confluence of events, Dvorak – a composer with significant talent and well-developed craft – had the opportunity and support to write for an instrument that had been refined and strengthened in its acoustic abilities to project over an orchestra, as well as in its ability to support contemporary performers' convincing execution of difficult passages with agility.

It is worthwhile to review how the cello had developed up to the time of Dvorak. Prior to the seventeenth century, the cello was overshadowed by the viola da gamba, whose sound was considered to be more refined than the cello's "clumsy tones and inferior articulation."¹ Contemporary composers, performers, and audiences preferred the viol to the cello as the bass instrument in string ensembles. Through the seventeenth and eighteenth centuries, though, the cello's role changed from accompanist to that of a solo or chamber instrument, and the cello's brilliant sound became more desirable. Some of this was due to refinements in

¹ Robin Stowell, ed., *The Cambridge Companion to the Cello* (Cambridge, UK: Cambridge University Press, 1999), 8.

cello construction which supported the evolution of the cello technique. As a result, cellists' playing skills improved to meet the demands of composers.

However, like the violin with its street origins, the cello was only gradually accepted as an instrument suitable for use in the court. Seventeenth century paintings show many more examples of the violin and viol than of the cello, and in Dutch and Flemish paintings, the cello is often depicted in the hands of street musicians or in tavern scenes, whereas representations of court performances usually involves viols.²

Antonio Stradivari, the most prominent member of the universally renowned family of string instrument makers, made very important contributions to the cello's status in music. The early cello was of a very bulbous form, with a highly arched back and front. It provided a resonant bass to meet the basic requirements of the cello in the seventeenth century. Stradivari's refined designs for the cello – including a flattened arch – supported the development of greater performance abilities.³ His alterations gave the cello more expressive qualities, a more powerful sound, and a balance between a dark, powerful bass and a bright, singing treble.⁴ Improvements in string manufacturing were also significant: early strings were normally thick strands of gut and were hard to play with a clean and clear articulation. The introduction of rope-twist and overspun strings – such as gut with a wire wrapping – resulted in a richer tone and facilitated the development of playing technique and instrument design.⁵

While other members of the gamba family gradually faded away during the sixteenth and early seventeenth century, the tenor gamba, or viola da gamba, maintained its popularity

² Ibid., 8-9.

³ Ibid., 10.

⁴ Ibid.

⁵ Ibid.,10-11.

and continued to exist alongside the cello for another century and half. This was more a result of its social standing rather than comparable musical strengths, for the viol was regarded as suited to nobility while the cello was considered a commoner's instrument.

During the sixteenth century, with the growing demand for music at assemblies such as large public functions and private entertainments, the viola da gamba was gradually replaced by the cello. The viola da gamba's timbre did not match the rest of the violin family, and it was recognized as lacking both a powerful, bright tone and an ability for technical display.⁶ By the end of eighteenth century the growing demands for tenor or bass instrumental voices in orchestras and in chamber ensembles meant that the cello became more popular than the viola da gamba.⁷ The increased awareness of the cello's abilities and tone encouraged the development of the string orchestra as a whole, and by the beginning of the nineteenth century, the cello was poised to become both an important section of the orchestra and a significant solo instrument.

This brief history of the cello's development and acceptance illustrates how a series of developments, events, and activities laid some of the groundwork that supported Dvorak in the writing of his cello concerto.

⁶ Edmund S. J. Van Der Straeten, *History of the Violoncello, the Viol Da Gamba, Their Precursors and Collateral Instruments* (New York: AMS Press, 1976), 117.

⁷ Valerie Walden, *One Hundred Years of Violoncello: A History of Technique and Performance Practice, 1740-1840* (Cambridge, United Kingdom: Cambridge University Press, 1998), 3.

Chapter 2: The Development of Cello Technique

In the seventeenth and eighteenth centuries, most cello techniques were similar to those of the viola da gamba, although some additional techniques were adopted from the violin family.⁸ This chapter discusses how cello technique changed from its origins in da gamba technique, and discusses instrument grip, bow development (such as the “Tourte” bow), and different schools of playing. Additionally, I discuss how these changes have a specific influence on Dvorak’s concerto.

2.1 The Instrument Grip

The performance of Dvorak’s cello concerto requires great left-hand agility for the performance of such techniques as double stops and octaves. The evolution and development of these techniques began during the seventeenth century with changes to the way in which performers gripped the instrument. By the end of the nineteenth century the outcome of these initial changes and their subsequent development was a far more agile and flexible left-hand technique, which Dvorak took advantage of in composing his concerto.

The earliest French cellists were usually trained as violin players and they adapted the left-hand technique of the violin to that of the cello. At that time violin fingering technique was based on patterns of whole tones, and in executing such technique the thumb was placed under the fingerboard, opposite the second finger of the left hand, with the fingers perpendicular to the strings and fingerboard.⁹

Seventeenth century pictures indicate the early cello was usually played in one of three ways: 1) with the cello on the ground, resting between the calves or across the chest in

⁸ William Pleeth, *Cello* (London: MacDonald & Co, 1982), 236.

⁹ Stephen Bonta, "Violoncello," *Grove Music Online, Oxford Music Online*, Oxford University Press, 5 Jun. 2016, <http://www.oxfordmusiconline.com.ezproxy.library.ubc.ca/subscriber/article/grove/music/44041>.

an upright position; 2) the player seated with the cello itself on a low stool or else the cellist standing with the instrument on a chair, or; 3) with the player standing or marching, the cello hung from a strap running over the musician's shoulder. Many seventeenth-century cellos featured a hole in the back where a peg was placed to attach the strap.¹⁰

In each of these postures the left hand is responsible for maintaining the position of the cello. As a result, a seventeenth-century cellist had limited left-hand technique, with the left hand only able to reach fourth position. Thus, the use of thumb technique was not common for most players. The pitch range available was enough to play the required parts prior to the seventeenth century, but overall the left-hand technique was considerably limited in terms of position shifts, extensions and contractions, and double stops.¹¹

During the eighteenth and early nineteenth centuries, cellists began holding the instrument between their legs and supporting it with the calves as bass viol players had done. (In performance the viola da gamba is held either with the calves or on the knees with an upright and almost vertical position.¹²) This higher position, when adopted by cellists, allowed greater projection of the cello's tone, and also affected the placement of the bow on the strings, moving the bow closer to the bridge. This resulted in an additional change in the cello sound, as players were able to use a greater amount of the bow's length.¹³ The change in posture also provided a new-found freedom for both hands, and performers were able to explore more demanding techniques, including new fingerings in addition to new bowings. The use of the thumb for performance became more common, and in addition to playing in

¹⁰ Stowell, ed., *The Cambridge Companion to the Cello*, 12.

¹¹ Walden, *One Hundred Years Cello*, 106.

¹² Ian Woodfield and Lucy Robinson, "Viol," *Grove Music Online, Oxford Music Online*, Oxford University Press, 5 Jun. 2016, <http://www.oxfordmusiconline.com.ezproxy.library.ubc.ca/subscriber/article/grove/music/29435>.

¹³ Fang-Yi Shen, "A Pedagogical and Analytic Comparison of Auguste Franchomme's Twelve Caprices, Op. 7 and Alfredo Piatti's Twelve Caprices, Op. 25." D.M.A. Dissertation. University of Cincinnati, 2009), accessed 3 Jul., 2016, <https://etd.ohiolink.edu/>.

fourth position for higher registers, playing in thumb position became more widely used.

Over time, as the accepted cello height for performance increased, the left-hand position changed to accommodate the change in height, and the fingering technique became based on semi-tones, rather than whole tones. Jean-Louis Duport had a significant role in developing these techniques and a method for teaching them. He and his brother Jean-Pierre were friends of Beethoven, with whom Jean-Pierre collaborated during the creation of Beethoven's Op. 5 cello sonatas.¹⁴ These changes in technique which supported the learning and performance of rapid chromatic passages allowed composers of that time and later (including Dvorak) to confidently include such passages in both solo and ensemble cello writing.

During this period an endpin was added to the cello to avoid having the cello touch the ground, but few references refer to this in the cello technique descriptions of this time. Corrette makes only one mention of it in his method book:

Note that the instrument does not touch the ground at all, since that makes it muted: sometimes one puts a stick at the end to support the cello, when one plays standing up: not only is this posture not the most attractive, but it is moreover the most contrary for difficult passages...¹⁵.

This was a precursor to the adjustable endpin, introduced by Adrien Servais in 1845. The endpin was a significant transformation for the players of that time and a huge step forward in the developments of the cello tone and technique. There are three possible reasons why Servais introduced the endpin: firstly, he was overweight and the endpin helped him play more easily; secondly, Servais' Stradivarius cello was oversized and needed support; and thirdly, Servais may have started using the endpin in his older age to assist him in holding and performing on the cello. Although Servais wasn't the endpin's inventor, he was

¹⁴ "Jean-Pierre and Jean-Louis Duport," <http://www.cello.org/heaven/bios/duport.htm>.

¹⁵ George Kennaway, *Playing the Cello, 178-1930* (Aldershot: Ashgate, 2014), 3.

the first cellist of great reputation to incorporate the use of the endpin as a new tool for heightened levels of virtuosity.¹⁶

The appearance of the adjustable endpin coincides with an increase in the number of major female cellists in the late nineteenth and early twentieth centuries. Reasons for the relatively small numbers of female cellists prior to the introduction of the endpin might include; certain instruments being considered masculine or feminine and thus only suitable for certain genders; class distinctions and the expense of instruments, or social conventions regarding appropriate postures. Lisa Barbier Cristiani (1827-53) appears to be the only notable female cellist mentioned in records prior to the late 19th century.¹⁷ In general, the fact that there are few female cellists recorded in the early history of the cello is commonly thought to be due to the manner of holding the instrument. Before the addition of the endpin, cellists were required to straddle the cello, and social conventions of the time considered this position “unladylike”, thus preventing women from taking up the instrument. The introduction of the end-pin allowed the cello to be held in a side-saddle manner that did not conflict with existing rules of decorum, thus allowing more women to play.¹⁸ This addition also gave the instrument greater stability during large shifts in the left hand.

The endpin also led to more freedom in playing positions as well as a better sonority by allowing players to put their left knee slightly behind the cello so that the sound of the A string became clearer. The increased freedom in playing positions meant that cello technique moved to a more advanced level, and included the refinement of position changes, double stops, and the innovation of natural and artificial harmonics.

¹⁶ William E. Braun, “The Evolution of the Cello Endpin and Its Effect on Technique and Repertoire” (D.M.A., Dissertation. University of Nebraska, 2015), 41-2.

¹⁷ Stephen Bonta, “Violoncello.”

¹⁸ Ibid.

2.2 Bow Development

Early in the history of the cello's development there were a variety of methods taught for holding the bow. The underhand bow grip, derived from the viol's technique, had been in use in Italy at the end of the seventeenth century and continued to be used by some cellists until the beginning of the nineteenth century.¹⁹ Another popular method for holding the lighter, convex bow was the overhand grip, developed under the influence of violinists. With the overhand grip the hand is usually placed above the frog with the thumb under the stick. However, in addition to this type of overhand bow grip, Michel Corrette (1701-1795) suggested two other ways of approaching the overhand bow grip: above the frog with the thumb under the hair, or with the thumb underneath the frog.²⁰

An important change in bow design was the appearance of the "Tourte" bow in 1785. Francois Tourte was a French bow maker who came to be regarded as the "Stradivari of the bow", and his designs had a strong influence on the design and construction of bows across the entire string family. The Tourte bow made possible the development of new bowing techniques and performance affects, developments which came to allow Dvorak greater liberty in writing numerous string crossings and spiccato articulations.

Tourte standardized the length of the violin bow at 74 to 75 cm, the playing hair at 65 cm, and the balance point at 19 cm above the frog. He standardized the length of the viola bow to be 74 cm. The cello bow was shorter with a length of 72 to 73 cm, playing hair at 60 to 62 cm, and a balance point at 17.5 to 18 cm above the frog. The weight of a violin bow

¹⁹ Walden, *One Hundred Years Cello*, 79.

²⁰ Werner Bachmann, "Bow," *Grove Music Online, Oxford Music Online*, Oxford University Press, 5 Jun. 2016, <http://www.oxfordmusiconline.com.ezproxy.library.ubc.ca/subscriber/article/grove/music/03753>.

was in general around 56 grams, while the viola and the cello bows were relatively heavier.²¹

Tourte refined the shape of the bow head, and introduced a slide or ferrule in the ebony frog to keep the hair in a uniform ribbon.²² The ferrule was normally silver and covered the hair on the underside of the frog with a mother-of-pearl slide. Tourte's bow stick was made from Pernambuco wood, which many considered to be the best material for a bow²³ due to its perfect blend of strength and resilience.²⁴

In order to create the ideal concave shape for the bow stick, Tourte heated the wood and bent it while hot instead of cutting it directly to the desired bend. Most of Tourte's bows are octagonal and they narrow in diameter slightly from frog to head. Tourte chose a "hatchet" form of head rather than a previously used and lighter "pike" head. The addition of a metal ferrule, back-plate, and screw button aided in creating a proper balance in the bow.²⁵ He sometimes adopted more expensive and precious materials to produce a good bow. For example, he would use tortoiseshell for the frogs, mother-of-pearl for the face of the head, and gold for the ferrule, back-plate, and screw button.²⁶

Tourte's sophisticated designs of the bow greatly influenced cello bowing technique and tone production, resulting in new bow strokes such as portato, détaché, martelé, sautillé, and spiccato. Bow techniques prior to the development of Tourte's bow in 1785 were very limited, involving only the basic down- and up-bow, slur, bariolage, arpeggiando, multiple stops, and chords.

Prior to the late eighteenth century, the distance between the bow hair and stick was

²¹ Ibid.

²² Stowell, ed., *The Cambridge Companion to the Cello*, 30.

²³ Ibid.

²⁴ This type of wood is now threatened with extinction by the encroachment of the rainforests. Some modern bow makers are experimenting with carbon fibres and other synthetics as substitutes for Pernambuco wood.

²⁵ Werner Bachmann, "Bow."

²⁶ William Charles Retford, *Bows and Bow Makers* (London: Strad, 1964), 23.

less at the tip than at the frog, which meant such bows had a lighter head than late eighteenth century models. Additionally, with a convex stick the contact point for the bow and string was closer to the player's hand. The properties of the bow and its manner of use directly affected the sound it produced, so the strength of the up-bow was lighter than that of the down-bow. This formed the bowing principle that strong beats should be played on down-bows and also influenced what was considered good tone in the pre-Tourte era. Performers of the pre-Tourte era thought that a beautiful tone was one that was strong, long, steady, and sweet with an even bow-stroke. For making this sound they had specific requirements. According to Tartini (1771):

To draw a beautiful tone from the instrument, place the bow on the strings gently at first and then increase the pressure. If the full pressure is applied immediately, a harsh scraping sound will result.²⁷

After the refinement of the bow by Tourte, bowing became much freer. The up-bow could now be as powerful as the down-bow and so the use of up-bow became more common. As stated by Bachmann, at that time the technique for the creation of a desired tone was changed to a more naturally articulated stroke with a more legato, even style.²⁸

2.3 Different Schools of Playing and Their Methods

The developments in instrument and bow construction led to a parallel growth in the creation of teaching methods and philosophies. This, in turn, led to an increase in the number and quality of cellists available for performance, encouraging the creation of new works that demanded a higher level of technique. The outcome of this ongoing development of teaching methods and composed works was that by the end of the 19th century there were several great

²⁷ Giuseppe Tartini, *Treatise on Ornaments in Music* (Celle, New York: H. Moeck, 1961), 207–23.

²⁸ Werner Bachmann, "Bow".

cellists such as Romberg, Dotzauer, Kummer, Servais, Davidoff, Schroeder and Wihan. Some of these cellists were known by Dvorak, and their friendship and advice directly influenced the writing of his concerto.

Possibly the earliest method book was *The Elementary Theory and Rudiments of Playing the Violin and Violoncello* by Sebald Triemer, published in Amsterdam in 1739. It was followed by Michel Corrette's *Methode, theorique et pratique, Pour apprendre en peu de tems le violoncello dans sa perfection* (1741), which is often regarded as the first instruction manual on playing the cello.²⁹ Corrette was an organist rather than a cellist and he wrote method books for a variety of instruments. The work of forty-six pages includes verbal descriptions, illustrations, and musical examples, and offers a summary of instructional practices for the art of cello playing.³⁰ There are also two method books which are impossible to date that might have appeared earlier than the Corrette's *Methode*: the set of ninety-eight short 'Lexione' (lessons) and 'Lexione' of forty-four short pieces by Antonio Caldara, a cellist as well as opera composer. The existing techniques at that time were used in each lesson accompanied by figured bass. There appear to be no published methods in the subsequent years until the 1760s.³¹

As the popularity of the cello grew at the end of the eighteenth century, many cellists published a large number of teaching materials aimed at both amateur and professional cellists. Jean Louis Duport's (1749-1819) *Essai sur le doigts du violoncello et la conduit de l'archet, avec une suite d'exercises* (1806) was the most significant of these texts. Duport's *Essai* was an early attempt to differentiate cello technique from that of its predecessor, the viola da gamba, and he introduced the use of sequential, diatonic fingerings that served to

²⁹ Elizabeth Cowling, *The Cello* (New York: C. Scribner's Sons Press, 1983), 73.

³⁰ Ibid.

³¹ Ibid., 73-5.

influence many players following his time. Duport's playing had been described by his contemporaries as light with an unforced and pure sound, and from these accounts we might deduce that Duport demonstrated superior control of the bow resulting in improved sound production, setting the standard for the French bowing style.³²

Jean-Louis Duport's work, separated into two parts, begins with a discussion followed by *21 exercices*, with the sixth written by Duport's teacher Martin Berteau, the eighth and tenth by his brother Jean-Pierre, and the rest of them by himself.³³ As previously mentioned, he was credited with the introduction of a standard chromatic fingering system which in its essential parts is still followed to the present day.³⁴ He also invented the popular chromatic scale fingering by using the consecutive digits of the first, second, and third fingers of the left hand, and the popular chromatic scale fingering 1-2-3-1-2-3.³⁵

In the nineteenth century, even though the first-rate repertoire for the cello was small, many virtuoso cellists were writing a great number of pieces for their instrument to develop both the right- and left-hand techniques as well as bow techniques. Different schools of playing arose throughout Europe including that of Duport in France, Romberg in Germany, Dotzauer in Dresden, Davidoff in Russian, and Piatti in Italy.

Bernhard Heinrich Romberg (1767-1841) was a leading cellist in Germany. His book *A Complete Theoretical and Practical School for the Violoncello* in 1840 presented a variety of exercises and also detailed instructions on their application. There are many revolutionary improvements to cello technique in his collection. For instance, he was responsible for

³² Mary Cyr and Valerie Walden, "Duport," *Grove Music Online, Oxford Music Online*, Oxford University Press, 7 Jun. 2016,

<http://www.oxfordmusiconline.com.ezproxy.library.ubc.ca/subscriber/article/grove/music/08356>.

³³ Cowling, *The Cello*, 75.

³⁴ Van Der Straeten, *History of the Violoncello*, 379.

³⁵ Ozan Tunca, "Cello Etude Books in Popularity Contest: The Most Commonly Used," *American String Teacher* (August 2004): 56-7.

simplifying cello notation to only three clefs: treble, tenor, and bass. Up until his time, it was very common for composers to use additional clefs other than these three in their compositions. As an example of this, the eighteenth century cellist-composer Luigi Boccherini used six clefs in his works.³⁶

Romberg is also attributed to having invented the sign of the thumb³⁷ and he is credited with raising the use of the left hand thumb in high positions to a more dexterous and accessible level. Additionally, his use of natural and artificial harmonics predated Paganini's development of these techniques on the violin.³⁸ He also gave suggestions on bow techniques such as staccato, détaché, and bow distribution.

Romberg also introduced the modern proportions of the instrument. He extended the fingerboard and lowered it on the bass side of the fingerboard to allow for the wider vibration of the C string; this minor invention became very important for playing in higher registers.³⁹ Romberg's suggestion of introducing smaller sized cellos of 1/2 and 3/4 made it easier for children to learn the instrument.⁴⁰

Justus Johann Friedrich Dotzauer (1783-1860), founder of the Dresden School of playing, played a crucial role in the development of cello technique. He wrote three cello methods, 113 Selected Studies, nine concertos, and three concertinos.⁴¹ All of these methods and exercises demonstrated Dotzauer's philosophies on proper cello technique and are invaluable to students as training material. Dotzauer didn't introduce any original cello

³⁶ Bernhard Romberg, *A Complete Theoretical and Practical School for the Violoncello* (Boston: Oliver Ditson, 1880), 36.

³⁷ Margaret Campbell, *The Great Cellists* (London: Faber and Faber Ltd, 2011), 29.

³⁸ Kurt Stephenson and Valerie Walden, "Romberg," *Grove Music Online*, *Oxford Music Online*, Oxford University Press, 8 Jun. 2016, <http://www.oxfordmusiconline.com.ezproxy.library.ubc.ca/subscriber/article/grove/music/43995pg2>.

³⁹ Stephen Bonta, "Violoncello."

⁴⁰ Evgeni Dimitrov Raychev, "The Virtuoso Cellist-composers from Luigi Boccherini to David Popper: A Review of Their Lives and Works" (D.M.A., Dissertation. The Florida State University, 2003), 22.

⁴¹ Cowling, *The Cello*, 134.

techniques, but rather, expanded upon and extended what had already existed. In contrast to Romberg's approach of holding the instrument between the calves without an end-pin, Dotzauer advocated a more relaxed and free manner. He was also the first to suggest that the bow should be held close to the frog, a practice that has continued to this day, as opposed to the French method of holding the bow where the bow hold was to be further up the stick from the frog.⁴²

A great influence on the philosophy of the French School's bow stemmed from the Baroque style. It was believed that the upper part of the bow should be used more frequently, and thus the bow should be held further away from the frog to allow players to have more control at the tip and less at the frog. Dotzauer's idea of lowering the bow grip helped students develop a smooth and more relaxed movement throughout the whole length of the bow.⁴³

Another nineteenth century leading figure of the French School was Adrien Francois Servais (1807-1866), known as the "Paganini of the Cello". This title arose from his extraordinary technique, rich intonation, energetic style, and attractive tone.⁴⁴ Servais was credited with developing left-hand techniques to new heights of virtuosity. He applied many violin techniques to cello playing such as double stops that included octaves and left hand pizzicato, as well as a wider variety of bow strokes such as spiccato and complex string crossing. Servais is not only remembered as a virtuoso cellist, but also for his modernization of a playing style that was more natural due to the freedom of the left hand caused by

⁴² Margaret Campbell, *The Great Cellists*, 67.

⁴³ Ibid, 31-2.

⁴⁴ Wilhelm Joseph von Wasielewski, *The Violoncello and its History* (London: Novello and Company, 1894), 177.

applying less pressure and tension.⁴⁵

After Boccherini, there appears to be no highly praised cellist in Italy until the appearance of Alfredo Piatti (1822-1901) in the 1830s. Like Servais, his technical skill, perfect intonation, and agility of the left hand were impressive. Piatti's *Twelve Caprices*, op.25 in 1865 explored a wide range of virtuoso techniques consisting of legato and staccato, flying spiccato in arpeggios, different kinds of harmonics, double stops, and self-accompaniment techniques such as a melody accompanied by arpeggiated chords. Piatti was among the first cellists to use double stops where the two lines are interrelated yet independent, which approximates the structure of seventeenth-century polyphony. For students learning these works, mastering the works requires developing independent left-hand fingering techniques and learning to avoid placing undue stress on individual fingers.⁴⁶

Karl Davidoff (1838-89), associated with the Russian School, was the first Russian cellist to gain an international reputation in the St. Petersburg Conservatory. Based on the teaching of Grutzmacher, a German cellist, he made a huge contribution to the development of bow technique. Known as the 'Davidoff hinge' and 'bow turning', his contribution incorporated a unique movement of the wrist that facilitated bow crossings. As Davidoff's student Carl Fuchs explains:

When passing from a lower to a higher string near the nut, the point of the bow is turned inwards by revolving the wrist slightly to the left [...]. In passing from a higher to a lower string the process is reversed. During these movements the wrist should remain raised.⁴⁷

Regarding the 'bow turning', he explains:

⁴⁵ Stephen Bonta, "Violoncello."

⁴⁶ Raychev, "The Virtuoso Cellist-composers from Luigi Boccherini to David Popper: A Review of Their Lives and Works", 56-8.

⁴⁷ Kennaway, *Playing Cello*, 71-3.

In order to avoid roughness in passing from one string to another when playing slurred notes, Davidoff recommended raising the point of the bow slightly in the down bow and lowering it in the up bow, so that the angle (90 degs.) formed by the strings and bow is increased or decreased by 10-20 deg respectively. By this means the bow touches the next string at a point slightly further from the bridge, where a softer tone can be produced than near the bridge.⁴⁸

Davidoff also incorporated and popularized Romberg's use of alternating natural harmonics with the adjacent open string. Examples of this can be found in his popular composition, *At the Fountain*.⁴⁹ Davidoff also had a great influence on Hanus Wihan, and as a result directly affected Wihan's suggestions and alterations regarding Dvorak's *Concerto in B Minor*. These contributions will be discussed in more specific detail in the third part of this document.

Along with Davidoff, David Popper (1843-1913) was one of the most influential cello virtuosos of the late nineteenth century. Born and educated in Prague, Popper represented the Hungarian School of cello playing. His considerable contribution to the art of cello playing is his *Hochschule des Violoncellspiels op. 73*, published between 1901 and 1905 in four volumes with ten studies each.⁵⁰ It remains one of the most significant pedagogical works for the cello and continues to be widely used.

Many of these studies contain advanced virtuoso techniques such as double stopping octaves, position changes in thumb position, trills, and bowing techniques such as slurred up-bow and down-bow staccato, sautillé, spiccato, piqué, and rapid string crossings.⁵¹ Popper integrated these virtuoso techniques into his compositions to create serious works, rather than merely using the techniques to create showpieces for virtuoso performers. As

⁴⁸ Ibid.

⁴⁹ Campbell, *The Great Cellists*, 51.

⁵⁰ Ibid, 67.

⁵¹ Stephen Bonta, "Violoncello."

examples of Popper's use of advanced techniques, *Etude No. 22*, (nicknamed "Chinese" because of its pentatonic mode) combines the left hand pizzicato with an even division and speed of bow technique, while *Etude No.19* has become famous as the "Lohengrin Study" through the use of a triplet motive from Act 3 of *Lohengrin* by Wagner. This latter etude is of great value in developing staccato bowing technique.

By Dvorak's time, a large number of advanced techniques had been developed and were expected of professional cellists. However, Dvorak's *Cello Concerto in B Minor* uses these techniques in such a manner as to demand an even higher level of virtuosity, higher than what was capable of many professional cellists of the day. The study and practice of etudes to support the learning of the required techniques became an important part of a cellist's training, and is perhaps even more important today, now that Dvorak's concerto is considered a cornerstone of the cello concerto repertoire.

In order to gain the required level virtuosity many of the cello methods mentioned above can be invaluable for cellists wishing to raise their technique to the level required for performing Dvorak's concerto. Dvorak incorporated many advanced techniques in his concerto not as a means for showing off the abilities of the soloist, but as techniques required to present his musical ideas in the best possible manner. The resulting composition was a first-rate masterpiece for his contemporaries and for subsequent generations.

Chapter 3: Influences on the Creation of Dvorak's Concerto

The following discussion examines the contribution made by Hanus Wihan to Dvorak's concerto. Wihan was not the only cellist who was involved in the composition of this concerto, for other cellists such as Alwin Schroeder and Josef Hollmann assisted Dvorak with technical suggestions. Wihan, however, made the most significant contributions due to his close association with Dvorak. This chapter traces Wihan's school of cello playing, and the people he studied with, as well as the playing abilities of Karl Davidoff who influenced Wihan. Wihan's suggestions about the concerto itself as well as some of his suggested changes will also be discussed with musical examples.

3.1 Hanus Wihan's School of Playing

Wihan (1855-1920) was born in the city of Police nad Metují in the Czech Republic. At the age of thirteen he went to the Prague Conservatory to become a pupil of Frantisek Hegenbarth. (Twenty years later in 1888 Wihan replaced Hegenbarth as professor of cello and chamber music.) After studying with Hegenbarth Wihan went on to study at the St. Petersburg Conservatory with Karl Davidoff, whose philosophy of playing and teaching formed the basis of Wihan's own method. Davidoff had the strongest influence on Wihan's the cello playing and teaching,⁵² and Wihan kept in regular contact with Davidoff throughout his life, often asking advice of him.⁵³

Davidoff made a considerable contribution to the technical development of cello playing, and it was said that Davidoff's technique was marvelous, equaled by few and

⁵² Miroslav K. Černý, "Wihan, Hanuš," *Grove Music Online, Oxford Music Online*, Oxford University Press, 10 Jun. 2016, <http://www.oxfordmusiconline.com.ezproxy.library.ubc.ca/subscriber/article/grove/music/30297>.

⁵³ David Faber, "Hanus Wihan," Karel Bredenhorst, entry posted March. 29, 2010, accessed Jul. 20, 2016, <http://www.celist.nl/?id=682>.

surpassed by none.⁵⁴ From Davidoff Wihan developed the virtuosic aspect of his playing, with which he likely demonstrated to Dvorak the range of possibilities on the cello. Davidoff taught that virtuosity should be subject to musical expression and that one should never try to impress audiences with pyrotechnics. Like Davidoff, Wihan also objected to virtuosity for its own sake and emphasized that technique should be a servant of musical expression.⁵⁵ Wihan inherited from Davidoff a philosophy of high artistic expression and an expansive technical repertoire to accommodate a wide range of musical expression. The Czech musicologist Zdenek Nejedly stated that Wihan's greatest merit as a performer was that he "Clearly realized the objective in art ... His art is a long way from virtuoso shallowness. He is a master of his instrument, as are very few of his rivals, but his mastery serves to disclose freely and completely the wealth of the works of art."⁵⁶

Wihan's powerful and vigorous tone was frequently praised by critics at the time. Davidoff wrote to Wihan on December 24th 1888 in a letter from Moscow: "That the press is particularly praising your sound, makes me especially happy – has any of my St. Petersburg advice been of use to you?"⁵⁷ Wihan was excited to tell his students about his studies with Davidoff, especially emphasizing how the natural movement of the right hand easily produces a natural and expressive sound. Wihan called it the "breathing" of the bow.⁵⁸

3.2 The Influences of Victor Herbert's Second Cello Concerto

Wihan and Dvorak had a long friendship starting as colleagues at the Prague Conservatory. For years, Wihan had asked Dvorak to write a concerto for the cello. However,

⁵⁴ Campbell, *The Great Cellists*, 51-8.

⁵⁵ Ibid.

⁵⁶ Faber, "Hanus Wihan".

⁵⁷ Ibid.

⁵⁸ Campbell, *The Great Cellists*, 58.

Dvorak did not take the request seriously until he heard Victor Herbert's *Second Cello Concerto* in March of 1894.⁵⁹ Why did Dvorak decide to write a concerto after he listened to the concerto by Herbert? What inspiration did this concerto give to Dvorak? Why did he go to that concert, and what did he expect to hear?

One possible reason Dvorak went to hear Herbert's second cello concerto was due to his friendship with him. Herbert joined the National Conservatory of Music in New York in 1889 and was the head of the cello class when Dvorak took the position of the artistic director and professor of composition in 1892. They had a good relationship, as shown in a letter Herbert wrote about Dvorak to the German critic Hans Schnoor in 1922: "we all loved him, for he was so kind and affable – his great big beautiful eyes radiated warmth – and of such childlike simplicity and naturalness – and when he left us, we lost not only a master-musician whose presence had had a marked influence on musical activities in N.Y but a most admirable, lovable friend."⁶⁰ Herbert also remarked regarding the appearance of Dvorak at the premiere of his *Second Cello Concerto*: "Dr. Dvorak came back to the 'Stimm-Zimmer' – threw his arms around me, saying before many members of the orchestra: famos! famos! – ganz famos!"⁶¹ Another reason for Dvorak's presence in the concert was possibly due to his relationship with the New York Philharmonic Orchestra, which had performed Dvorak's *New World* symphony three months prior under the same conductor, Anton Seidl.⁶²

Herbert's concerto had a great influence on Dvorak. His reluctance to fulfill Wihan's demand for a cello concerto was largely due to his doubt about the abilities of both the

⁵⁹ Michael Steinberg, *The Concerto: A Listener's Guide* (New York: Oxford University Press, 1998), 183.

⁶⁰ Jan Smaczny, *Cambridge Music Handbooks Dvorak: Cello Concerto* (Cambridge: Cambridge University Press, 1999), 15.

⁶¹ Steinberg, *The Concerto: A Listener's Guide*, 183.

⁶² *Ibid.*, 182.

instrument and performers in the context of a concerto, questioning the position of such a work in the orchestral repertoire and chamber music. Prior to hearing Herbert's work Dvorak was not satisfied with the timbre of the upper and lower registers of the cello, thinking the upper voice was "squeaky" and lower voice was "grumpy".⁶³ In general, he questioned the validity of the cello as a solo instrument. Additionally, the lack of an extensive contemporary repertoire for the instrument increased his reluctance to compose a concerto for cello. Thus, the advent of Herbert's new piece for cello and orchestra stimulated his interest in attending the concert. The effect of Herbert's concerto impressed Dvorak greatly, with its full orchestral colors, including the use of three trombones, as well as the virtuosic cello writing that was placed in balance against the full range of sound in the orchestra.

An article written by his amanuensis, Joseph Jan Kovarik, describes this influence on Dvorak:

Before the *Cello Concerto*, Dvorak said: 'Now, when I give you a slight push, then listen carefully, as I want you to tell me why I regard that particular part as being so clever,'

'Oh, very well, I'll listen', I said.

The concerto started, and was going along very nicely when suddenly I received a jolt which nearly knocked me out of my seat, and the next moment I was busy rubbing my arm on the spot where the doctor's elbow landed.

The concerto over, Dvorak asked how I like the 'clever spot'. I said I did not hear it.

'Well, why didn't you listen? I gave you the "push" as I said I would, didn't I?' asked Dvorak.

'Yes, you surely did, Doctor. I got the "push" all right, but when I got it I had something more important to do than to listen'.

'Well, it's too bad you didn't hear what wonderful use he (referring to Mr. Herbert) has made of the trombones without overpowering the solo instrument in the least'.

A couple of days later, Dvorak borrowed the score of the concerto – then in manuscript – and looked it over with much satisfaction.

'Wonderful!' was all he said.⁶⁴

⁶³ Smaczny, *Cambridge Music Handbooks Dvorak: Cello Concerto*, 1.

⁶⁴ *Ibid.*, 16.

The lack of brass instruments in Dvorak's early arrangements of his smaller cello pieces *Silent Woods* and *Rondo* indicate his misgivings about the extent to which the cello was able to perform with a full orchestra.⁶⁵ Upon hearing Herbert's concerto it seems that his sense of doubt was lifted, and soon after Dvorak began work on his own concerto. In addition to emulating Herbert's use of trombones, Dvorak's orchestration included the occasional use of piccolo and tuba to further expand the orchestra's sonic range. It is also worth noting that like Herbert, Dvorak employed the use of the triangle. This use of a full range of instruments and their associated orchestral colors gave the piece the scope of a full symphonic work not unlike Dvorak's previous symphonies.⁶⁶

Prior to 1895 other composers' concertos were considered by many to be unsatisfying. For example, the unusual structure of Robert Schumann's *Cello Concerto in A Minor* was not universally accepted and the work was not premiered in Schumann's lifetime. Cowling believes the technical element and the orchestration to be lacking in the Schumann, resulting in some performers of the time making cuts to the music in spots where the writing appears particularly weak.⁶⁷ Camille Saint-Saens' *Cello Concerto in A Minor* is considered by many to be one of the greatest pieces in this genre, but the work contains relatively few passages involving advanced technique that fully showcase the possibilities of the cello. Tchaikovsky's *Rococo Variations for Cello and Orchestra* is scored for a reduced orchestra with only two flutes, two oboes, two clarinets, two bassoons, two horns, and strings. Even though these concertos have various weaknesses in their writing, they still provided Dvorak with examples of how the solo cello could be used with an orchestra.

As a result of Dvorak's exposure to the examples of other composers, his *Cello*

⁶⁵ Ibid., 17.

⁶⁶ Ibid.

⁶⁷ Cowling, *The Cello*, 137.

Concerto in B Minor balances the structure, orchestration, solo cello writing, and techniques to include the largest instrumentation of all cello concertos written up to 1895. The orchestration consists of violins, violas, cellos, basses, two flutes (second doubling piccolo), two oboes, two clarinets, two bassoons, three horns, two trumpets, three trombones, a tuba, timpani, and triangle (in the finale only).⁶⁸ The resulting concerto blends the orchestra and soloist into one of the most symphonic of all nineteenth-century cello concertos.

3.3 The Form of Dvorak's Concerto

Dvorak's concerto follows the traditional three-movement form of the Romantic era with an extensive orchestral exposition in the first movement. This first movement is in sonata form with a double exposition, beginning with an orchestral exposition that introduces both themes. A special highlight of the exposition is the lyrical second theme played by the French horns. When the cello solo first appears playing *Quasi improvando*, in order to allow us hear the soloist Dvorak writes a light orchestral accompaniment involving tremolo and simple counterpoint. Dvorak maintains the balance between the *tutti* and soloist by using light instrumentation to provide a transparent texture, while creating a dialogue between the cello and orchestra. Following an orchestral transition that modulates using previous motifs, the development section begins with the marking of *grandiose* in Ab minor. The solo cello then enters with a long melody derived from the first theme. This sixteen-bar melody together with flute conveys melancholy, which Steinberg claims transforms it into a song of ecstatic and deeply sad lyricism.⁶⁹ The second theme returns in the recapitulation, a section seems to express a confident, majestic, and joyful state of being as if he (Dvorak) leaves all

⁶⁸ Steinberg, *The Concerto: A Listener's Guide*, 181.

⁶⁹ *Ibid.*, 184.

of the struggles, loneliness, and difficulties behind as he returns home.⁷⁰

The second movement is in ternary form; the first section is from the initial theme of the first movement, but is in G major and contains a peaceful and quiet character similar to a lullaby. Yali You states that Dvorak used only woodwinds and light strings in this section to express nostalgia relating to his hometown, believing that the blending of clarinet and bassoon timbres is one of the most significant factors suggesting this feeling.⁷¹

The B section starts with a full orchestral tutti in G minor. The solo cello enters with a passionate and beautiful melody, a quotation from Dvorak's first song (Op.82) entitled *Leave Me Alone*.⁷² The theme Dvorak uses here is in memory of his sister-in-law Josefina Cermakova with whom he had been in love when they were both young. (Josefina died 27 May 1895 one month after Dvorak finished this concerto, and he returned to Prague.) The A section returns in G major but this time omits the opening theme.⁷³

The third movement is in rondo form, ABA'CA''. The A section contains two contrasting themes with a virtuosic passage (which will be referred to as episode 1) in between. Episode 1 has its own thematic material and is very challenging for the soloist due to its use of various combinations of sixths and thirds including a combination of melody in the upper voice with trills in the bottom line. The B section contains a new theme, its variation, and then a new virtuosic episode 2. Episode 2 mainly consists of virtuosic running triplets that are very difficult for performers to play clearly and cleanly at a fast tempo. Rapid string crossing and position changes throughout this section are also a challenge for the

⁷⁰ Cowling, *The Cello*, 137.

⁷¹ Yali You, "A Historical Overview and Analysis of the Cello Concerto in B minor, Op. 104, by Antonin Dvorak" (D.M.A., Dissertation. University of Cincinnati, 1995), 80-6.

⁷² Carlos Prieto, *The Adventures of a Cello* (Austin: University of Texas Press, 2006), 241.

⁷³ Steinberg, *The Concerto: A Listener's Guide*, 184.

soloist.

The materials Dvorak uses in A' are in the reverse order from those of part A, with the B theme appearing before theme A. The middle section C itself is in a mini ternary form with another new melody. This melody is very lyrical and expressive, played in *Moderato* tempo until the beginning of Episode 3, signaled by running sixteenth notes marked *in tempo* in the score. The final part A'' restates the initial theme A from the first movement to which is appended an extraordinarily long coda in which the themes from the two preceding movements reappear to express – as opined by Yali You – Dvorak's sorrow due to the loss of his beloved Josefina Cermakova.⁷⁴

3.4 Wihan's Influence on the Concerto

Dvorak's inspiration to write works for cello may have developed during January through March 1892 when Wihan joined Dvorak and violinist Ferdinand Lachner on an intense concert tour of the regions of Bohemia and Moravia. During this tour, Dvorak wrote *Rondo in G Minor*, an arrangement of two of the first sets of Slavonic Dances, an arrangement of *Silent Woods* from the piano duet cycle *From the Bohemian Forest*, and the *Dumky Piano Trio, Op. 90*. This close association influenced Dvorak's thinking regarding the abilities and possibilities of the cello as a chamber and solo instrument, and his familiarity with the instrument was increased through his playing the accompaniment for all of these works while he travelled through approximately forty towns in Bohemia and Moravia.⁷⁵

Dvorak consulted the cellists Alwin Schroeder, Wihan, and Josef Hollmann regarding the solo part, which resulted in an idiomatically written work for the cello. Schroeder, was

⁷⁴ You, "A Historical Overview and Analysis of the Cello Concerto in B minor, Op. 104, by Antonin Dvorak," 87-97.

⁷⁵ Smaczny, *Cambridge Music Handbooks Dvorak: Cello Concerto*, 9.

the principle cellist of the Boston Symphony Orchestra (1891-1907 and 1910-1912). Hollmann – a cellist from London – gave his opinions to Dvorak after he played the concerto for him in New York.⁷⁶

Among these cellists, however, it was Wihan who contributed the most to the composition of the concerto. When Dvorak revised it on the return to Prague in September of 1895, Wihan gave many important suggestions to the solo part in the first and second movements, some of which Dvorak found appropriate to the work and accepted. One of the suggestions was in the first movement from mm. 158-165. Dvorak wrote the first version of oscillating sixteenth notes based on the preceding bar mm. 157. Unsatisfied, he proceeded to rewrite it in a more complex second version. Wihan’s advice was to write falling and rising sixteenth triplets, and this was finally adopted by Dvorak after some persuasion (Figure 3.1).⁷⁷

Figure 3.1 – Dvorak *Cello Concerto, I. Allegro, mm. 158-165*

The image displays a musical score for the first movement of Dvorak's Cello Concerto, specifically measures 158-165. It is marked [Allegro]. The score is arranged in four staves. The top staff is for Winds, showing chords and a crescendo. The second staff is Dvorak's Ver. 1 for Solo cello, marked [pp], featuring oscillating sixteenth notes. The third staff is Dvorak's Ver. 2 for Solo cello, marked [mp], featuring a more complex rhythmic pattern with a fortissimo (fz) section. The bottom staff is Wihan's Final Version for Solo cello, marked [mp], featuring sixteenth note triplets indicated by the number '6' above the notes. The key signature is three sharps (F#, C#, G#) and the time signature is common time (C).

⁷⁶ Ibid., 86.

⁷⁷ Smaczny, *Cambridge Music Handbooks Dvorak: Cello Concerto*, 87.

Another change was made in mm. 166 of the first movement as well. Dvorak originally wrote an expansion of the sixteenth-note oscillation of the preceding measures, but he then made a significant alteration in his second version, adding trills and dotted rhythms. Wihan’s suggestion for the second version was to add a passage of double stops. Although this was declined by Dvorak, the final version of this part became an entirely different lyrical figure (Figure 3.2).⁷⁸ Wihan also offered Dvorak some solutions to the problem of balance in mm. 107 of the second movement, marked *quasi Cadenza* section (Figure 3.4). According to Dvorak’s earliest working manuscript, he intended to write a chordal passage (Figure 3.3a and 3.3b). However, only at the behest of Wihan did he settle on the use of pizzicato in the bass to compliment the sparse instrumentation in the orchestra (Figure 3.4).⁷⁹

Figure 3.2 – Dvorak *Cello Concerto, I. Allegro, mm. 166-167*

[Allegro]

The figure displays a musical score for measures 166-167 of Dvorak's Cello Concerto, I. Allegro. It consists of four staves:

- Clarinet:** Treble clef, key signature of one sharp (F#), common time. It features a melodic line with a dynamic marking of *p*.
- Dvorak: First version (Solo cello):** Bass clef, key signature of one sharp (F#), common time. It shows a sixteenth-note oscillation with a dynamic marking of *mf*.
- Wihan:** Treble clef, key signature of one sharp (F#), common time. It shows a melodic line with a dynamic marking of *mf*.
- Dvorak: Final Version (Solo cello):** Bass clef, key signature of one sharp (F#), common time. It features a more lyrical melodic line with a dynamic marking of *[mf]* and the instruction *portamento*. It includes triplets and is marked *mf* *leggero e cantabile*.

⁷⁸ Smaczny, *Cambridge Music Handbooks Dvorak: Cello Concerto*, 87-8.

⁷⁹ *Ibid.*, 88-9.

Figure 3.3a – Dvorak *Cello Concerto, II. Adagio, mm.107-108, version 1*

The musical score for Figure 3.3a is for Solo Cello, in the key of D major (one sharp) and 3/4 time. It is marked "[Adagio, ma non troppo] quasi Cadenza" and begins with a piano (*p*) dynamic. The notation shows a series of eighth and sixteenth notes, some with slurs and accents, and a few chords.

Figure 3.3b – Dvorak *Cello Concerto, II. Adagio, mm.107-108, version 2*

The musical score for Figure 3.3b is for Solo Cello, in the key of D major (one sharp) and 3/4 time. It is marked with a piano (*p*) dynamic. The notation shows a series of eighth and sixteenth notes, some with slurs and accents, and a few chords.

Figure 3.4 – Dvorak *Cello Concerto, II. Adagio, mm.107-108*

The musical score for Figure 3.4 is for Solo cello, in the key of D major (one sharp) and 3/4 time. It is marked "[Adagio, ma non troppo] quasi Cadenza" and begins with a piano (*p*) dynamic. The notation shows a series of eighth and sixteenth notes, some with slurs and accents, and a few chords. There are also markings for *pizz.* and *pp*.

As a performer, Wihan wrote a cadenza for the last movement that was a display of dazzling virtuosity. Dvorak, however, strongly rejected it. His reaction can be seen in a letter to his publisher Simrock, dated 3 October 1895:

With friend Wihan I have had disagreements over *certain places*. Some of these passages don't please me – and I must insist that my work is published as I wrote it. These particular passages can be printed in two ways, the easier and harder manner. I shall only give you the work if you promise that no one, including my respected friend Wihan, makes *alterations without my knowledge and consent*; also not [i.e. do not print] the cadenza which Wihan has put into the last movement – it must stay in its original form, as I felt and imagined it. The cadenza in the last movement is neither in the score nor the piano arrangement. I told Wihan straight away when he showed it to me, that it is impossible to stick a bit like this on. The finale closes gradually diminuendo like a sigh – with reminiscences from the first and second movements – the solo dies down to *pp* and then swells again, and the last bars are taken up by

the orchestra and it finishes in stormy mood.
That was my idea and from it I cannot depart.⁸⁰

This rejection indicates that Wihan's cadenza did not match Dvorak's conception of the role and effect of the coda to the Finale. Dvorak's own version of the coda was a memorial to his first love Josefina (referenced through the use of themes from the first and second movements) and it better suited the structure and musical intent of the Finale. This rejection of a virtuosic musical passage that was written by a great cellist is a specific example of how Dvorak's overall vision for the concerto, his understanding of the abilities of instruments, and his dedication to his specific musical goals allowed him to ask for and receive many suggestions from professionals, and yet – even when disagreeing with them – create a significant and influential work: his *Cello Concerto in B Minor* not only demonstrates virtuosic playing on the part of the soloist, it also incorporates the musicality, detail, and scope normally found in a large symphonic work.

⁸⁰ Milan Kuna, ed., *Antonin Dvorak: Correspondence and Documents, vol. III: 1890-1895* (Prague, Supraphon, 1989), 422-4.

Chapter 4: Pedagogical Analysis

This chapter provides a detailed analysis of each technique divided into three parts – the right-hand, left-hand, and the combination of right-hand and left-hand – with clear examples. Suggested etudes and repertoire are given as a means for developing the necessary techniques in order to accomplish the sophisticated technical requirements of the concerto. The right hand techniques contain spiccato, ricochet, staccato, and triads with frequent string crossing. The left-hand techniques are demonstrated with thumb position, thirds and sixths, and octaves. Techniques that combine both hands include triple stops, clarity of bow articulation on notes of varying speeds, a combination of rapid string crossing with swift position changes, and the combination of arco with pizzicato.

4.1 Right-Hand Techniques

4.1.1 Spiccato

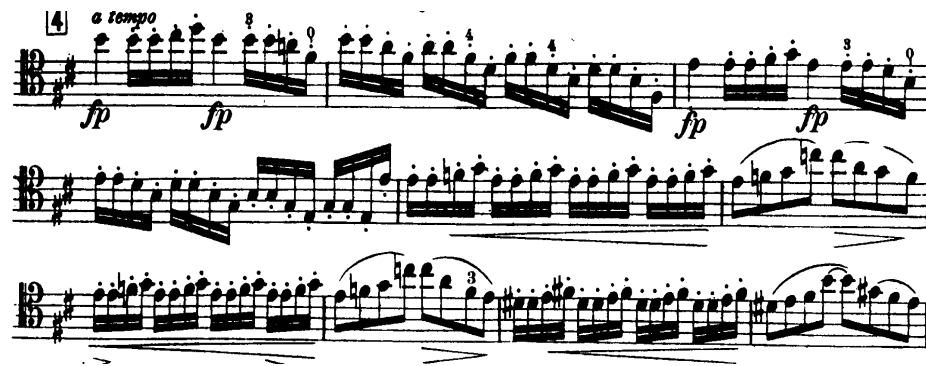
Spiccato is a bow stroke that appears quite often in Dvorak's concerto. It is defined as a short stroke played at rapid tempos in the middle of the bow so that the bow bounces slightly off the string. The player can drop the bow on the string, lifting it again after each note.⁸¹ Dvorak makes special use of this bow stroke and much of the challenge in this concerto consists of alternating the spiccato stroke with other bow strokes such as legato and staccato at a brisk tempo. As shown in figure 4.1, mm. 110 to 114 of the first movement are indicated by the composer to be played as spiccato; after only one bar of legato in mm. 115, the passage quickly returns to spiccato at mm. 116 and then back to legato again in mm. 117. The blend of sforzandi quarter notes and active spiccato sixteenth notes has an energetic and

⁸¹ Don Michael Randel, *The New Harvard Dictionary of Music* (Cambridge, Massachusetts, London: Harvard University Press, 2003), 112.

joyful dance-like character while the “arpeggio-like” bouncing eighth notes are more lyrical.

In order to play this passage with these characteristics, deft control of the bow is required to make each string speak well using the spiccato stroke. To create the desired effect, the performer must move the bow gradually closer to the bridge as the passage ascends and then retreat gradually from the bridge towards the fingerboard as the passage descends during the legato stroke; while doing this the player can make appropriate adjustments.

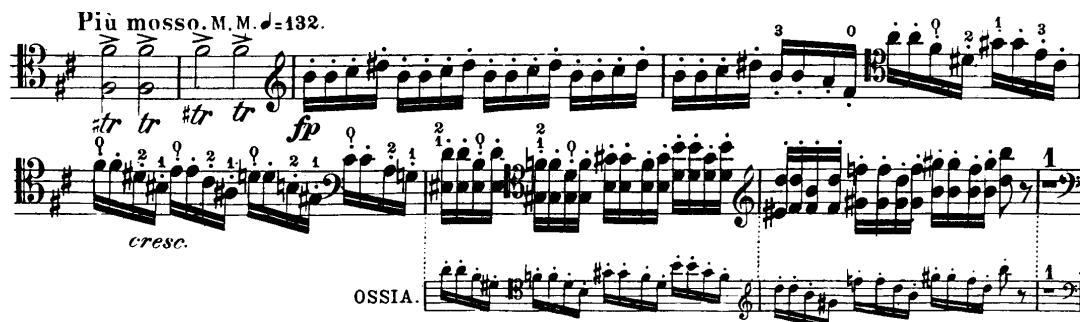
Figure 4.1 – Dvorak *Cello Concerto, I. Allegro, mm. 110-119*



In the following excerpt from mm. 331 to 335 in the first movement, Dvorak applied a spiccato passage with repeated notes in mm. 331, a more difficult one with frequent shifts in thumb position and string-crossing in mm. 332 and 333, and finally a set of spiccato with double stops (Figure 4.2). Generally, playing spiccato on repeated notes is much easier than for more complex patterns which include multiple notes and changes of pitch for the right-hand. For many cellists it is extremely difficult to maintain a clear sound and accurate intonation while playing spiccato with string-crossing or double stops. The performer must develop effective muscle control to respond quickly to the change in string tension and contact point. In mm. 334 and 335, Dvorak specifically requires this double stop spiccato

passage to be played forte. However, in a double stop passage such as this one, allowing the bow to come too far away from the string will not create enough sound to “cut through” the orchestra texture. When approaching this passage in his teaching and other similar passages, the American cellist and pedagogue Leonard Rose suggested a bowing that he referred to as a “spiccato from or on the string”. In fact, playing the passage on the string at the required tempo and dynamic will, itself, induce the wood of the bow to bounce while the hair of the bow maintains relative firmness in the string.⁸²

Figure 4.2 – Dvorak *Cello Concerto, I. Allegro, mm. 329-335*



In order to develop the ability of the right-hand to bounce the bow consistently on each string and alternate with other bow strokes smoothly, it is beneficial or even necessary to practice etudes and student concertos including this technique. Popper’s *High School of Violoncello Playing Op. 73, No.27* provides such an opportunity to properly acquire this skill. It is an excellent etude for developing spiccato on each string while shifts of entire positions occur in the left hand, by subtly contracting and quickly reopening the hand without jeopardizing the intonation for the next hand position (Figure. 4.3).

⁸² Eric Wilson, interviewed by Zhuojun Bian, Personal interview. University of British Columbia, November 10, 2016.

Figure 4.3 – Popper *High School of Violoncello Playing Op. 73, No.27, mm. 1-5*



Popper’s *First Concerto Op. 8 in D Minor* for cello shows a similar use of spiccato at mm. 207 to 212 of the first movement (Figure 4.4) and third movement at mm. 190 to 200 (Figure 4.5). Figure 4.4 has a longer slur of legato sixteenth notes after spiccato section and Figure 4.5 includes even larger distances of string crossing and the slurs with two sixteenth notes instead of slurs with eight eighth notes. Here, the principle is the same. In figure 4.4, the left hand requires accurate and quick block hand chromatic shifts pivoting with the second finger from one position to the next while keeping the fingers, wrist, and arm of the right hand flexible to maintain a constant bounce on each string. When changing to the legato phrase, it is important to maintain a slower bow speed and precise left hand shifting with the first finger to keep the phrase flowing smoothly. Figure 4.5 contains repeated sixteenth notes which is ideal for the study of spiccato as it allows one to feel the bow’s “contact point” while bouncing equally between bow changes. The large leap in the legato passage should be led by the right arm, moving across the strings without creating any extraneous noise or touching strings that should remain silent.

Figure 4.4 – Popper *Cello Concerto Op. 8, I. Frisch und feurig, mm. 206-213*

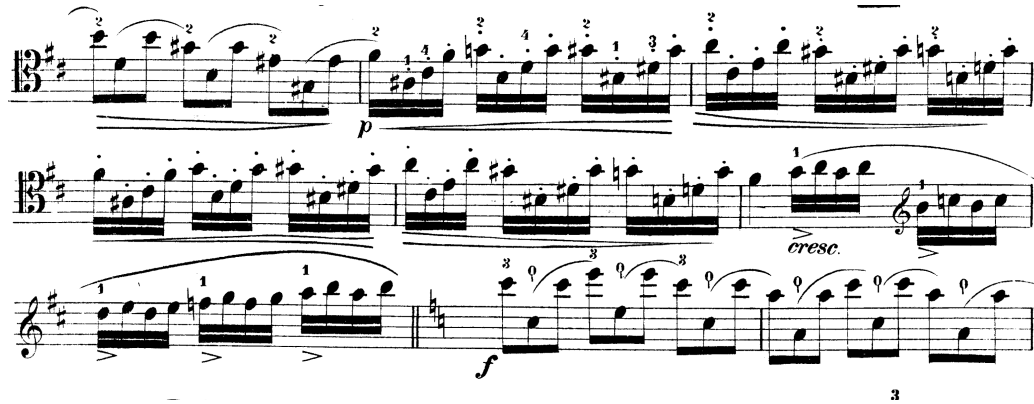
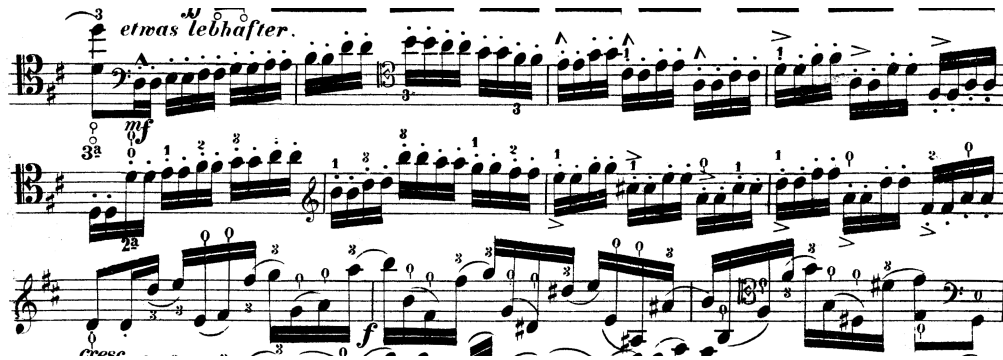


Figure 4.5 – Popper *Cello Concerto Op. 8, Lebhaft, quasi Recit, mm. 190-200*



4.1.2 Ricochet

The ricochet bow stroke can be defined as a bouncing, off-the-string stroke in which several notes are played in same direction. The upper third of the bow is “thrown” onto the string so that it bounces in a series of rapid notes on the down-bow.⁸³ The bow will continue bouncing by itself if the player throws it onto the string in the correct manner. The key point to studying this bow technique is to learn how to throw the bow onto the string: it is often played in the upper-half of the bow and is marked with staccato dots either over or under a slur. However, placement of the bow while playing the ricochet stroke depends on the tempo

⁸³ Don Michael Randel, *The New Harvard Dictionary of Music*, 112.

of the music: for a slower bouncing motion with fewer repeated notes, the bow should bounce near the balance point; for a faster bounce, the bow should be thrown onto the string closer to the tip of the bow; the higher the bow bounces off the string, the slower it will play.⁸⁴

A typical example of the ricochet technique occurs in mm. 158 to 165 of the first movement of Dvorak's cello concerto (Figure 4.6). The tempo required here is fairly quick at a quarter note equals 116 b.p.m., so it must be played in or towards the upper-half of the bow. This notorious sextuplet passage is challenging for most cellists: the ricochet bowing requires a somewhat firm but flexible right arm, enough so as to provide a natural bounce within a shorter stroke end to end. In effect, what is ideal here is a kind of spiccato that evolves from the release of tension similar to that described previously as the "Leonard Rose spiccato." The difference in this passage is that the spiccato notes are moving in groups of three and this requires a kind of release mechanism in the right hand in order for the bow to bounce. Here, one must not build up tension in the bow arm. Moreover, the left hand technique required for this passage is demanding and can have a tendency to adversely influence the playing of the right hand as each note in this passage falls on a different string. Players need to develop an acute level of sensitivity in the bow hand and fingers in order to produce a clear and even sound.

⁸⁴ Jack Erik Anderson, "The Cellist's Right Hand: A Guidebook for Pedagogy and Practice" (D.M.A. Dissertation., University of Cincinnati, 2001), 78.

Figure 4.6 – Dvorak *Cello Concerto, I. Allegro, mm. 158-165*

The musical score for Dvorak's *Cello Concerto, I. Allegro*, measures 158-165, is presented in eight staves. The key signature is G major (one sharp) and the time signature is 4/4. The tempo is marked 'Tempo I'. The music is characterized by a complex rhythmic pattern of slurred sixteenth notes, often grouped in threes or fours. Fingerings are indicated by numbers 0, 2, 3, and 4 above the notes. The dynamics range from mezzo-piano (*mp*) to fortissimo (*f*). The score includes dynamic markings such as *mp*, *f*, *crescendo*, *scen*, *do*, and *diminuendo*. The piece concludes with a double bar line and a repeat sign.

In order to master this technique more efficiently for use in the concerto, a number of essential exercises should be practiced. Piatti's *12 Caprices for Cello Op.25, No.5* provides students with excellent material to study this technique. Similar to Figure 4.6, Piatti's *Caprice No.5* not only includes up-bow and down-bow ricochet bowing with string crossings, but also provides idiomatic writing for practicing the ricochet technique. However, the left-hand in this etude is not as complicated as figure 4.6, maintaining only a pattern of groups of three or four slurred sixteenth notes in lower position so that the students can easily focus on the right-hand ricochet stroke (Figure 4.7). To practice this etude, it is advisable that the arm not get tight, which takes the spring out of the bow. The thumb should also be loose,

such that the bow bounces by itself. One can feel the bow vibrate with the inside of the fingers if the right hand is relaxed.

Figure 4.7 – Piatti 12 Caprices for Cello Op. 25, No.5, mm. 24-29



Kodaly's *Sonata for Solo Cello, Op.8* third movement also contains a significant section using the ricochet bow stroke (Figure 4.8). At the tempo indicated in the score, the two groups of four slurred sixteenth notes can be played with a down-bow ricochet. Immediately following the first chord it is necessary for the player to throw the bow as quickly as possible onto the string from the middle of the bow close to the balance point to facilitate the ricochet bow stroke. Maintaining a flexible wrist and grip will help the bow to bounce evenly and cleanly.

Figure 4.8 – Kodaly *Sonata for solo cello Op.8, III. Allegro molto vivace, mm. 1-25*



Some other examples of the ricochet bow stroke in the cello repertoire can be found in Britten's *Cello Sonata Op. 65*, final movement (Figure 4.9). The passage in Figure 4.9 is actually a combination of the saltando (*sautillé*) and ricochet bow strokes. The slurred repeated sixteenth-note can be played with a ricochet stroke and the constant eighth-note figure can be executed using the saltando stroke. It is crucial that the player execute the stroke with optimal elasticity. Normally for this stroke, the action is towards the upper third of the bow. Christopher Bunting, noted English cellist, composer, and teacher, suggested the following as the method for successfully executing of this bow stroke:⁸⁵

1. Imagine your right hand as the hub of a wheel, the bow being the spoke and the forearm the axle. Raise the bow until it is at about 10.30, string-level being 9 o'clock. Throw the bow at the string so that it strikes a point in the top half of the bow.
2. Draw the bow to the right, allowing the bounces to die away by themselves.
3. Organize five notes of the naturally-decaying bounces into five equal ones and then organize the groups rhythmically.⁸⁶

⁸⁵ Margaret Campbell, "Bunting, Christopher," *Grove Music Online, Oxford Music Online*, Oxford University Press, 28 Sep. 2016, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/42216>.

⁸⁶ Christopher Bunting, *Cello Technique, from One Note the Next: A Distillation for Students of Christopher Bunting's Essay on the Craft of Cello Plying* (Cambridge: Cambridge University Press, 1987), 24-5.

Figure 4.9 – Britten *Cello Sonata Op. 65, III. Presto, mm. 1-4*



4.1.3 Staccato

Staccato bowing can be considered as a series of martelé notes taken in the same stroke. It can be executed either by using an up- or down-bow stroke, but the latter is more difficult.⁸⁷ The first finger of the right hand is the leader with the thumb and first finger controlling the staccato stroke. The other fingers are also important, but can be lighter and loose so that the weight of the bow is not increased.⁸⁸

The cellist Friedrich Dotzauer (1783-1860) suggested that slurred staccato be played with a rigid hand and wrist, the staccato notes being articulated in the slur by a slight pressure on each.⁸⁹ Paul Tortelier suggested that this bowing technique should be played by initially applying pressure to the bow on the string and releasing it upon making the stroke.⁹⁰ In Dvorak's concerto, staccato and legato strokes alternate in mm. 49 to 59 of the third movement (Figure 4.10). Besides demanding advanced staccato and legato techniques, this virtuosic episode requires the ability to quickly change between these two bowings in dotted rhythm. The combination of double stops with the melody on the top line and a trill on the lower line (in thumb position) while simultaneously keeping the legato stroke as smooth as possible makes this passage extremely difficult to perform.

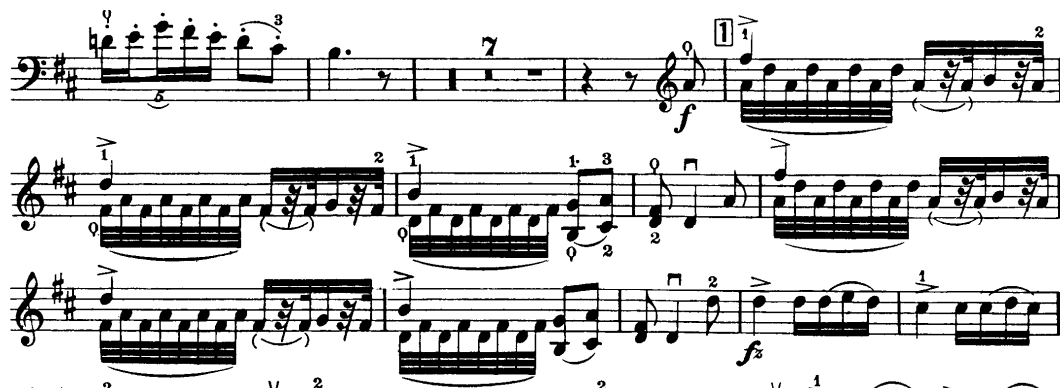
⁸⁷ Don Michael Randel, *The New Harvard Dictionary of Music*, 112.

⁸⁸ Xavier Phillips, "How to Master Staccato Bowing," *Strad* (Nov. 2006), accessed Jul. 25, 2016, <http://www.thestrads.com/master-staccato-bowing-cello-xavier-phillips/>.

⁸⁹ Walden, *One Hundred Years Cello*, 172-73.

⁹⁰ Paul Tortelier, *How I play How I teach* (UK: Chester Music, 1988), 39.

Figure 4.10 – Dvorak *Cello Concerto, III. Allegro moderato, mm. 40-59*

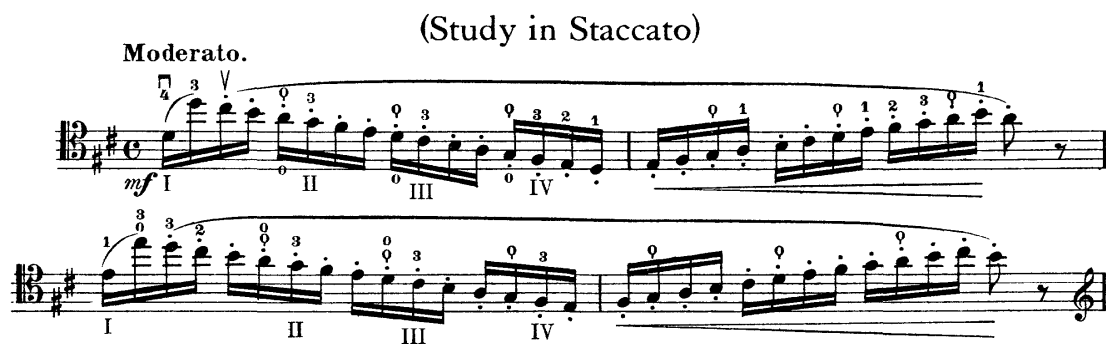


No. 14 from Popper's *High School of Violoncello Playing* is an ideal exercise for learning staccato (Figure 4.11). This etude emphasizes both down-bow and up-bow staccato and the left hand is active well into the upper thumb positions, encouraging the development of the strength, agility, and accuracy of the thumb position. Kurt Sassmannshaus, the Dorothy Richard Starling Chair in Violin Studies at the University of Cincinnati College-Conservatory of Music,⁹¹ suggests the following components for consideration in relation to the execution of the staccato stroke: 1. rotation of the forearm towards the strings; 2. pronation or turning of the wrist and fingers into the string in a counter-clockwise motion with a particular emphasis towards the index finger with an equal counter pressure in the thumb. When these forces are released, the resulting opposite effect or supination reduces the pressure in the wrist causing a tremolo-like motion in the wrist which by moving in the same direction produces the up-bow staccato. (Therefore, the down-bow staccato would be produced with the wrist and fingers in a more supernating position); 3. up down motion from the wrist with consistent pressure on index finger, and pinching the bow between index finger and thumb.

⁹¹ "Kurt Sassmannshaus," <https://www.bowdoinfestival.org/artist/kurt-sassmannshaus/>.

However, applying this violin technique to cello playing would generally be considered inappropriate since the resulting extreme orientation of the bow (angled towards the floor) would cause the player to lose control of the bow.⁹² Given the weight of the cello bow, the thickness of the strings, and the overall angles of the strings in relation to the floor, for the cellist it is more a matter of using a combination of these three formulations rather than any single one. For violinists, Sassmannshaus suggests that any one of these formulations would serve the player well.

Figure 4.11 – Popper *High School of Violoncello Playing Op. 73, No.14, mm. 1-4*



Piatti's *12 Caprices for Cello Op. 25, No. 4* consists of three parts with the first section having a two-note up-bow staccato followed by a chord (Figure 4.12a), the second part with the melody line on top of the double stops played by legato stroke (Figure 4.12b), and the third part being a combination of the first two parts (Figure 4.12c). This writing is very similar to the virtuosic episode of the Dvorak concerto (Figure 4.10) and perfectly meets the technical requirements as a good method for preparing to successfully execute this difficult passage. The clear difference between executing the staccato, spiccato, and ricochet

⁹² Sassmannshaus, *Staccato*, www.violinmasterclass.com.

strokes is whether the bow remains on the string. Staccato requires starting the bow on the string whereas the spiccato and ricochet strokes are off-string bowings. The key point to consider when practicing the staccato of this etude is to begin with the bow on the string in order to get the bite of each note while releasing it from the string by using more wrist and fingers. The elasticity between bow strokes is crucial for developing this technique. Keeping the right arm moving as smoothly as possible in the legato stroke is very important for bringing out the beauty of the line during the double stop passage.

Figure 4.12a – Piatti *12 Caprices for Cello Op. 25, No. 4, mm. 1-9*

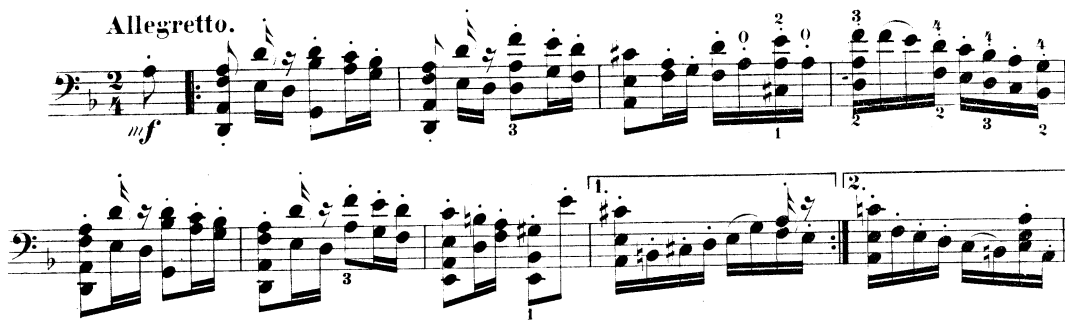


Figure 4.12b – Piatti *12 Caprices for Cello Op. 25, No. 4, mm. 29-37*



Figure 4.12c – Piatti *12 Caprices for Cello Op. 25, No. 4, mm. 62-76*



4.1.4 Triads with frequent string crossing

Arpeggios with frequent string crossing is a right-hand technique often used by Dvorak in his *Concerto in B Minor*. For instance, the second movement in mm. 65 to 74 typifies his use of this (Figure. 4.13). The challenge for the soloist is to uncover the hidden melody within the figuration while maintaining a smooth line throughout the frequent string crossings. The melodic line of this passage is from the theme appearing in the middle section of mm. 42-49 (Figure. 4.14), and in order to bring out this melody, a fluent and even string crossing technique is necessary to play all the passing notes with an unforced and vibrant tone. String crossings require flexibility of many elements. Only by sensitively maintaining awareness of the fingers, hand, and arm effectively can one effortlessly move between strings in a single bow while adjusting for the differing resistance-to-weight ratio of each individual string.

Figure 4.13 – Dvorak *Cello Concerto, II. Adagio, mm. 65-74*

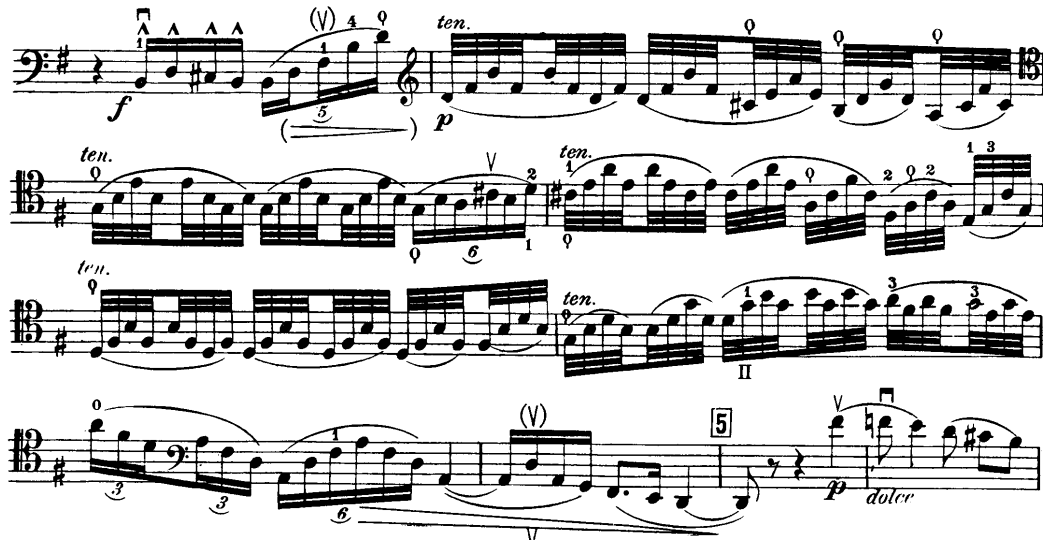


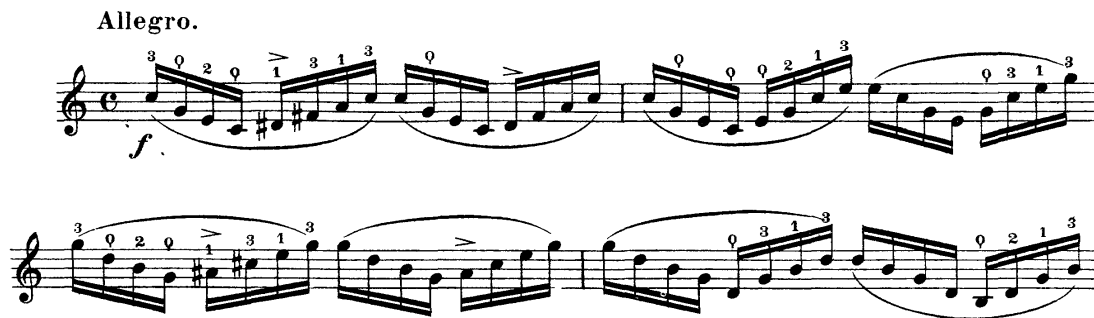
Figure 4.14 – Dvorak *Cello Concerto, II. Adagio, mm.39-55*



Popper’s *Etude no. 12* has a similar pattern as the passage shown above in Dvorak’s concerto (Figure 4.13). Similar to passage Figure 4.13, this etude includes different ascending and descending triads across strings while executing rapid shifts in thumb position. To play this etude with fluent string crossing, the right arm has to shift to the angle of the next string before moving the bow to land on it. As part of this preparation the right arm should maintain a smooth and consistent movement, especially during string crossing to avoid any abrupt changes in bow angle. As professor Steven Doane from the Eastman School of Music noted in an online cello lesson, it is important to keep a straight bow when crossing

strings, using clockwise and anti-clockwise circular movements of the arm. The anti-clockwise motion is led by the upper arm and the clockwise movement is guided by the hand with the upper arm following. He suggests that a feeling of freedom will also help to generate a good sound (Figure 4.15).⁹³

Figure 4.15 – Popper *High School of Violoncello Playing Op. 73, No.12, mm. 1-4*



4.2 Left-Hand Techniques

4.2.1 Thumb position

The use of thumb position is one of the most often employed cello techniques applied by Dvorak in his concerto. Thumb position usually refers to the position in the higher register beyond the fourth position, but can refer to any position in which the thumb is used. Louis Potter's principles state that thumb position is one of the four basic hand postures, and is thought of as only being different in form, not in difficulty. The other three basic hand postures to which Potter refers are associated with the first, fourth, and seventh positions.⁹⁴ In fact, the added thumb as a fifth digit permits playing a scale with less shifting and helps

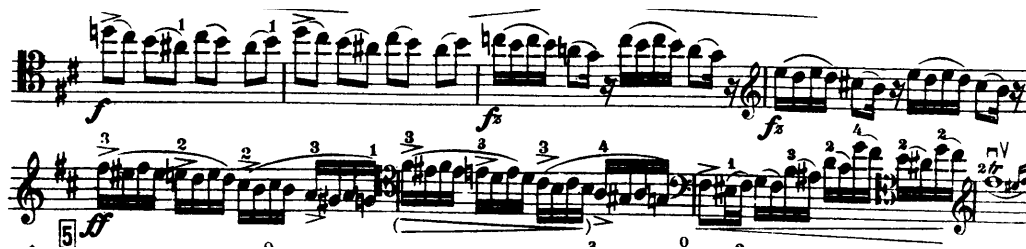
⁹³ Steven Doane, *String Crossing*, <http://ouvirtopmusicas.com/musicas/barnesandmullinsuk.html>.

⁹⁴ Louis Potter, *The Art of Cello Playing: A Complete Textbook Method for Private or Class Instruction* (Evanston: Summy-Birchard Co, 1964), 183.

the fingers to reach octaves easily in the high register.

A more elaborate instance of when Dvorak adopted the thumb position occurs in the first movement from mm. 120 to 126, where the passage requires rapid shifting within the indicated tempo 116 (Figure 4. 16). Here the cellist needs to be aware of practicing shifting the thumb position at mm. 122 to 125, starting from the third measure of Figure 4.16. The cellist can extract the diatonic scale and practice the passage without the passing notes, so that this passage becomes the descending scale of C B A G, keeping in mind the large leap from G to E and its relation to the sequence of E D C# B. In this particular instance, the player will need to focus on the thumb leading the shift rather than the third finger.

Figure 4.16 – Dvorak *Cello Concerto, I. Allegro, mm. 120-126*



Other related exercises are useful to developing this technique. For example, David Popper's *Concert-Etudes, Op. 55* is a perfect piece for rapid changes of left-hand positions and finger dexterity (Figure 4.17). The passages from Dvorak's *Concerto in B Minor* (Figure 4.16) and the *Spinning Song* (Figure 4.17) share similar features of left-hand techniques: they both require constant shifting at a fast tempo of running sixteenth-notes on the A string. The only difference is that the passage from *Spinning Song* shifts with the second finger instead of the third as in Dvorak concerto, but in both works all shifts should be led by the thumb. Potter gives some important suggestions on the effective methods for practicing shifting in

thumb position:

1. It is necessary when shifting in the thumb positions that the thumb and hand move together as on single, compact unit.
2. The thumb, properly placed a whole step behind the first finger, is not only ready to play, as needed, but acts as a support to arch of the hand and fingers in playing, much as it did in the lower positions when under the neck of the cello.
3. In playing scales and scale-wise passages, in the high range of the instrument, in which the thumb may not be actually used to play a note, it is still very important that both the thumb and first finger remain down on the string, in the proper playing position, and shift together with the whole hand.⁹⁵

Figure 4.17 – David Popper *Concert-Etudes, Op. 55, mm. 32-47*



A second type of thumb position occurs in the recapitulation in the first movement of Dvorak's concerto from mm. 285 to 292 (Figure 4.18). This is the same pattern used previously, but in a different key (Figure 4.6). This kind of thumb position passage requires the hand to be set in a stationary block hand position, playing three notes per bow in the horizontally placed octaves before moving on to the next hand setting.⁹⁶ In each position, the passage has a similar hand position. A recommended etude for practicing this type of thumb position is Piatti's *Caprice No. 7* (Figure 4.19). This example also contains running

⁹⁵ Ibid, 188.

⁹⁶ Stowell, ed., *The Cambridge Companion to the Cello*, 188.

sextuplets on the A, D, and G strings with similar hand postures to those required in Figure 4.18. This caprice provides excellent material for the development of strength, endurance, and flexibility in the left hand while in thumb position. The finger extensions required in mm. 86-88 and mm. 89-90 develop strength and endurance in the thumb, third and fourth fingers.

Figure 4.18 – Dvorak *Cello Concerto, I. Allegro, mm. 285-292*

Figure 4.19 – Piatti *12 Caprices for Cello Op. 25, No. 7, mm. 86-90*

The third type of thumb position required in Dvorak's cello concerto occurs where Dvorak writes double stops (including thirds, sixths, and octaves with triplets in the lower line), octaves with trills in the upper line, large leaps for the left-hand, and chromatic scales in single and double lines in thumb position. One of the typical examples among these difficult passages will be discussed in pedagogical terms. It is found in a rapid descending figure towards the end of the development section from the first movement in mm. 257 to 260, involving diads with a changing sixteenth note figure on top (Figure 4.20). As an effective method for learning this vigorous figure, one can simplify the phrase by deleting the changing sixteenth notes on the top line, leaving only repeating diads of sixth intervals to be practiced in order to master the desired intonation. Following that, one can re-insert the changing sixteenth notes, keeping in mind that the upper voice should be heard clearly by pressing the thumb down firmly without tension.

Figure 4.20 – Dvorak *Cello Concerto, I. Allegro, mm. 256-261*

The image shows a musical score for the cello part of Dvorak's Cello Concerto, I. Allegro, measures 256-261. The score is written in G major (one sharp) and 2/4 time. It consists of three systems of staves. The first system (measures 256-257) features a treble clef staff with a forte (*ff*) dynamic and a bass clef staff with a triplet of eighth notes. The second system (measures 258-259) has a treble clef staff with a 'finger' annotation and a 'V' (vibrato) mark, and a bass clef staff with a *mf* dynamic. The third system (measures 260-261) has a treble clef staff with a 'little bow' annotation and a *f* dynamic, and a bass clef staff with a *f* dynamic. The score includes various musical notations such as slurs, accents, and dynamic markings.

4.2.2 Thirds and sixths

For most cellists, playing thirds and sixths in tune can be challenging. Physically, sixths are relatively easier to control by placing the hand in the appropriate place, but the different lengths of each finger requires that the hand be placed at a different angle for each interval; this is difficult especially at fast tempi. Thirds are more challenging due to the awkward angle required for the placement of the first and third fingers for playing major thirds, and the thumb and second fingers for minor thirds in thumb position. In the lower register, a similar problem still exists because the distance between the fingers is bigger than in sixths; the cellist needs to significantly stretch the first and fourth fingers to obtain the right intonation when playing minor thirds in the first three positions.

Dvorak's concerto features the use of double stops with alternating thirds and sixths as in mm. 261 to 263 (Figure 4.21) and the chromatic scale of sixths in thumb position in mm. 337 to 340 (Figure 4.22) in the first movement. The following two measures of 262 and 263 in figure 4.21 require rapid shifting from first position to high thumb position. The accuracy of the intonation and the clarity of the sound can easily suffer, especially considering the density of the orchestration given this passage. The second passage (Figure 4.22) is a rapidly ascending chromatic scale in sixths, which requires a great deal of strength in the fingers in thumb position to play.

Figure 4.21 – Dvorak *Cello Concerto, I. Allegro*, mm. 261-263

Figure 4.22 – Dvorak *Cello Concerto, I. Allegro*, mm. 336-340

Louis Potter gives two suggestions regarding practicing double stops:

1. The proper relative spacing of all the fingers and shape of the hand must be maintained whether the fingers are lifted or pressed down to play.
2. The fingers should be kept down as much as possible. The observance of these suggestions will assure good intonation and avoid excessive finger movements. Check each tone carefully with the open string for correct interval pitch.⁹⁷

Some further exercises need to be practiced in order to prepare to play these highly virtuosic technical passages. Popper's *High School of Violoncello Playing Op.73, No. 9* is an

⁹⁷ Potter, *The Art of Cello Playing: A Complete Textbook Method for Private or Class Instruction*, 88.

etude that also deals mainly with both major and minor thirds and sixths (Figure 4.23). Similar to as the double stops shown in Dvorak's *Concerto in B Minor*, it is difficult to keep the correct intonation when playing two identical pitches consecutively on different strings while continuously readjusting the hand for different double stops. Therefore, playing with a slower bow speed is very important to avoid problems of response and to ensure a resonant sound. In these circumstances, for proper execution the player must preserve the posture of the left-hand, especially when changing positions.

Figure 4.23 – Popper *High School of Violoncello Playing Op.73, No. 9, mm. 1-9*



4.2.3 Octaves

The use of octaves is very common in the nineteenth-century cello repertoire and this is an obvious compositional device for virtuosic display. Dvorak's music makes use of this device, using the technique in chromatic scale patterns (Figure 4.24). The thumb and third fingers are used for most octave double stops in this passage. Not surprisingly, this passage needs diligent practice and much time committed to it in order to master its proper execution.

Also, the required hand span for chromatic octaves varies greatly according to each individual's hand shape, ranging from wide spans in first position to having the fingers very close together in the higher registers.

The first way to practice this gesture is to extract the octave scale and practice it without the passing notes so that the required hand shapes can be formed in each position, gradually changing shape as the hand slides down to the end of the fingerboard. A second practice method is to play broken chords instead of double stops in order to build up accurate intonation. The player needs to be aware that when shifting, the thumb must lead instead of the third finger. After one can play this passage with these two methods, one can move on to playing the double stops slowly in triplets, bearing in mind that more strength and weight are required to depress both strings simultaneously.

Figure 4.24 – Dvorak *Cello Concerto, I. Allegro, mm. 266-267*



10540

Popper's *Etudes No. 20* is an exercise with octaves involved in various ways: scales in broken octaves, scales in parallel octaves, and octave leaps (Figure 4.25). As Popper suggests directly on his manuscript: "to maintain good intonation of the octaves, it is important, as a general rule, to hear the entire chord from the first note on rather than thinking primarily in intervals. Playing the series of chords on the piano beforehand may help you to think chordally. To negotiate the large shifts, it helps if you start moving early enough and begin to

put pressure on the string with the thumb during the position shift while passing the second finger to the third.”⁹⁸

Figure 4.25 – Popper *High School of Violoncello Playing Op.73, No. 20, mm. 9-12*



4.3 Combination of Right-Hand and Left-Hand Techniques

4.3.1 Triple stops

Even though the use of triple stops in Dvorak’s concerto is not as common as the use of double stops, the appropriate technique for triple stops still accounts for an integral part of the music. When the soloist enters in the beginning of the first movement, a heroic gesture is presented by an array of triple stops (Figure 4.26). How should one interpret these triple stops with a deep and broad character? These three-note chords should either sound together simultaneously on three different strings, or by rolling these chords with two strings at a time in arpeggio style. Many cellists – including Yo Yo Ma, Rostropovich, Du Pre, and Maisky – perform all three notes simultaneously in order to give a more powerful sound. In order to play these three notes as one chord, the bow should be placed closer to the fingerboard where

⁹⁸ David Popper, *High School of Cello Playing (Hohe Schule des Violoncellospiels): Forty Etudes for cello solo* (Kassel: Barenreiter-Verlag Karl Botterle GmbH&Co, 2006), 29.

the curve of the bridge is less prominent and the strings less taut while giving a strong attack.

The execution of triple stops is problematic for both the right hand and left hand. The issue for the right hand is mainly the curvature of the bridge. As part of overcoming this the player needs to be aware of various bow angles that are required for the proper execution of different triple stops, and must find a balanced angle among the three strings to play the notes together at a fast tempo. For the left hand, a different problem arises, concerning the placement of the fingers on the fingerboard. Fingers are naturally of different lengths, and when they are placed on the fingerboard in the positions demanded by triple stops, awkward angles can result. The continuous changes required by different chords can lead to strain and impairment of the muscles and tendons, especially if the cellist's technique is not well-developed, leading to injurious practicing.

Figure 4.26 – Dvorak *Cello Concerto, I. Allegro, mm.87-96*



In order to master the three-note chord progressions, and in order to solve the problems of coordinating both the right and left hands, the player can practice rotating the bow by playing two notes of a chord as a group to find the most suitable bow angle for each string, instead of attacking all three strings simultaneously. This approach will result in a more focused and resonate sound. *Caprice No. 4* by Piatti develops the independence of fingers and strength of the left-hand by practicing the broad use of triple- and quadruple-

stopped chords (Figure 4.12abc). Additionally, if the chords are played at a slower tempo and accelerated at a gradual rate, the result is that the chords at full tempo will sound almost as though they were played simultaneously. Furthermore, to avoid strain on the hand one should gently roll the pressure from one finger to the next, starting with the lowest note, and then apply vibrato to the top two notes in the left-hand. The portion of the bow used to execute the multiple-stop should be relegated to the lower half of the bow and move through to the middle, but overall a flexible rolling motion of the right arm is the key component of this bow technique. Note that placing an eighth note rest after each a chord is a very efficient way to practice this technique, and will also provide a better understanding of the outline of the harmonic motion, melodic contour, and phrasing.

4.3.2 Combination of arco with pizzicato

Dvorak only employed this technique in one place in the concerto, in the *Quasi Cadenza* in the second movement (Figure 4.27). The use of left-hand pizzicato with right-hand arco technique is not something that is commonly found in works for cello, especially in the cello concertos written before Dvorak. However, after Dvorak we see a number of significant examples as to how this technique began to be increasingly used. For example, we find this technique in the third movements of Gerald Finzi's *Cello Concerto in A Minor, Op. 40* (Figure 4.28), the second movement of the Zoltan Kodaly's *Sonata for Cello Solo Op. 8* (Figure 4.29), and the third movement of Shostakovich's *Cello Concerto No. 1 Op. 107* (Figure 4.30).

Figure 4.27 – Dvorak *Cello Concerto, II. Adagio*, mm. 105-117

Quasi Cadenza.

p *pizz.* *pizz.* *dim.*

cresc. *pizz.* *f* *pizz.* *pizz.* *pizz.*

Detailed description: This musical score is for the second movement of Dvorak's Cello Concerto, specifically measures 105-117. It is written for a cello and a double bass. The key signature is one sharp (F#) and the time signature is 4/4. The tempo is Adagio. The score is divided into two systems. The first system (measures 105-110) features a cello line with a 'Quasi Cadenza' marking, starting with a piano (*p*) dynamic and including triplets and pizzicato (*pizz.*) passages. The double bass line provides harmonic support with a crescendo (*cresc.*) and includes a forte (*f*) section. The second system (measures 111-117) continues the cello's melodic line with a decrescendo (*dim.*) and includes more pizzicato passages. The double bass line continues with a forte (*f*) section and includes several pizzicato passages.

Figure 4.28 – Finzi *Cello Concerto, III. Adagio, Allegro giocoso*, mm. 1-13

Adagio
a piacere

Side Drum

pizz. f

1

Detailed description: This musical score is for the third movement of Finzi's Cello Concerto, measures 1-13. It is written for a cello and a double bass. The key signature is one sharp (F#) and the time signature is 4/4. The tempo is Adagio. The score is divided into two systems. The first system (measures 1-10) features a cello line with a 'Side Drum' marking and a forte (*f*) dynamic. The double bass line provides harmonic support. The second system (measures 11-13) continues the cello's melodic line with a first ending bracket (*1*) and includes a decrescendo (*dim.*) and a final note.

Figure 4.29 – Kodaly *Sonata for Cello Solo, II. Adagio, mm. 1-21*

Adagio (*con grand' espressione*). (♩ = 72-80.)

pp *f*

pp espr. *cresc.*

f *pp*

p *cresc.*

poco rit. *tempo*
f *dim.*

pp *mp* *molto* *f*

Figure 4.30 – Shostakovich *Cello Concerto No. 1, III. Cadenza, mm. 37-51*

(sempre ♩ = ♩) arco

pp *p*

pp *cresc.* IV III *f* *rit.* II *dim.* *a tempo* *p*

p *pp*

An early indication of pizzicato is found in Monteverdi's *Combattimento di Tancredi e Clorinda* (1638), in which he requires players to put the bow aside and pluck the strings with two fingers. Later, Leopold Mozart gives specific instructions on playing pizzicato in his book *Versuch einer grundlichen Violinschule*, where he wrote that "the strings are plucked with the index-finger or with the thumb of the right-hand; the thumb should be used only when whole chords are to be taken in one."⁹⁹ The incorporation of pizzicato in cello literature becomes clear towards the end of the eighteenth century since an early example is found in the opening of the third sonata in *Nochez's Op. 1* collection in 1765. However, a clearer explanation on how it is to be played comes later in the 1840s from Charles Nicolas Baudiot in his second volume of *Methode de Violoncelle et de Basse d'Accompanement*. He states that the string should be plucked with the fleshy part of the finger in order to have a round and soft sound. In execution of double stops, the string should be plucked with the thumb and index finger simultaneously.¹⁰⁰

Paganini is noted as the first composer to make expansive use of left-hand pizzicato as a violin technique with the notation of a plus sign (+) above the note.¹⁰¹ The first person to apply this technique to the cello is Adrien Francois Servais. As mentioned before, Wihan is the person who suggested to Dvorak that he add the left-hand pizzicato in the bass so that the figuration under the solo flute's descending arpeggios and trills would not interfere with the flute line. Dvorak may not have been familiar with this new and inspired cello technique.

The left-hand pizzicato is usually executed by plucking with the first or second finger while playing arco. The left-hand fingers must press the string down just as firmly and

⁹⁹ Sonya Monosoff, "Pizzicato," *Grove Music Online, Oxford Music Online*, Oxford University Press, 15 Jun. 2016, <http://www.oxfordmusiconline.com.ezproxy.library.ubc.ca/subscriber/article/grove/music/21883>.

¹⁰⁰ Walden, *One Hundred Years Cello*, 202-04.

¹⁰¹ Sonya Monosoff, "Pizzicato."

accurately as when playing with the bow. According to Sassmannshaus, to play left-hand pizzicato, students need to pull the finger sideways off the fingerboard and use a great deal of finger pressure to make it audible. The fingers holding actual pitches should press down the hardest.¹⁰² An excellent example of left-hand pizzicato is found in the fifth movement of Britten's *Cello Suite Op. 72* (Figure 4.31).

Figure 4.31 – Britten *Cello Suite Op. 72, Bordone, mm.1-4*

4.3.3 Combining rapid-string crossings with swift position changes

Dvorak employs the right-hand rapid-string crossings and swift changes of left hand positions throughout all three movements of his concerto. One of these passages occurs in the third movement from mm. 177 to 203 (Figure 4.32). This passage requires agility in the left hand in conjunction with a flexible right-hand. The string crossings should be executed in a manner that allows each note to be cleanly and clearly played while maximizing smooth bow changes. As this passage ascends to the upper register, shifting with the first finger quickly while being led by the arm is very important.

Written in 1835, Franchomme's *Twelve Caprices, Op. 7 No. 5* is an excellent

¹⁰² Sassmannshaus, *Left Hand Pizzicato*, www.violinmasterclass.com.

exercise that combines finger dexterity in the left-hand with string-crossing in the right hand (Figure 4.33). This caprice only contains sixteenth-note patterns which provide an efficient way to practice agility and the strength of the left-hand fingers, and practicing at a slower tempo will assist in the establishment of good left-hand technique and purity of intonation. The tension of the finger has to be released from the string before transferring it to the next note. Applying intermittent pressure and release of the left-hand in a slow tempo is a good method for developing movement of the fingers. With perseverance, players can develop an ability to play the whole caprice without excessive tension. In terms of right-hand string crossing, the participation of the right elbow and arm during each string crossing is necessary. This requires a free arm movement and placing the elbow in such a way that the string crossings are approached with flexibility. Adjusting the angle of the elbow between adjacent strings can make a smooth transition that is unnoticeable.

Figure 4.32 – Dvorak *Cello Concerto, III. Allegro moderato, mm.177-203*



The image displays a musical score for Figure 4.33, consisting of five systems of notation. The first system features a bass staff with a melodic line containing fingering (0, 1, 1, 0, 1, 1) and a dynamic marking of *cresc.*, and an "OSSIA." staff below it. The second system shows a treble staff with trills (*tr.*), a fortissimo dynamic (*ff*), and trills (*tr*) with a second ending bracket. The third system includes a treble staff with trills (*tr*), triplets of eighth notes, and an "OSSIA." staff with specific fingering (1 2 3, 2 0 1 4). The fourth system is a grand staff with a *rit.* marking and a measure number of 17. The fifth system is a single treble staff with a *a tempo* marking, measure numbers 6 and 7, and dynamics *mf appassionato* and *p*.

Figure 4.33 – Franchomme *Twelve Caprices Op. 7, No. 5*, mm. 33-44

The image displays a musical score for Figure 4.34, consisting of four systems of notation. The first system is a bass staff with a melodic line containing fingering (4, 2, 1, 2, 3) and a dynamic marking of *cresc.*. The second system is a bass staff with fingering (2, 0, 1, 4, 3) and a dynamic marking of *dol.*. The third system is a bass staff with a *gliss.* marking and fingering (4, 3, 0, 1, 2, 3). The fourth system is a grand staff with a *cresc.* marking and a dynamic marking of *mf*.

Chapter 5: Reception

The first performance of Dvorak's concerto was given by English cellist Leo Stern with Dvorak himself conducting the Philharmonic Society Orchestra on March 19th of 1896 in London.¹⁰³ The performance was a huge success, as a positive comment from *The Times* of London states:

By an unfortunate arrangement two of the most interesting and important concerts of the present season took place last night. As the dates of the Philharmonic concerts were not announced until some months after those of the London Symphony concerts had (been?) fixed and published, a good many members of the Philharmonic orchestra were represented last night by deputies, and the material was not quite as fine as usual. Nevertheless, the result obtained from the players by Herr Dvorak, of whose compositions the programme mainly consisted, was almost irreproachable, and quite unusual regard was paid to light and shade.¹⁰⁴

The comment also includes Stern's performance:

In wealth and beauty of thematic material, as well as in the unusual interest of the development of its first movement, the new Concerto yields to none of the composer's recent works; all three movements are richly melodious, the just balance is maintained between the orchestra and the solo instrument, and the passages written for display are admirably devised...Mr. Leo Stern played the solo part with good taste, musicianly expression, and faultless technical skill, and the work was received with much enthusiasm.

There were, however, opposing views about the concerto; for example, *The Musical Times* published in April 1st of 1896 stated:

We are by no means sure that, as a Violoncello Concerto, this work will become a favourite, and it had better be regarded, perhaps, as three orchestral movements with violoncello obbligato. Concertos for Mr. Stern's instrument should be written, if possible, by the performers, who would take good care to make the soli effective and see the orchestra kept back in its place. Not being a virtuoso, and not bearing sufficiently in mind the fact that the violoncello does

¹⁰³ Prieto, *The Adventures of a Cello*, 241.

¹⁰⁴ "Two Orchestral Concerto," *Times* (Mar. 1896), accessed Jul. 20, 2016, <http://find.galegroup.com.ezproxy.library.ubc.ca/ttda/infomark.do?&source=gale&prodId=TTDA&userGroupN=ubcolumbia&tabID=T003&docPage=article&searchType=&docId=CS184868468&type=multipage&contentSet=LTO&version=1.0>.

not “carry” well, Dvorak has written soli which are a good deal covered up, as well as eclipsed in interest by the orchestral music... Mr. Stern discharged an arduous task with success which was as conspicuous as circumstances allowed.¹⁰⁵

Donald Francis Tovey, however, was impressed with the recalling of themes from the first and second movements in the coda of the concerto, describing it to be a “glorious series of epilogues in a steady progression of picturesqueness and calm”.¹⁰⁶

¹⁰⁵ “Philharmonic Society,” *The Musical Times* 37 (April. 1896): 239.

¹⁰⁶ Donald Francis Tovey, *Essays in Musical Analysis, vol. III: Concertos* (London, 1936), 152.

Chapter 6: Conclusion

Dvorak's *Cello Concerto in B Minor* is an idiomatic work for the instrument, and the work's technical requirements and interpretive demands remain highly respected today. His concerto is pivotal in the development of the modern cello concerto, for his work achieves a perfect balance between increased instrumentation, more colorful orchestration, virtuosic technical displays from the soloist, and sophisticated accompaniments.

No composition for cello and orchestra up to that time contained as many innovations in the use of the cello as a solo instrument. Dvorak achieved this through expanding and enhancing fundamental cello techniques, creating a palette of new colours and sounds from the instrument, and by doing so catapulted the cello into prominence as a new instrumental voice. Later composers such as Elgar, Prokofiev, Shostakovich, Walton, and Britten were able to take advantage of these innovations. Dvorak's concerto placed the cello on an equal footing to the violin and piano, and as a result, there was a tremendous increase in the number and quality of cello works (including concertos) that followed over the next one hundred years and into the twenty-first century.

From a pedagogical perspective it can be seen that, since Dvorak's concerto raised the musical and technical expectations for solo cello works and for concertos, learning to master the required techniques is of utmost importance for the performance of his concerto as well as those by composers who followed in his steps and who were influenced by his work. In support of this, this document has laid out specific suggestions for approaches, practice methods, and etudes to support mastering the required techniques. A listing of the specific materials discussed in this document can be found in the Table of Contents under the List of Figures (p. vii – viii).

It is my hope that by working through the suggested approaches and materials students can develop a more comprehensive understanding of how historical, musical, and technical developments combined to support the creation of Dvorak's concerto. Through careful study and application of these methods, students can develop highly refined technical prowess, propelling them towards a higher level of musical interpretation for the Dvorak concerto. Additionally, studying in this manner will not only provide a window of opportunity for successfully mastering the Dvorak concerto, but it will also provide a meaningful guide leading to successful performances of other major works for solo cello written after the premiere of Dvorak's concerto.

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