

THE HISTORY, EVOLUTION, AND PEDAGOGY OF CELLO VIBRATO

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Yoni Draiblate
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Examining Committee Members:

Dr. Edward Latham, Advisor, Associate Profesor of Music Theory Studies
Dr. Charles Abramovic, Chair, Professor of Keyboard Studies
Dr. Cynthia Folio, Chair, Profesor of Music Theory Sturdies
Dr. Paul Rardin, External Reader, Chair, Department of vocal Arts.

ABSTRACT

On 9 April 1860, seventeen years before Thomas Edison invented the phonograph, a Parisian inventor named Leon Scott de Martinville¹ invented the “phonautograph,” the first device capable of recording sound. In the demonstration recording produced by de Martinville, the listener hears the inventor singing a short section of the song “Au clair de la lune.” The recording lasts about ten seconds and is not of very good audio quality—it is full of interference and white noise, making it hard to decipher words.² Technology has since evolved and improved to the point where we can examine the evolution of vibrato with relative ease, simply by listening to different recordings. When examining the question of cello vibrato prior to the second half of the 19th century with its technological innovations, however, we are left with a somewhat paradoxical question: “How did vibrato sound?”

This question is important for two reasons. First, through exploring the history of cello vibrato we may be able to make clearer inferences or, at the very least, establish more educated hypotheses, pertaining to general questions of sound and musical aesthetics throughout the centuries. Second, examining early cello technique and how it evolved can greatly help us understand the evolution of the left hand’s role in performance, particularly in the creation of vibrato. I am well aware that when it comes to historical performances prior to the introduction of quality recording technology, we

¹ <https://www.nps.gov/edis/learn/historyculture/origins-of-sound-recording-edouard-leon-scott-de-martinville.htm>

² “Sounds of the 1860s,” last modified January 4th, 2016, <http://www.classicfm.com/discover-music/latest/oldest-recordings/>

can only deal with probabilities, never certainties, and we have no way of knowing what soloists and orchestral musicians sounded like, nor do we have a way to know what composers wished to hear. Since it is not possible to draw conclusions based on audio recordings prior to the end of the 19th century, I will explore the evolution of cello vibrato through close examination of early cello performance practice, as outlined in treatises and texts, as well as accounts by musicians who were key figures in developing and advancing playing techniques. While it will never be feasible to go back in time and hear this evolution for ourselves, it is possible to construct a better understanding of the use of vibrato prior to the second half of the 19th century.

My aim in this paper is to better understand the evolution of cello vibrato, its origins, early techniques for producing it, and the influence of technique on vibrato over the years, mainly throughout Europe, in order to better answer this question: when did vibrato become an integral part of the cellist's sound? Have cellists always used vibrato, and if so, did they use it continuously on all possible pitches? For the performing artist and teacher, it is highly beneficial to know the history and evolution of vibrato, and its role in the development of the cello sound over the years. Having this knowledge can have a direct effect on interpretation.

By way of background, I will first discuss the origins of both the instrument and vibrato itself, in separate chapters.

Dedicated to all my past cello teachers:

Mrs. Naomi Enoch

Prof. Shmuel Magen

Mr. Hillel Zori

Prof. Laurence Lesser

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CHAPTER 1

INTRODUCTION

There is a longstanding debate among professional string players and performance practice scholars alike regarding the topic of vibrato. Especially in early periods of instrumental music such as the Baroque and Renaissance, the use of vibrato and its purpose are still somewhat ambiguous. While the vast majority of instrumentalists today use vibrato in the music of Beethoven and W. A. Mozart, for example, very few do so for music written only half a century beforehand. Evidence for such debate can be easily heard, whether in the context of a live performance or on a recording, in so called “historically informed” modern performances of Baroque music. Which practice is more authentic?

For the purpose of focusing on the thesis of this paper, I shall steer clear of the widely-debated issue of “authenticity” in performance practice, as well as the controversial subject of vibrating in Baroque and early Classical music, as this is too broad of a topic and can easily distract from exploring cello vibrato in detail. However, for cellists and cello teachers, having an historical context for the use of vibrato in cello playing is extremely beneficial, and can help our understanding of how to use it, both technically and musically. In order to be able to discuss the evolution of cello vibrato effectively, it is important to mention briefly the historical background of intentionally produced vibrations.

The term “intentionally produced vibrations” refers to all techniques and devices that cause the sound to be perceived as vibrating or trembling, whether by using the left

hand or the bowing hand to produce such vibrations. According to the Harvard Dictionary of Music,³ instrumental vibrato was in use in the Baroque period, and is mentioned and discussed in detail in various treatises as early as the 16th and 17th century.⁴ In his *Syntagma Musicum* of 1615, Praetorius writes: “A beautiful, lovely vibrating voice (but not as is occasionally the case in schools, but with particular moderation).”⁵ This quote from Praetorius reveals both that vibrato was taught in schools, and that it may have been used excessively and in an unflattering manner.

Vibrato is considered to be an integral part of instrumental sound production today; however, was this always the case? The ambiguity surrounding the use of intentionally produced vibrations has its roots, perhaps, in the many names used to describe it. Christopher Simpson calls it “shaked grace,”⁶ while Jean Rousseau classifies it as “*languueur*,” “*batement*,” or “*plainte*.”⁷ There is even a distinction between two different techniques of vibrating: bow vibration, called *undulé*, executed by an undulating motion of the bow, and left-hand vibration which is mentioned in treatises by Simpson (1659), Marais (1687), and Rousseau (1687). Bow vibration can hardly be compared to executing left-hand vibrato in modern terms, as the bow has almost no ability to bend the

³ Don Michael Randel, *Harvard Dictionary of Music* (Cambridge, MA and London: Belknap Press, 2003), 947.

⁴ Christopher Simpson, *The Division Viol* (London: William Godbid, 1659), 9–19. See also Jean Rousseau, *Traité de la Viole* (Paris: Christophe Ballard, 1687), 100.

⁵ Praetorius *Syntagma Musicum*, quoted in Jochen Gärtner, *The Vibrato: with particular consideration given to the situation of the flutist*, trans. Einar W. Regensburg (Germany: Anderson Gustav Bosse, 1981), 17.

⁶ Simpson, *The Division Viol*, 9–10.

⁷ Rousseau, *Traité de la Viole*, 100–101.

pitch as quickly and efficiently as the left hand. If done properly, however, bow vibration has the ability to create a wave-like vibration using varying pressure of the hand, which can explain why these were both considered types of early vibrato.

Ganassi wrote about the two types of vibration in his *Regola Rubertina*, which appeared in 1542–43: "... and sometimes you must cause the bow arm and the fingers on the fingerboard to tremble [‘tremar’] in order to attain a suitable effect for solemn and sad music”⁸ While the suitability of a sound is of course subjective, these detailed accounts and discussions of intentionally produced vibration and its many names and techniques leave little doubt as to its use and existence in the Baroque period.

It is worth noting, however, that while the concept of intentionally produced vibration as an expressive device was a well-accepted standard in early times, treatises such as those of Ganassi or Simpson mention these devices as a tool to express and distinguish certain moods and characters. There is little to no written evidence as to the speed or length of such vibrations, just as there is no evidence from this period to suggest that vibrato should be a continuous effect.

We may speculate that performers used different speeds and lengths of vibrato before the 18th century; however, written evidence of variety in vibrato speed and length appeared only in that century. In his method book, *Versuch einer gründlichen Violinschule*, from 1756, Leopold Mozart distinguishes between three different speeds of

⁸ Sylvestro Ganassi, quoted in Jochen Gärtner, *The Vibrato: with particular consideration given to the situation of the flutist*. Trans. Einar W. Regensburg, (Germany: Anderson Gustav Bosse, 1981), 68.

left-hand vibration: “There exists, however, a slow, an accelerating, and a rapid tremulo. One can indicate the difference in this way:”⁹

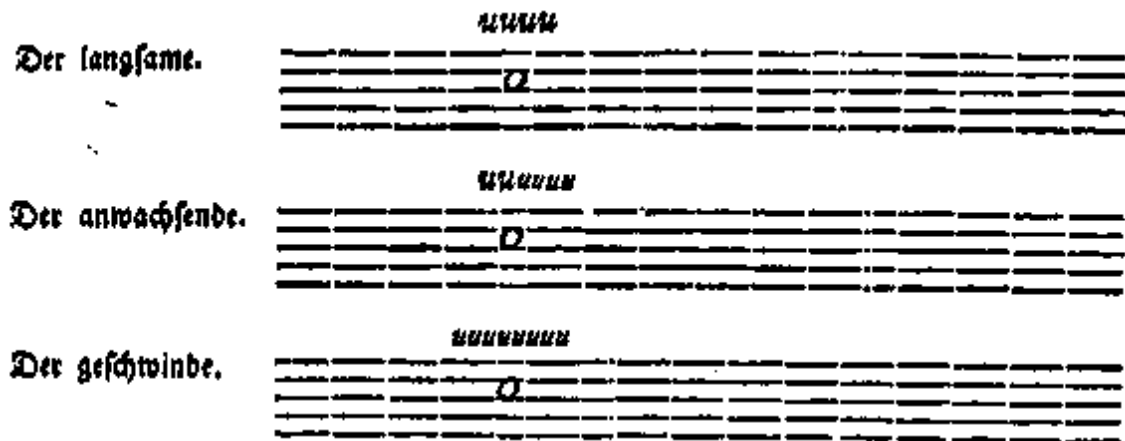


Figure 1: Leopold Mozart, *Violinschule*, Different Vibrato Speeds

These variations in speed suggest a kind of vibration that is more than a momentary jerking of the finger or the arm, and possibly even a different, more continuous vibrato. In his method book, Mozart specified when to use the accelerating type: “... one can always use an accelerating tremulo when holding out such long notes.”¹⁰ Geminiani’s *L’Art du Violon*, published five years before Mozart’s violin method book, deals with this topic in further detail: “To perform it, you must press the finger firmly upon the string of the instrument, and move the wrist in and out slowly and

⁹ Johann Georg Leopold Mozart, *A Treatise on Fundamental Principles of Violin Playing*. Trans. Edita Knocker (Cambridge: Oxford University Press, 1985), 204.

¹⁰ *Ibid.*, 206...

equally, when it is long continued swelling the sound by Degrees[sic].”¹¹ Similar to Mozart, Geminiani recommends adding vibrato on long held notes. He also gives instructions on its speed, noting it should be slow and equal, unlike Mozart, who does not go into such detail.

In addition, Geminiani advocated for the continuous and ubiquitous use of vibrato: “... it only contributes to make their sound more agreeable and for this reason it should be made use of as often as possible.”¹² Mozart, on the other hand, was ambiguous in his view of how frequently one should use vibrato: “The movement must however be made with strong after pressure of the finger, and this pressure must be applied always on the first note of every crotchet; and in rapid movement on the first note of every half-crotchet.”¹³ Earlier in the book, Mozart wrote: “Performers there are who tremble consistently on each note as if they had the palsy.”¹⁴ German Cellist Johann Justus Friedrich Dotzauer’s method book adds additional instructions on different types of intentionally produced vibration; evidence of continuity in cello vibrato would not come until late in the 19th century. We shall deal with this issue specifically in the upcoming chapters.

¹¹ Francesco Geminiani, *Art of the Playing of the Violin* (London: published by the author, 1751), 8.

¹² Geminiani, *Art of the Playing of the Violin*, 8.

¹³ Mozart, *A Treatise on Fundamental Principles of Violin Playing*, 204.

¹⁴ *Ibid.*, 203.

CHAPTER 2

THE ORIGINS OF THE MODERN CELLO

In order to be able to effectively research the evolution, history, and pedagogy of cello vibrato, we must first examine the history of the instrument itself, which in the case of the cello is not straightforward. According to the Grove Dictionary of Music,¹⁵ the term “Violoncello” as we know it today was not popularized until the beginning of the 18th century. The first mention of the word 'Violoncello' was made in Italy in 1665, in a printed edition of Giulio Cesare Arresti's *Sonate A 2. & a Tre, Con la parte di violoncello a beneplacito*, opera quarta.¹⁶ In the English translation of Sébastien de Brossard's dictionary, the “bass violin” is used to describe an instrument similar to the “violincello”¹⁷, which later became the “violoncello” or simply the cello, as we call it today.

The cause for the somewhat blurry history of the instrument is that, prior to 1665, the “bass violin,” or “violoncello” was given an array of names, which suggests there were many sizes in use throughout Europe before the beginning of the 18th century. This is supported by the fact that many bass violins were later cut down to fit the standard

¹⁵ Laurence Libin, *Grove Dictionary of Music* (Oxford: Oxford University Press, 2014), 578.

¹⁶ Mark Vanscheekuwijck, “The Baroque cello and its performance,” *Performance Practice Review* 9 No.1 (1996): 80.

¹⁷ James Grassineau, *A Musical Dictionary* (London: J. Wilcox, 1740), 329.

dimensions of the modern cello. One of the best examples of this is a cut-down cello by the famous Italian maker Andrea Amati named “The King,” circa 1570.

Painted and gilded with the arms, devices, and mottoes of Charles IX, King of France, the cello features drawings on its back surface that do not match or line up, which may be taken as evidence that the cello was cut down.¹⁸

In his article “From Violone to Violoncello: A Question of Strings?” Stephen Bonta suggests that the material used to make the strings themselves could also explain the many variations in size. According to Bonta,¹⁹ until the late 17th century, strings for the violin family were made solely of sheep gut. A growing demand for a more versatile instrument led makers to explore different instrument sizes, Bonta argued that the lack of a standardization in size is a result of the laws governing the physics of string vibration, as instrument makers looked for the perfect balance between string length, string tension and sonority.

The solution to the problem of sonority came only in the last half of the 17th century, in the form of wrapping the bottom string of a cello in silver, as opposed to simply twisting the gut several times to control its pitch. Evidence for such wrappings can be found in an advertisement at the back of the fourth edition of John Playford's

Introduction to the Skill of Music, published in 1664:

There is a late invention of Strings for the Basses of Viols and Violins, or Lutes, which sound much better and lowder than the common Gut strings, either under the Bow or Finger. It is a Small Wire twisted or

¹⁸ <https://www.cmuse.org/worlds-oldest-cello-the-king-by-andrea-amati>

¹⁹ Stephen Bonta, “From Violone to Violoncello: A Question of Strings.” *Journal of the American Instrumental Society* 3 (1977): 82.

gimp'd upon a gut string or upon Silk. I have made tryal of both, but those upon Silk do hold best and give as good a sound ...²⁰

According to the Grove Dictionary of Music,²¹ Antonio Stradivari is credited with perfecting the dimensions of the cello with his “Forma B” Template from 1707. This is also supported by Christopher Reuning, a modern day luthier, who writes about the ‘*Ex-Paganini, Countess of Stainlein*’ cello of the same year:

... This new cello measured a bit less than 30 inches in body length, but more significantly had a different and somewhat narrower outline than Stradivari’s earlier cellos and a shorter, more manageable body stop. Critical to the tonal success of the new creation was that most forma B cellos had ribs even taller than Stradivari’s previous large instruments.²²

The new template was shorter and narrower than at least thirty cellos he had made between 1680 and 1701. The new string technology mentioned by Playford could very well help determine why the ‘ideal’ (so to speak) dimensions of the cello were achieved only in 1707, with Stradivari’s “Forma B” model. In their 1902 book on Stradivari, the Hill Brothers wrote about the “Forma B” cellos:

... They stand alone in representing exact dimensions necessary for the production of a standard of tone which combines the maximum power with the utmost refinement of quality, leaving nothing to be desired: bright, full and crisp, yet free from any suspicion of either nasal or metallic tendency.²³

²⁰ John Playford, *Introduction to the Skill of Musick* (London: William Godbid for John Playford, 1664). See also Ephraim Segerman and Djilda Abbott, "Historical Background to the Strings Used by Catgut-Scrapers," *The Catgut Acoustical Society Newsletter* 25 (May 1976): 25.

²¹ Libin, *The Grove Dictionary of Musical Instruments*, 578.

²² <http://reuningprivatesales.com/stainlein/stradivari-celli>

²³ W. Henry, Arthur F. and Alfred E. Hill, *Antonio Stradivari, His Life and Work 1644–1737* (London: Macmillan And Co. Ltd., 1909), 133.

It is no surprise then that the most popular cello model in existence today is that of Stradivari, which explains why the prevailing majority of modern makers choose this model as a template to build their cellos on, thanks to its superb characteristics. The complete list of cellists that are playing, or have played a “Forma B” cello (or copies thereof) is extensive, and includes the famous examples Bernard Greenhouse (who owned the famous 1707 ‘*Ex-Paganini, Countess of Stainlein*’), Pablo Casals, Yo-Yo Ma, Mstislav Rostropovich, Steven Isserlis, Jacqueline du Pré, and Emanuel Feuermann.

Further evidence of the growing popularity of the cello over its precursors, the viol and the bass violin, is attainable by taking a look at some of the early method books for the cello. In his *Theoretical and practical Method to the violoncello*²⁴ from 1741, Corrette praises the new invention: “The cello is much easier to play than the old Bass violin its ancestor.”²⁵ He continues: “Although most composers of sonatas and cantatas from the beginning of the century composed the bass parts for the viols ... that does not keep the cello from playing them with applause. This is not meant to diminish the success of the viol which has shone in France ... until the happy introduction of the cello...”²⁶ Corrette’s publication was aimed not only at violoncellists, but also at viol players and bass violin players who were favoring the new instrument, as evident from the cover page

²⁴ Michel Corrette, *Methode, Théorique Et Pratique [Theoretical and practical Method to the violoncello]* (Paris, 1741).

²⁵ Charles Douglas Graves, *The Theoretical and Practical Method for Cello by Michel Correte: Translation, Commentary, and Comparison with Seven Other Eighteenth Century Cello Methods*, Ph.D dissertation (University Microfilms International: Ann Arbor, Michigan and London, England, 1976), 2-3.

²⁶ *Ibid.*, 1.

of his method: “The principles of music with some exercises for one and two violoncellos....moreover, a small method particularly for those who play the viol and who wish to play the violoncello.”²⁷ The trend is clear; the bass violin and the viol could match neither the violoncello’s superior sound characteristics nor its technical capabilities. It was therefore seemingly inevitable that, with the introduction of the cello, viols and bass violins gradually became obsolete.

²⁷ Ibid.

CHAPTER 3

THE HISTORY AND EVOLUTION OF CELLO VIBRATO

The 18th Century

As an ornamental device, intentionally produced vibrations were taught, discussed, and commented on well before the 18th century by Rousseau, Praetorius, Gannassi, and Simpson (see Chapter 1). The violin methods of Mozart and Geminiani signified a turning point in the role of vibrato in instrumental playing. As with most things concerning taste and cultural norms, however, vibrato was used differently in Italy than in Germany. Thus, it is perhaps not a coincidence that Mozart favored a more restrained and controlled approach to vibrato, while Geminiani encouraged its use as often as possible. The second half of the 18th century arguably saw the beginning of a trend towards using intentionally produced vibrations as a more integral part of one's playing and musicality, rather than just a momentary ornamental device. Although we are dealing with the 18th century in this chapter, a quote from Dotzauer's *Méthode de violoncello*, written a century later, offers some insight about the origins of cello vibrato:

In long sustained notes one sometimes (especially Italian professors) makes use of a type of vibration (tremolo) or trembling, which is effected by leaning the finger on the string from one side to the other with little speed. Other artists try to produce the same effect by a movement of the wrist which is called 'ondulé' and which is indicated by the sign: [music example].²⁸

²⁸ Dans des sons longtems soutenus on se sert quelquefois (surtout des professeurs italiens) d'une espèce de vibration (Tremolo) ou tremblement, qu'on effectue en inclinant le doigt posé sur la corde avec peu de vitesse d'un coté et de l'autre. D'autres artistes tâchent de produire le même effet par un mouvement du poignet

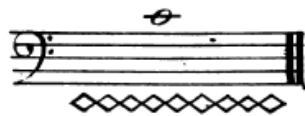


Figure 2: Dotzauer, *Méthode de Violoncello*, Vibrato Sign

Violin, flute, and voice methods from the 18th century mention vibrato in some capacity, however the search for cello pedagogy mentioning vibrato proves to be unfruitful. Cello methods of the 18th century discuss various topics such as bowing techniques, fingerboard division and fingerings, rules of ornamentations, and even rules of accompanying (which are mentioned in great detail), but vibrato (or any of the other terms associated with the effect: shake, close shake, tremolo etc.) received no attention in any of these methods. Major publications by prominent figures in the cello world, such as Pierre Azais, Jean Baumgartner, Robert Crome, François Cupis, John Gunn, Salvatore Lanzetti, and Joseph Bonaventure Tillière, all share a lack of attention to vibrato. Fascinatingly, the thumb position or “*Capo tasto*” as it was also called, which was considered to be an advanced and rather novel technique with respect to the time period, is discussed in many of the method books mentioned above. Even the cello method by Michel Corrette, which is arguably the most popular of all 18th century cello methods, does not mention vibrato or any other name that might have been used to describe a similar effect in the past.

qu'on appelle ondulé et qui s'indique par ce signe [music example] J. J. F. Dotzauer, *Méthode De violoncello* (Mainz: Schott, 1826). Translated and quoted in George Kennaway Kennaway, George. *Playing the Cello, 1780–1930*. (Vermont: Ashgate, Farnham, Surrey and Burlington, 2014), 176.

The discussion about vibrato in instrumental method books for the violin and flute, the quote from Dotzauer about vibrato, and the strikingly peculiar absence of pedagogical evidence in any of the 18th century cello method books raise a few questions. Vibrato was certainly not a foreign subject in other instrumental method books of that century and, after all, the cello belongs to the same family of instruments as the violin; in fact, one might argue that the mechanics of producing the effect are not all that different from one instrument to the other. Despite the lack of written evidence in cello method books, I would argue that cellists were trying to imitate the violin, which means they were at the very least curious as to how one might translate playing techniques to the cello.

Why is vibrato not discussed in 18th century cello method books? One possible explanation is that, unlike the violin, the cello was a relatively new instrument, and its technique was still being developed. Corrette points this out by writing: “Those Jealous of the cello will always lose their argument against the progress which it makes every day.”²⁹ Corrette also credits his method as being the first practical cello method: “Since until now there has not been a method published for this instrument which is so useful to music, I believe that the public will not be angry to have the true approach which is used now by the great masters.”³⁰

The other possible explanation for the absence of vibrato from cello method books in the 18th century concerns the repertoire written for the cello, viol, and bass violin, and the role these instruments played in music at the time. With the exception of

²⁹ Graves, *The method for Cello by Michel Corrette*, 4.

³⁰ *Ibid.*, pp.4-5

several solo pieces written specifically for the Baroque cello, the role of the 18th century cellist was mostly limited to playing continuo or an otherwise harmonically supporting role. In his method from 1751, Corrette wrote: “If all countries give preference to the cello to play the basso continuo it is not without reason, the bass being the foundation of the harmony. It is thus necessary to choose the bass instrument which is most sonorous and with which one can play all sorts of music: powerful, simple, figured, etc.”³¹

The careful reader also notices this emphasis on the cello as an accompanying instrument in most of the method books from that century, perhaps the musical function of the cello did not require the same expressiveness required of a soloist. Corrette, Gunn, Baumgartner, and many other authors of that century who published method books include one or more chapters regarding the rules of accompanying. Virtually all those methods from this time- period advocated for playing the notes as they appear on the page without any added ornamentation, especially in recitatives. After several chapters on the subject of accompanying, Baumgartner writes the following in the closing paragraph of his book:

If you accompany a solo, duet, trio or quartet, where each one plays alone, play the notes exactly and observe well the dynamics and all the written signs. Always accompany neatly and with detached strokes if there are no bow markings. It is absolutely forbidden to add ornaments, passages and other things in the accompaniment. If you do so, you will show your ignorance.³²

It is interesting to note that Baumgartner felt the need to add “other things” to his explanation of what was considered forbidden. Along with ornaments and passagework,

³¹ Graves, *The method for Cello by Michel Corrette*, 4.

³² *Ibid.*, 201.

vibrato, while recognized as an expressive device, was still considered to be under the umbrella of ornamentation, and it is highly likely that Baumgartner meant exactly that. The cello was predominantly viewed as an accompanying instrument, therefore the absence of any reference to vibrato may have been the result of a conscious choice by cellists such as Baumgartner and Correte, who advocated for a cleaner approach, especially when accompanying a singer or other instruments.

The third reason may be considered in reference to a quote from 1757. One year after Leopold Mozart wrote his violin method, Johann Friedrich Agricola wrote in his revision and elaboration on a treatise by Pier Francesco Tosi (*An introduction to the art of singing, 1723*): “It is basically impossible to express this effect through notation; it is easier to comprehend through oral instruction.”³³ Agricola discusses the pedagogical aspect of vibrato as a means of enhancing musical expression, rather than as a stand-alone, momentary ornament. It is clear from Agricola’s choice of words that notating such an effect proves to be somewhat irrelevant: duration, amplitude, and speed are all intertwined in order to achieve an effect that is pleasing to the ear. This could explain why Leopold Mozart included the notation for vibrato in his method, but at the same time gave specific instructions about its application and warned the player of overusing the effect.

³³ Johann Friedrich Agricola, quoted in Gärtner, *The vibrato*, 27.

THE HISTORY AND EVOLUTION OF CELLO VIBRATO

The 19th Century

The growing popularity of the cello in the 18th century led to a rise in demand for skillful musicians for various princely households, as well as venues in larger towns. Among the many new cellists emerging, some especially prominent individuals held an important place in the advancement of the cello. Perhaps the most influential of these cellists is Bernard Romberg. Romberg's significance to the cello is comparable to that of Louis Spohr's to the violin. Romberg's output of compositions, his career as a teacher and performer, and his cultivation and advancement of the instrument, acknowledge him as the founder of the German cello school. Similar to Spohr, who published his *Violinschule* in 1832, Romberg published a method book of his own in 1840, and perhaps it is not by coincidence that both of them were published in the same decade.

Similar to Corrette's method book of the 18th Century, Romberg's preface states that the cello methods published prior to his were not as effective as they could have been: "Though many instruction books for the violoncello have been published, in which players may find much that is useful, not one yet appeared by which he who is wholly ignorant of music can be properly taught."³⁴ Romberg was seemingly well placed to make this comment, as by the time he had published his method book he had toured Europe extensively and with great success. As in the methods books of Mozart and Geminiani, Romberg writes about vibrato:

³⁴ Bernard Romberg, *School for the Violoncello* (Boston: Oliver Ditson & Co., 1880), 3.

The close Shake, or Tremolo is produced by a rapid lateral motion of the finger when pressed on the string. When used with moderation and executed with great power of bow, it gives fire and animation to the tone; but it should be made only at the beginning of the note, and ought not to be continued throughout its whole duration.³⁵

Unlike Mozart and Geminiani, Romberg did not expand on the different speeds of vibrato. This is interesting, as the notion of different speeds of vibrato and their correlation with increasing and decreasing musical expression was an idea that became popular even in the 18th century. Spohr later developed this idea:

It can also be used to enliven and intensify long notes. If a note has a crescendo from piano to forte, it has a beautiful effect if the *Bebung* [vibrato] begins slowly and then speeds up in proportion to the increasing loudness. It also has a good effect to begin the *Bebung* fast and then gradually become slower, particularly on a loud note that ends with a *diminuendo*.³⁶

The absence of such variety from Romberg's method might have several possible explanations; a closer look at Romberg's left-hand technique reveals a possible answer. Romberg's left-hand technique is surely influenced by the technique of the violin—he advocated for a sloped left hand with the fingers perpendicular to the fingerboard, similar to the way violinists held their fingers at the time. This is apparent from an illustration of him in his method book:

³⁵ Romberg, *School for the Violoncello*, 81.

³⁶ Louis Spohr, *Violinschulle* (Vienna: Haslinger, 1832), 175.



Figure 3: Romberg, *School for the violoncello*, Author's Left Hand

Romberg writes in great detail about the shape of the left-hand fingers; his concept of perpendicular fingers is with no doubt influenced by the left hand of the violin: “The third joint of the first finger (by which is meant the joint lying nearest the hand) should be laid on the neck of the Violoncello. The fingers should be all held at a distance of at least a thumb’s breadth above the strings, and all of them curved, except the fourth which should be held straight.”³⁷

³⁷ Romberg, *School for the Violoncello*, 81.

Romberg addresses the execution of vibrato, or as he calls it the “close shake,” in the chapter discussing various graces (see footnote 35). Romberg advocated for a rapid motion of the left hand, which would result in a fast vibrato. Although he did go into as much detail as Mozart, Geminani or Spohr, he did indicate that the vibrato should only start at the beginning of a note.³⁸ Based on Romberg’s technical advice, combined with an illustration of his left hand, it is probable that his vibrato was physically tight, which would not allow much variety or continuity.


Romberg also talked about adding power to the bow whenever executing the vibrato, essentially combining both hands to produce the same effect usually attributed to only the left hand. He discusses the left hand in greater detail, with specific instructions for what fingers to use when vibrating: “The second finger will be found the best in making the close shake [...] The third finger [...] is not so well adapted to the close shake. The close shake must never be held through the whole duration of the note, otherwise it will fail in its object, which is, to add power to the tone, and should never exceed in time the third part of the value of the note”.³⁹



Figure 4: Romberg, *School for the violoncello*, Vibrato Exercise

³⁸ Romberg, *School for the Violoncello*, 81.

³⁹ *Ibid.*, 84.

Romberg views vibrato as a means to emphasize and add power to a note, (and?) this is why he chooses to combine the vibrato with added force from the right hand. Romberg's violin-like left-hand technique would certainly restrict vibrato, allowing only momentary and fast vibrato with minimal amplitude. This could explain why he limits the vibrato to mostly the second finger, and might also explain his limited use of vibrato in general. It is worth noting, however, that the markings in bars 2 and 4 are not for vibrato, but rather for what Romberg calls the "passing-shake," otherwise known as a mordent. Ironically, Romberg borrows his vibrato sign () from Spohr (who borrowed it from Mozart); Spohr—unlike Romberg—advocated for the use of vibrato as often as possible. It is clear that Romberg's technique was influenced by that of the violin; his many appearances with his cousin Andreas Romberg, who was a violinist, could have contributed to such influence. Despite Romberg's great success as a soloist, he remains orthodox in his approach to vibrato, echoing the approach of Leopold Mozart: "Formerly, the close Shake was in such repute, that it was applied indiscriminately to every note of whatever duration. This produced a most disagreeable and whining effect, and we cannot be too thankful that an improved taste has at length exploded the abuse of this embellishment."⁴⁰

Romberg's aesthetic views are consistent with his technique. However, one could even argue that Romberg's artistic approach to vibrato is a result of physical limitations due to his left-hand technique. Friedrich August Kummer, a contemporary of Romberg, published his own cello method in 1839, a year before Romberg. In the chapter "on tone and execution," he writes about vibrato:

⁴⁰ Romberg, *School for the Violoncello*, 81


Sometimes a player can lend more brilliancy and expression to a tone by a certain oscillation, produced by placing the finger firmly upon the string and letting the hand make a tremulous motion; in order to do this with more freedom, the thumb is laid quite loosely on the neck of the instrument. This oscillation, or “close trill”, as it sometimes called, is marked by the sign .⁴¹



Figure 5: Kummer, *Violoncello Method*, Vibrato Markings

Kummer’s left elbow, similarly to that of Romberg and most 19th century cellists, is still considered low by modern standards (see appendix C). Unlike Romberg, the fingers of Kummer’s left hand are not perpendicular, which would give more freedom to his vibrato, therefore not restricting it to only the second finger, as in the case of Romberg. This is clearly evident in the choice of fingering in m. 4 in the above example. Kummer even adds vibrato markings (“close trilles”) on the fourth finger (which is considered by cellists to be the weakest finger to vibrate on), as seen in the figure below:



Figure 6: Kummer, *Violoncello Method*: Study no.75, Vibrato on the 4th Finger

⁴¹ Friedrich August Kummer, *Violoncello Method* (New York: G. Schirmer, 1900), 36.

The above example is taken from the chapter “Exercises in style.”⁴² Kummer includes vibrato markings in exercises, nos. 75 and 83 (see appendices A and B), titled “Cantabile espressivo” and “Cantabile grazioso”; these markings give us a lot of information on the use of vibrato as it relates to musical expression. While Kummer’s approach to vibrato is more liberal than that of his former teacher Romberg, the frequency and placement of his vibrato markings are somewhat inconsistent. In his study no.75, Kummer adds vibrato on a half note with crescendo in m. 24, but refrains from using it in m. 12, which is marked with a growing hairpin, and is similar in expression to m. 24. In addition, Kummer does not add vibrato to the half note in m. 25, which would sound rather strange, especially if it is preceded by a crescendo and vibrato. (See appendix A). The lack of continuity in vibrato in m. 24–25 may be a conscious choice by Kummer; in both studies (nos.75 & 88), notes that are similar in value get different amounts of attention. In some cases, Kummer chooses not to put vibrato markings where it may be considered natural to do so. This sparing use of vibrato affirms what Kummer advocates for in his method: “We would however warn the pupil, not to let this practice become a fixed habit, and the leading style of his playing. He must never unlearn the art, to be able to draw with sharper outlines.”⁴³ All three individuals mentioned in this chapter thus far—Spohr, Romberg and Kummer—have one thing in common: they are all typical representatives of the German school, which considered vibrato primarily an expressive device, intended to be used at musical high points and lyrical turning points, rather than as an added color to one’s general sound. This helps explain Kummer’s apparent lack of

⁴² Kummer, *Violoncello Method*, 81.

⁴³ *Ibid.*, 37.

consistency in his vibrato markings. Evidence of this approach to vibrato comes from a quote by the famous German flute virtuoso Bernard Fürstenau (1792–1852). In his method book from 1834, Fürstenau discussed in detail the artistic importance of vibrato:

If this technique is to be used appropriately, there has to be a sincere, self-aware, deep emotion connected with it; and it may not appear as simple superficial imitation of the voice, in which case it would be ridiculous, since an instrument in such cases can only approximate the actual charm and attraction of the human voice. By no means should it be used everywhere, even in a piece of music in which numerous places of passionate emotion occur; rather only there, where the emotion expresses itself most clearly. When there are repeated such places of this sort, then only use the vibrato for one or two places; all too easily the frequent use of this technique can appear as sickly sentimentality, and the continuous use thereof can become a miserable whining, which has of course a highly unpleasant effect. If the *Bebung* [vibrato] is to be used aesthetically successful without fail, it must be limited to a single note, with three or four vibrating pulses only, and only on the notes which represent the culmination of the passionate feelings of the piece. A more sustained *Bebung* than this is difficult to carry out well; depending on the circumstances, the effect of the brief *Bebung* can be significantly heightened by associating it with a *crescendo* or *sforzato*.⁴⁴

In the case of the cello, it is difficult to determine exactly how much vibrato was used and how often, since in most of the scores from that period vibrato markings rarely appear. As for the German school, it is easier to understand this issue since all leading figures of that school mentioned here were very specific about their views on vibrato and its notation. One might claim that the popular German view of vibrato, with some exceptions, favored its restrained and judicial use. In addition to leading musical figures cited here, such as Romberg, Leopold Mozart, and Fürstenau, many German critics would often complain about the issue of overusing vibrato. A review of a concert which Kummer gave in Dresden appeared

⁴⁴ Gärtner, *The Vibrato*, 33, citing Bernhard Fürstenau.

in the famous *Allgemeine Musikalische Zeitung*⁴⁵ in August of 1845, in which the anonymous reviewer praised Kummer for his restrained use of vibrato:

...Herr Kummer [...] has avoided that whining note of insipid salon sentimentality, [...] the predominant expression of mourning and pain remains almost consistently a manly composure, healthy, noble, in complete contrast to certain fashionable compositions of this genre, whose sickly affection and revolting effeminate coquettishness of feeling often cause positive physical discomfort, leaving [anyone with] a strong, pure temperament the most disagreeable feelings.⁴⁶

Based on this review, we can ascertain that many performers used a kind of vibrato that was considered only suitable in pieces of music that were heard in music salons, which were popular in Europe in the 19th century. These pieces would encourage a more Romantic and outgoing approach from the performer, which, in the case of the cello, translated to using more vibrato as a way to show sentiment. This approach to vibrato was in direct contrast to the musical aesthetics of Romberg, Fürstenau, and many German musicians. Apart from identifying sentimentality with gender, the critic also implies that many instrumentalists used vibrato as a way to mask their unhealthy tone.

⁴⁵ The '*Allgemeine musikalische Zeitung*' was a German-language periodical published in the 19th century, reviewing musical events taking place mostly in Germany but also in other countries such as France, Russia and Italy. The journal included important material, such as E.T.A Hoffmann's review of Beethoven Fifth Symphony, as well as articles by Robert Schumann and Franz Liszt.

⁴⁶ 'Was uns besonders darin angesprochen, ist, das Herr Kummer, mit Ausnahme einiger wenigen Stellen, jenen weinerlichen Ton fader Salonsentimentalität vermeiden hat, dass der in der Elegie vihrherrschende Ausdruck der Trauer und des Schmerzes fast durchgehends ein männlich gefasster, edler und gesunder bleibt, ganz im Widerspruche mit gewissen dieser galtung angehörigen Modcomposition, deren krankhafte affectiation und widerlich wiebische Geföhlscoquetterie oft fürmliches physisches Unwohlsein vernsachen, und wovon eine kräftige, unverdorben Natur sich nor auf's Unerquicklichtest berührt fuhlen kann.' Anon., 'Recensionen', AMZ, 32, (1845), 536, translated by George Kennaway.

Curiously, Kummer and Dotzuer both warned against a vibrato being more important than the ability to draw a good, round tone. While many were criticized for their “sentimental” tone, there is no written indication as to the actual width of the vibrato. Based on technical instructions and other information given in method books, combined with notes offered by music critics, one would be inclined to think that the popular German vibrato (that of Romberg and Kummer and many musicians who advocated for a more ‘classical’ aesthetic of sound production) was narrow and produced with moderate speed. This also means that in 19th century Germany there was, in all likelihood, some disagreement about the employment of vibrato, at least from a musically aesthetic point of view. One of the reasons for the majority of critics and teachers to show their dislike was that there were many musicians whose vibrato was presumably too wide for the aesthetic of the time, or was at least very noticeable in some shape or form.

In 19th century Italy, documented evidence of vibrato is patchy and not straightforward. Unlike the body of work produced by their German colleagues, a consistent and sustained output of method books written by Italian cellists is virtually non-existent. One of the main reasons for such a dearth concerns the state of instrumental music, and particularly cello performance, in Italy at that time. Louis Spohr, who visited Italy in 1816, expressed himself in his autobiography regarding the condition of instrumental music in Italy, as did Felix Mendelssohn some time later. Born in 1743, Luigi Boccherini was regarded as one of the great masters of the Italian cello school. Boccherini’s popularity as a cellist and a composer led him to spend the majority of his career in Spain, thus there was no one to cultivate the instructional art of cello in Italy.

Perhaps as a result of Boccherini's early departure from his native land, there are only five cello methods in total published in Italy in the 19th century: Pietro Rachele's *Metodo Breve*, published in Milan in 1837; Gaëtano Braga's *Metodo Per Violoncello Intieramente Riformato*, published in Milan in 1878; Fiorino Ferdinando's *Metodo Completo Per Violoncello*, published in Rome in 1876; and Guglielmo Quarenghi's *Metodo di Violoncello*, published in Milan in 1877. The fifth method book published by an Italian professor was by Alfredo Piatti. Born in 1821, Piatti was regarded as a leading figure in Italian musical circles, much like Boccherini. In 1878, almost a century after Boccherini's birth, Piatti's cello method was published. However it was not published in Italy but rather in London. The first publication was in English and French; later editions included German. Given Dotzuer's quote about Italian professors, Piatti's method is surprisingly the only cello method by an Italian professor to directly mention vibrato:

This term, though rarely written in music, is essentially a feature of artistic interpretation. The use of it vitalizes the tone and increases the power of expression. It consists of a wide movement of the left hand (not a trembling motion) and should be acquired by practicing (preferably with the 2nd finger) a slow semi-circular movement coming from the wrist. By this means the finger will alternately sharpen and flatten the note, thereby creating "vibrato". Joachim termed it pulsation. The thumb should remain in contact with the neck, except when using the fourth finger when it may be temporarily released.⁴⁷

Piatti, like many others, considered vibrato an expressive tool. However, a few interesting things in this quote should be noted. Piatti is the first cellist to include not only the purpose of vibrato, but also detailed technical instructions on how to execute it; he even specified the desired speed and amplitude. Although we will never be able to know

⁴⁷ Alfredo Carlo Piatti, *Violoncello-Schule* (London: Augener, 1878), 48.

exactly how wide or slow Piatti's suggested vibrato was, we can deduce from his instructions that Piatti's understanding of vibrato was more developed than that of Romberg, who simply calls for a rapid motion of the finger. Piatti also refers to the vibrato originating in the wrist, and not just the fingers. This is a more modern view of vibrato, and in this respect, Piatti is ahead of his time.

It is worth noting that Piatti's ideas bear an interesting resemblance to the methods of Dotzauer and Romberg, and at times it seems that, for Piatti also, the second finger is the best for using vibrato. However, he also included instructions regarding the placement of the thumb when vibrating with the fourth finger, which suggests his left hand was not as tight as that of Romberg, for example. Piatti was very specific about the motion needed to produce vibrato; he says that vibrato is not a trembling motion, but rather a semi-circular, slow motion. It might not be a coincidence that Piatti's description echoes that of Dotzauer: "In long sustained notes one sometimes (especially Italian professors) makes use of a type of vibration (tremolo) or trembling."⁴⁸ It is likely that other Italian cellists shared the same mindset as Piatti, which also supports Dotzauer's comment above. Piatti was the only one to organize these ideas in writing. His understanding of the function of the wrist in producing vibrato signifies an evolution in the way the technique was perceived up to that point.

Although Piatti's method mentioned vibrato in much greater detail than the works of his German colleagues, accounts on his playing from several sources, including his students, suggest that he had more in common with the aesthetics of the German school

⁴⁸ J. J. F. Dotzauer, *Méthode de violoncello*, 47.

of cello. Horace Fellowes, an amateur musician, recalls a performance of Beethoven's first 'Razumovsky' Quartet, Op. 59. No.1, with Piatti as the cellist. In his memoir, Fellowes indicates that Piatti used vibrato very sparingly.⁴⁹ Harold Gorst, one of Piatti's students, also mentioned that his teacher did not advocate for the constant and uncontrolled use of vibrato, remarking to Gorst in one of his lessons: "My dear friend, we cannot *always* be in passion."⁵⁰

The next notable evolution in cello vibrato comes from Belgium. The Belgian-born Adrien François Servais, one of the most well-known representatives of the 19th-century virtuoso-Romantic style, was a central figure in the development of the art of cello playing. Servais's output of original concert works, combined with his unique and Romantic performing style were a reflection of the new taste, and his compositions had much in common with the works of Nicolo Paganini and Franz Liszt, whom he knew and admired. Servais's art was different from his predecessors, who favored austerity and restraint. The "academicacademic" tendencies of Romberg were already foreign to Servais, who was forty years younger. Servais stands out as a cellist not only because of his different, Romantic approach to cello performance, but also because of the grace of his virtuosic technique, so different from that of Romberg, which was heavy and outdated by the middle of the 19th century.

Servais started his musical education early as a violinist, but after hearing the violoncellist Nicolas Joseph Platel (assumed to be the founder of the Belgian cello

⁴⁹ George Kennaway, *Playing the Cello, 1780–1930* (Vermont: Ashgate, Farnham, Surrey and Burlington, 2014), 138.

⁵⁰ *Ibid.*, 138.

school) Servais picked up the cello. He entered Platel's class at the Royal School of Music in Brussels, and in 1829 became his assistant at the same school. It is perhaps his foundation as a violinist, and his later encounter with Paganini that contributed to him being a great virtuoso of the cello. Servais's reputation grew after a series of successful concerts in Paris, which led to tours in Holland, Germany, Austria, Sweden, Norway, Denmark, and Russia, all of which were brilliant triumphs. According to Dr. Lev Ginsburg, the author of *History of the Violoncello* (1983), Servais visited Russia several times during his lifetime, becoming close friends with the most successful Russian musicians. Ginsburg notes that Servais' concerts in Russian capitals and provincial towns were undoubtedly a stimulus to the popularization of the cello in Russia. Almost all of the music critics who wrote about Servais praised his technique and virtuosity, however not all of them were fully convinced by his expressive taste and style of execution. One reviewer wrote:

...rather piquant than profound, rather elegant than inspired. The great ease and precision with which Herr Servais overcomes technical difficulties and, perhaps, his command of the superficial devices producing the greatest effect on large audiences all help to give an impression of coquetry with the public, which is so obviously indicated by his mannerism of playing... We are certain that Herr Servais' achievements might have been aesthetically more significant and their impact on artists and educated art-lovers deeper and more lasting, had they been more sincere, natural and free of manners alien to and contradicting true art. It is quite possible that the crowd would have applauded less enthusiastically, but the standing of Herr Servais as a master would have been far higher, very high...⁵¹

⁵¹ Lev Ginsburg, *History of the Violoncello*. Trans. Tanya Tchistyakova, (New Jersey: Paganiniana Publications, 1983) 34, citing a review from AmZ, 1844, No. 18, 310. Trans. By Dr. Lev Ginsburg.

It is safe to assume that this reviewer was an advocate of aesthetics that would be identified with certain, more conservative German circles, since Servais was warmly welcomed by many other German critics and music lovers. Hector Berlioz himself wrote positively about the Belgian cellist: “In the second concert we discovered a first class talent, of Paganini’s standing, which amazes, touches and fascinates by its courage, flights of feeling and vehemence: I am speaking of the great violoncellist Servais. His singing is heartfelt, without any exaggerated emphasis, with grace and without affectation ...”⁵². The quote from Berlioz is interesting; although he does not mention vibrato directly, Berlioz found it suitable to mention that Servais did not use any devices that sounded foreign and out of place to his ears. It is clear that Berlioz preferred the virtuoso-Romantic style, which, despite some critical opinion, was growing in popularity in the second half of the 19th century in Germany, and is one of the reasons Servais holds such an important place in the legacy of cello playing.

As a composer himself, Servais wrote solely for the cello. He preferred the fantasia genre of composition, which gave him plenty of opportunities to include expressive devices such as vibrato. Alongside words of praise for his virtuosity, Servais drew considerable criticism aimed at his style of execution, especially in the later part of the century. Apart from the review mentioned earlier, Servais was criticized for using too many tricks and superficial effects. In 1866, the Russian critic Pavel Makarov left a rather detailed and graphic description in his review of Servais’s concert tour from the same year:

⁵² Ginsburg, *History of the Violoncello*, 34, citing Hector Berlioz.

At his recitals Servais played his own compositions, i.e., early stale and antediluvian forms of fantasias on meaningless themes from Italian and French operas, the most unbearably banal of which was his fantasia on the opera *Lestocq*. His playing is based on superficiality that passes for feeling: he either nods charmingly, or gracefully waves his left hand when passing to an open string – quite ‘chic playing’, I must confess. But there is not the force or completeness which the playing of our Russian cellist Davydov truly abounds in.⁵³

The sole written criticism on Servais' vibrato comes from the same review:

Servais' bowing certainly does have more lilt than Davydov's, but this very lilt is full on the unending sugary vibrato that one would, no doubt, like to cleanse one's ears with full and clear sounds, as one would like to have some plain water after eating candies. In his time, Servais might certainly have been the king of all cellists, and surprised Europe with his playing – probably so, but his time has flown away irretrievably⁵⁴

Makarov's quote may very well be the only one to directly mention Servais's vibrato. With other critics writing about his style, however, it is possible to piece together an educated assumption on Servais's vibrato habits, and it would be admissible to claim that Servais, in contrast to his predecessors, was one of the first cellists to use vibrato constantly and whenever he could, and that it was likely on the wider side. Auguste van Biene, one of Servais's prominent students, vibrated constantly. These cellists and others will be discussed in more detail in the next chapter.

Curiously, Servais never included the word “vibrato,” nor did he use a wavy line to indicate any such effect in his compositions. He would often use other instructions in French and Italian, such as “*con espress.*” or “*avec*

⁵³ Ginsburg, *History of the Violoncello*, 52, citing Pavel Makarov, *St. Petersburg concerts – Muzikalny svet*, 1866, No. 6.

⁵⁴ Ginsburg, *History of the Violoncello*, 52, citing Paul Makarov, *St. Petersburg concerts – Muzikalny svet*, 1866, No. 6.

abandon,” which implied some sort of expression. Sometimes, Servais used these instructions in conjunction with repeated accents. Depending on the musical context, one might interpret these markings as vibrato:



Figure 7: Servais, *Grand Duo Brilliant*



Figure 8: Servais, *Grand Fantasia sur des Motifs de L'Opera Lestocq*



Figure 9: Servais, *Fantasia Lu Romantique*



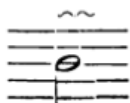
Figure 10: Servais, *Souvenir de Spa*



Figure 11: Servais, *Concerto no. 2, 1st Movement*

One of the last cellists of the 19th century to include vibrato in a method book was the German cellist, composer, and music writer, Edmund van der Straeten. Born in Düsseldorf in 1855, he published a few books on the history and techniques of cello performance. In his method book, *The Technics of Violoncello Playing*, published in London in 1898, he wrote:

The latter denomination (close shake) which was still in use some fifty years ago, has now made room for the Italian word “vibrato.” It is produced by pressing the finger which stops the note thus to be embellished, firmly on the fingerboard, while the left hand performs a trembling up and down motion which can be modified in speed as the time and phrasing may dictate. The student cannot be warned too earnestly against the abuse of the vibrato, as it is quite as objectionable on an instrument as in a voice. Romberg says “that the close shake was (during the latter part of the eighteenth century) in such repute that it was applied indiscriminately to every note of whatever duration. This produced a most disagreeable and whining effect, and we cannot be too thankful that an improved taste has at length exploded the abuse of this embellishment.” It is thus indicated:⁵⁵



It is interesting to note that Van der Straeten sent a copy of this method book to a few notable cellists, two of which he then quoted in the opening pages of the book: Alfredo Piatti and David Popper. The cellists both approved of his method, perhaps an attempt by Van der Straeten to reinforce the validity of his own method. Although he wrote that vibrato could be modified in speed, he essentially advocated for the same ideas and

⁵⁵ Edmund Van der Straeten, *The Technics of Playing* (London: The Strad Office, 1898), 135.

aesthetics that were presented by Kummer and Romberg (which he quotes) and many other German musicians half a century earlier.

In his book *Chats to 'Cello Students*, published a year after Van der Straeten's method, Arthur Broadly includes vibrato in the chapter on graces and embellishments:

The vibrato or close shake is produced by shaking the left hand from side to side, the finger tip—which stops the note on which the vibrato is produced—forming the pivot. The soft fleshy cushion which forms the tip of the finger, seems to grip the string, and should not on any account be allowed to slide out of tune; thus the effect must never be so exaggerated as to allow the beats to be varied in pitch, the result should merely be a kind of throbbing. A good effect is produced in a sostenuto theme by commencing the vibrato slowly on a crescendo note. As the crescendo gathers in force, the throbbing of the vibrato is increased in rapidity; much practice is necessary to accomplish the gradual increasing or diminishing of the speed, without any break being observable in either the increasing of the tone, or the vibrato beats. The natural law with respect to the variety in vibrato effects may be given as follows. A note low in pitch, or a note played piano, requires a slow vibrato, a higher note, or a note played forte and passionately, requires a rapid vibrato. The student must be cautioned not to introduce the slow vibrato too freely, although he may see many players constantly wag the hand in sustained or passionate passages, this is not always done to produce a vibrato effect, but is often intended to give a thrilling tone by a clearly defined stopping of the note.⁵⁶

While Broadly touches on many subjects that have been brought up before, as far as general vibrato is concerned, one can observe a much more technical and detailed awareness of the physical parameters that produce it, along with what Broadly calls “the natural law” of variety in vibrato, which perhaps echoes the method of Leopold Mozart, however with much greater detail and clarity. As far as the cello is concerned, Broadly's detailed approach to cello

⁵⁶ Arthur Broadly, *Chats to 'Cello Students* (London: The Strad, 1899), 152.

vibrato signifies a change in the approach to the topic of vibrato, and arguably sets the stage for the technique and pedagogy of vibrato in the 20th century.

THE HISTORY AND EVOLUTION OF CELLO VIBRATO

The 20th Century

The 20th century marks a significant turning point in the evolution of cello vibrato with regard to the topic of vibrato, and can be best described as a combination of musical instinct, logic, laws of physics, and careful observation of the craft. In some cases, the curious and sometimes science-based endeavor to discover what makes the effect so acoustically pleasing, fostered the development of technological devices that made it possible to physically measure the effect of vibrato. Pedagogues would sometimes include technical diagrams and other intricate illustrations to accompany their writing, all in an effort to help explain the physics behind the production of the effect, unlike in the previous century, where the majority of cellists would merely describe it in words. It is important to note this new approach to vibrato **evolved** gradually over the course of the century. By the early 1900s, technology had made it possible for cellists to record, and one can learn a great deal about the evolution of vibrato simply through careful listening. However, to simplify matters, this chapter will focus on the pedagogy of vibrato in the 20th century.

One of the first cellists to write in depth about vibrato was the Armenian cellist Diran Alexanian. Alexanian published his method in 1922, while serving as assistant to

Pablo Casals at the École Normale de Musique⁵⁷ in Paris. In his book, Alexanian starts by explaining why he thinks the use of vibrato was encouraged neither often, nor as constantly:

The Vibrato is one of the most active factors of the “fullness” of tone-color. The old school forbade its regular use, no doubt on account of the inaccuracy of pitch that its execution engendered. I know a very aged violinist, who maintained that the vibrato was an unhealthy habit brought on by the lack of control of the pureness of sound, and that string-instrumentalists would make a grave error in permitting a trembling of the left hand, as grotesque and indefensible as the quavering of certain badly placed voices. This reasoning was based upon an inexactitude. The vibrato is not any more a quavering than the “portamento” is a chromatic scale.⁵⁸

It is possible that when Alexanian referred to the “old school,” he was referring to the method of Romberg and his contemporaries, which was based on limited technical knowledge and a lack of freedom in the left hand. Furthermore, in the context of “regular use,” it is likely that Alexanian means that continuous vibrato was not permitted or that it was not popular in some musical circles. Therefore, it is likely that the idea of continuous vibrato was already the standard circa 1920. This idea is supported by the fact that in most recordings from that time period, cellists use vibrato constantly. Alexanian expands on the technical ideas of Arthur Broadley, and takes them a step further:

The pressure on the string should be made by the tip of each finger, at a point on the inner side of the latter, corresponding to the line of the “cut” of the nail on the outside.....This place of pressure is suitable for the vibrato. It offers, indeed, on the one hand sufficient firmness to produce a clean sectioning of the string; on the other hand it is fleshy enough to

⁵⁷ The term “École Normale” (English – Normal school) means the school was focused on teacher training and intended to produce music pedagogues, as well as concert performers.

⁵⁸ Alexanian, Diran. *Theoretical and practical treatise Practical Treatise of the violoncello Violoncello*. trans. Fredrick Fairbanks (Paris: A.Z Mathot, 1922), 96.

bring about, by the simple oscillating movement of the forearm, without any change of place a change in the point of division of the string. The oscillation of the hand produces, notwithstanding the firmness of the fleshy part of the finger, a slight internal deviation of the bone.⁵⁹

The more scientific approach to vibrato is evident here, as Alexanian was very organized and specific in his instructions. This approach is especially evident when Alexanian discussed vibrato with regard to long notes: “In general, it is advisable that the 1st, 2nd, 3rd, and 4th fingers should be brought together during the execution of a long vibrato on a single note. As the hand thus forms a concentrated mass, it bears more effectively on the nut finger, and this is very useful for the vibrato.”⁶⁰ We can see that Alexanian’s approach to vibrato is influenced to an extent by a knowledge of physics, more specifically the moment of inertia of rotational mass. This scientific phenomenon was known and written about as early as the 17th century, however it is not until the 20th century that pedagogical evidence of such an informed approach was related to the cello, as in the case of Alexanian.

As far as the amplitude and frequency of vibrato, Alexanian gives similar instructions to those of Broadley: “For weak sounds the vibrato should be spaced and supple. For full sounds the vibrato should, on the contrary, be rapid and nervous ... In a ‘piano’ a rapid tremor would not fail to give an impression of feverishness. A ‘forte’, on the other hand would appear weak and nerveless in if played with slow undulation.”⁶¹

⁵⁹ Alexanian, *Theoretical and Practical Treatise*, 96.

⁶⁰ Ibid.

⁶¹ Ibid., 97.

Alexanian was also very specific about the desired interval of the vibrato: “The ‘friction’ to be obtained might be compared to a trill consisting of two tones, an eighth of a tone at the maximum, apart, and produced by a single stationary finger.”⁶² Alexanian offers the following exercises for developing vibrato:

Figure 12: Alexanian – *Theoretical and Practical Treatise*, Vibrato Exercise

Figure 13: Alexanian – *Theoretical and Practical Treatise*, Frequency of Vibrato

Alexanian’s profound technical understanding of the left hand allowed him to have exceptional freedom of movement. In addition to vibrato exercises, he includes examples of vibrated trills and even vibrated double-trills (as opposed to articulated double trills, which are included as well). The execution of vibrated double trill demands a strong yet fast and flexible left hand:

⁶² Alexanian, *Theoretical and Practical Treatise*, 97.

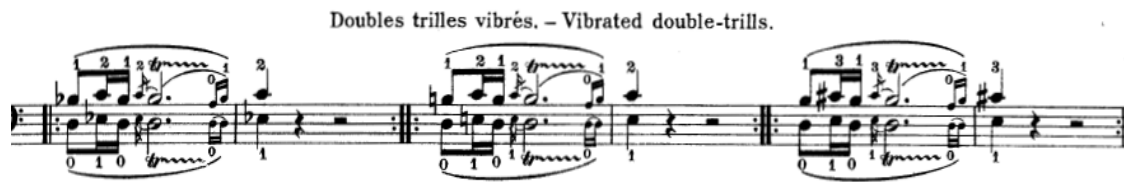


Figure 14: Alexanian – *Theoretical and Practical Treatise*, Vibrated Double-Trills

Maurice Eisenberg, one of Alexanian’s most notable students, maintained that vibrato should be taught as soon as the pupil shows a desire to learn it. At the same time, Eisenberg said that a student should not be taught vibrato before he has gained a measure of security in putting the fingers in the right positions: “It is also advisable to wait until the player experiences the urge to shake the finger in order to produce a more interesting and vital quality of tone.”⁶³ Eisenberg’s approach to vibrato was greatly influenced by Pablo Casals, who maintained that there should be a great deal of variety in vibrato, including times where one should not use any vibrato at all: “This occurs in the soft passages in the Adagio in Beethoven’s Opus 102 No.1.”⁶⁴

In his book, Eisenberg gives a similar musical example when discussing the many shades and nuances of vibrato. In this case, he used the words “veiled, almost muted.” By way of contrast, he also included the opening of the Lalo Cello Concerto, using the words “vivid brilliance” to describe the type of sound quality and vibrato.

⁶³ Maurice Eisenberg, *CELLO PLAYING OF TODAY* (Kent: Novello & Company Ltd., 1957), 109.

⁶⁴ Samuel & Sada Appelbaum, *THE WAY THEY PLAY* (New Jersey: Paganiniana Publications, 1972), 276. Quoting Pablo Casals.

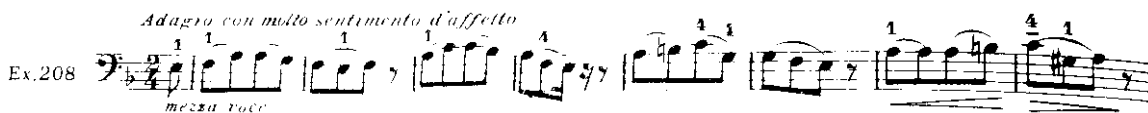


Figure 15: Eisenberg – *Cello Playing of Today*, Excerpt from L.V Beethoven Sonata Op.102 no.2



Figure 16: Eisenberg – *Cello Playing of Today*, Excerpt from the Opening of Lalo Cello Concerto.

Eisenberg also regarded race and temperament as crucial factors in the evolution of one's vibrato:

Take for example the French. Speaking generally, they are infinitely more volatile and exuberant than the Anglo-Saxons, and their violinists, violists, and cellists tend to produce a tone that is tighter and more brittle than that of their neighbours to the north or East, mainly because they so often use a tense, quick and rather narrow finger oscillation. This is a reflection of their national temperament.⁶⁵

In a similar vein, Eisenberg also advocated for different vibrato types with respect to the nationality of the composer. For example, vibrato that is fast and narrow might be suitable for French music, but will have to be tempered when performing works by Bach, Brahms, or Beethoven.

It seems that, by the first quarter of the 20th century, there was a consensus among cellists about several aspects of vibrato, and its pedagogy:

- 1) Vibrato is an aesthetic necessity, and is considered an integral part of the sound;

⁶⁵ Eisenberg, *CELLO PLAYING OF TODAY*, 108.

- 2) Vibrato have as much variety as possible in the amplitude and frequency of the vibrato;
- 3) Vibrato types requires care, and should follow the musical contour (often this would be compared to a painter blending different colors);
- 4) Vibrato starts at the forearm, and should be even across all fingers, regardless of position;
- 5) The fingers should be close to each other, to allow a more efficient control of the mass;
- 6) Variety in vibrato must be developed requires conscious, slow practice.

There were of course variations to these widely accepted principals. Paul Bazelaire's, *Pédagogie Du Violoncelle* advocated for a slightly different principle: “**Quavering** (the fingers must not be held close to each other; each must be independent – one finger only on the string. The others remaining **above their normal position**).”⁶⁶ Bazelaire's idea of keeping the fingers over their respective positions while vibrating seems to conflict with that of Alexanian, and would in theory cause the vibrato to be slower, however his 1934 recording of the Saint-Saens Cello Sonata No.1 proves the opposite.

Up to this point in history, the majority of cellists approached the topic of vibrato from a physical standpoint, i.e. by describing the bodily motions needed to produce vibrato. A few cellists in the 20th century went so far as to combine actual scientific

⁶⁶Paul Bazelaire, *PÉDAGOGIE DU VIOLONCELLE*, trans. Henriette de Consant. (Philadelphia: Elkan-vogel Co., 1960), 22.

knowledge with the technical aspect of producing vibrato. Gerhard Mantel, who published his book, *“Cello Technique: Principals and Forms of Movement,”* in 1972, wrote extensively about vibrato. His multi-disciplinary approach to vibrato combines the physical act of producing the effect with its psychological perception. Mantel wrote the following about the physiological aspect of vibrato:

Since vibrato is produced by a cyclic variation of the pitch (occasionally also a cyclic variation of the volume), it seems to contradict the general aim of precise intonation. Its use can be explained, however, by reference to the psychological phenomenon that one’s attention is attracted more by changes in the environment than by particular state of things.⁶⁷

In addition to the principles of previous cello methods that simply called for variety in vibrato speeds and amplitudes, Mantel stresses listener perception in the process. Mantel advocates for constant variety within the tone in order to avoid losing the listener’s attention. Mantel warns, however, against too many changes: “The principle of attracting attention by changes may also have negative implications. If the vibrato swings irregularly, certain tiny unintentional accents develop, which disturb the musical process by superimposing themselves on the actual structure and thereby neutralizing the expression.”⁶⁸ Mantel advocated for what he called “rolling vibrato,” which refers to the motion of rolling the finger back and forth, and subsequently also to the wave of sound. Mantel says the vibrato should be like a pendulum, having not only regular frequency, but also resembling the shape of a pure sine wave. He offered the following diagram to illustrate this point:

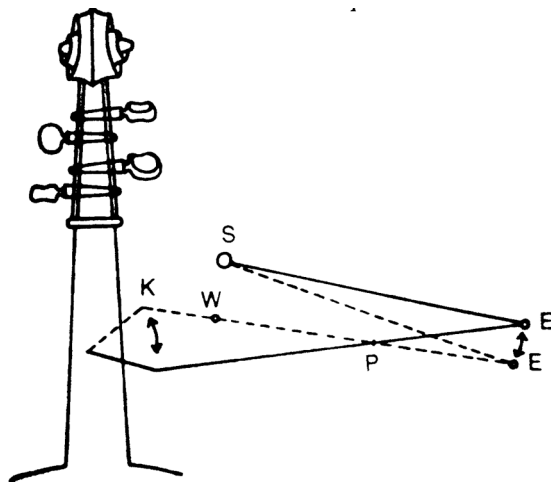
⁶⁷ Gerhard Mantel, *Cello technique: Principles and Forms of Movement*. Trans. Barbara Haimberg Thiem (Bloomington, IN: Indiana University Press, 1975), 97.

⁶⁸ Ibid.



Figure 16: Mantel — *Cello Technique, Vibrato Wave*

In the above diagram, example (a) represents the ideal pendulum-like, rolling vibrato. A saw-like wave (b) will make a jerky and nervous impression according to Mantel. Further in his book, Mantel openly discussed all possible physical and sonic options that might make vibrato the most efficient and effective, concluding that of all possible movements that create vibrato, upper-arm vibrato is the most advantageous. Mantel also observed that large mass requires only a short initial impulse, and therefore the rest of the movement follows the laws of inertia and the pendulum effect. This physical phenomenon allows for continuous vibrato even when changing fingers, with minimal effort. Mantel illustrates this using the following diagram:



S: Shoulder, E: Elbow, P: Pivot point, W: Wrist, K: Knuckle

Figure 17: Mantel – *Cello Technique, Movement of Vibrato*

A common challenge for cellists is vibrato of the fourth finger. Many will choose to avoid it for vibrato if they had the option, and it is often perceived as a weak finger for vibrato due to its relative short lever. Mantel observed that the width of the finger is directly linked to the amplitude of the vibrato, e.g. players with narrow fingers will need to have a bigger amplitude in order to achieve the same vibrato as players with thicker, fleshier fingers. Since the fingertip of the fourth finger is much narrower than that of the other fingers, Mantel observed that the finger would need to have wider amplitude to achieve the same sonic perception of vibrato on a wider finger, for example the second finger. Mantel suggests that if the amplitude is still not wide enough, one can actually shift slightly in and out of position to achieve the desired effect. This idea of shifting slightly in order to have a wide enough amplitude of vibrato is somewhat unorthodox, as it can have an adverse effect on intonation and is contradictory in nature to the production of a healthy, stable vibrato. Some cellists of the 20th century, however, use this “shifting vibrato” technique successfully and in a convincing manner, such as the American cellist Ralph Kirshbaum.⁶⁹

Another example of a scientifically-driven approach to vibrato is Christopher Bunting’s *“Essay on the Craft of Cello Playing”*. Like Mantel, Bunting also advocated for a vibrato that if measured, would be ideally similar to a sine wave:

⁶⁹ itsyoshi. “Ralph Kirshbaum Bloch Schelomo (Part1).” Online video clip. YouTube, May 22, 2010. <https://www.youtube.com/watch?v=ojPCNdoTHD0>

“I am fully aware that another component of beauty is a ‘humanizing’ and ‘imperfecting’ of the platonic... Nevertheless, I believe our basic vibrato must be in Simple Harmonic Motion.”⁷⁰

Bunting included several diagrams to illustrate his point (see Appendix D), two of his illustrations specifically show the correlation between the shape of a sine wave and the physical movement needed to produce vibrato:

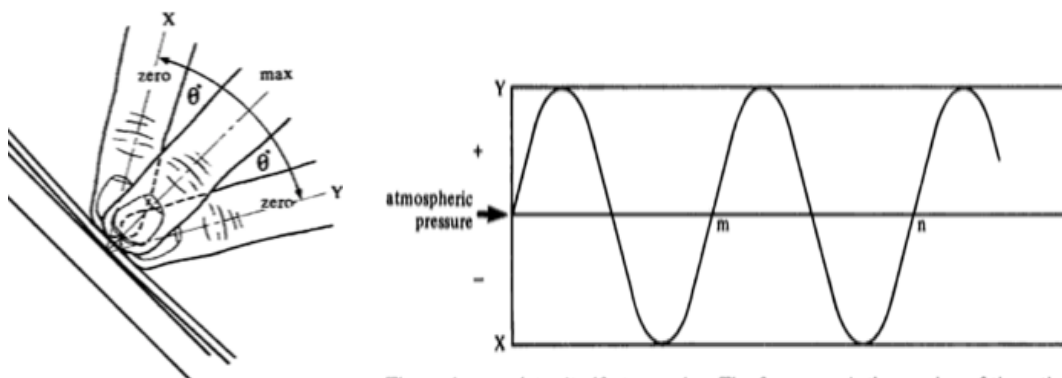


Figure 18: Bunting – *Essay on the Craft of Cello Playing*, The Correlation of a Sine Wave to the Motion of Vibrato

⁷⁰ Christopher Bunting, *Essay on the Craft of ‘Cello-Playing* (London: Cambridge University Press, 1982)), 49.

THE HISTORY AND EVOLUTION OF CELLO VIBRATO

The 21th Century

Up through the 20th century, in the present study, it has been observed that the prevailing-majority of notable cellists who wrote method books are in agreement on one thing: vibrato should not be taught until the student has developed the desirable amount of reliability and confidence in their fingers.⁷¹ With a few exceptions, most given vibrato exercises consisted of learning vibrato at the cello, fully pressing the finger to the fingerboard.

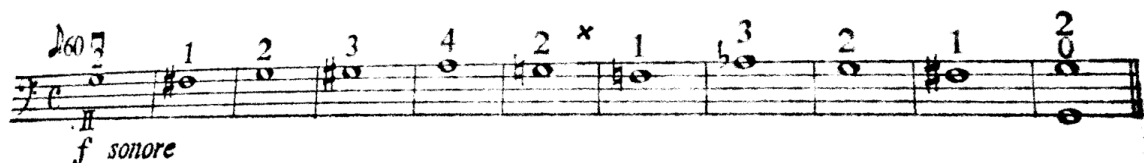


Figure 19: Stanfield – *The Intermediate Cellist* – Vibrato Exercise

While the function of vibrato remained the same for almost over two centuries, our understanding of it evolved. Towards the end of the 20th century, method books included “other” approaches to developing a healthy vibrato on the cello. One of the most notable examples to this changing trend is Phyllis Young’s *Playing the String Game*, published in 1978. Young’s book includes many exercises that start *away* from the fingerboard. Like Young, Benjamin Whitecomb believed that students could achieve much even without the instrument itself: “Sometimes, it can be very helpful to practice

⁷¹ William Pleeth, *Cello* (London: Kahn & Averill, 1992), 191. See also Appelbaum, *The way they play*, 286 and 288.

your vibrato *away* from the cello, on any flat surface. In this way we can more easily isolate the motion in the hand.”⁷²

In her article “Easing Into Vibrato,” published in 2003, Jennifer Mishra focused on the topic of vibrato pedagogy. On the timing of teaching vibrato, Mishra wrote: “Instruction in vibrato actually starts the very first day left-hand position is taught. The enemy of good vibrato is tension and a proper, relaxed left-hand position is a must or relaxed vibrato will not follow.”⁷³ Mishra’s article advocated the concept of vibrato as starting even before the student is aware or told of its purpose. In addition, Mishra wrote that the wrist plays a part in the vibrato motion, in contrast to the prevailing concept in the beginning of the 20th century, where the wrist and forearm were considered one unit⁷⁴: “A relaxed arm vibrato does not mean the wrist is immobile, but the wrist moves as a natural extension of the arm. All parts of the hand, forearm and joints remain flexible during vibrato...the extent to which each of these factors participate is an individual matter”.⁷⁵

Other more recent examples include the book, *CelloMind*, published in 2017 by Hans Jørgen Jensen and Minna Rose Chung. The authors advocated for introductory vibrato exercises using natural harmonics, in order to develop the vibrato before

⁷²Benjamin Whitcomb, *The Advancing Cellists’s Handbook* (Bloomington: AuthorHouse, 2010). 211.

⁷³ Jennifer Mishra, “Easing Into Vibrato.” *American String Teacher Journal* 53/4 (November 2003): 84.

⁷⁴ Bunting, *Essay on the Craft of Cello Playing*, 50.

⁷⁵ Mishra, “*Easing Into Vibrato*”, 85.

eventually introducing vibrato on stopped notes. Here are two examples of such exercises:

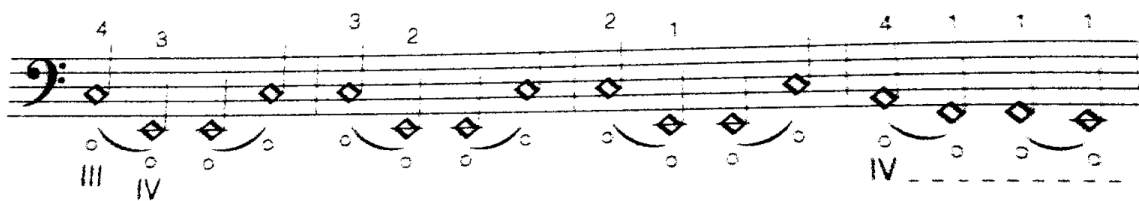


Figure 20: Jensen, Chung – *CelloMind*, Vibrato Using Natural Harmonics



Figure 21: Jensen, Chung – *CelloMind*, Natural Harmonic Combined With Solid Note

According to Jensen and Chung, learning to vibrate using natural harmonics has many advantages:

Using harmonics can help develop a more balanced and relaxed vibrato. Young students often have double-jointed fingers that cannot support the weight of their arm, resulting in a vibrato that is tight and uncontrolled. Many students continue to play with excess tension—even after their fingers have become strong enough to support their arm’s weight—simply because it’s how they first learned to play.⁷⁶

The most recent book mentioning the technique of vibrato was written by Evangeline Benedetti, and was published in 2017. Benedetti wrote the following about vibrato:

The concept of Positions has to be abandoned in order to achieve a high level of playing that includes speed, flexibility, and a satisfying vibrato. The advanced cellist usually plays with one finger at a time, perhaps two,

⁷⁶ Hans Jørgen Jensen and Minna Rose Chung. *CelloMind: Intonation and Technique* (Chicago, IL: Ovation Press Ltd., 2017), 139.

and is able to move to any place at any time on the fingerboard. A fulfilling vibrato is achieved when only one finger is down on the fingerboard, in conjunction with the thumb that is used for support and balance.⁷⁷

The idea of abandoning the concept of positions is in the context of Benedetti's unique view of the fingerboard itself, or what she calls the "grid." It is worth noting that Benedetti's concept of the fingerboard is aimed at the non-beginner, and that she herself advocates for starting beginners with the traditional instruction of positions, together with the grid concept.

⁷⁷ Evangeline Benedetti, *Cello, Bow and You* (New York: Oxford University Press, 2017), 52.

CHAPTER 4

VIBRATO IN EARLY RECORDINGS

So far, we have examined the evolution of cello vibrato through method books, articles, performance reviews and other literary work, in an effort to answer the question, “How did vibrato sound?” The other, perhaps more natural, place to help us find the answer would be a comprehensive review and analysis of cello recordings, past to present.

The first cellist to record was Hans Kronold, a Jewish-born Polish cellist. Kronold immigrated to the United States in 1886, where he joined the Metropolitan Orchestra and the New York Symphony Orchestra. Kronold made his recording in June of 1898 on a phonograph, four months before William Henry Squire made his gramophone recordings. Due to the unstable nature of wax, however, which was used as part of the recording media, the Kronold recordings have unfortunately been lost. The earliest recording in existence is of Alexander Heindl from 1901, performing “Melody in F” by Rubinstein. Although the technology used in the recording process makes it challenging to hear delicate details and nuances, an attentive listener may claim that Heindl is in fact using vibrato, for the most part, but very narrow.

Generally speaking, all cellists who recorded in the between 1904–1930 used constant vibrato. For example, all cellists mentioned in the time period above used vibrato for the entire duration of the piece, however, in some cases, the vibrato is not continuous between finger or bow changes, arguably without musical justification. A

good example of this would be Guilhermina Suggia's 1927 recording of "Kol Nidrei" by Max Bruch.

Before continuing our review of early cello recordings, it must be stated that analytical research of vibrato in early recordings poses many challenges, one of which lies in the process of comparing technically proficient, experienced cellists. In this case, the simple act of qualitatively measuring one's vibrato is paradoxical in nature, since it is the result of a great number of variables, some of which are as personal as taste itself.

Some scholars will argue that the modern cello sound was born when Casals released his early recordings, however the birth date of such a sound proves challenging to pinpoint, as there are accomplished cellists today that use vibrato similar to that used in early recordings prior to those made by Casals. Cellists from the first quarter of the 20th century, regardless of their nationality or age, choose a narrower vibrato compared to cellists of later years. This trend may be a result of general left-hand technique standards at the time. In 1922, Alexanian wrote in his method book, *Theoretical and Practical Treatise*, that the amplitude of the vibrato must not span more than an eighth of a step,⁷⁸ which also seems to have been the unwritten musical rule up to that point.

The table below is a qualitative comparison of recordings, 1901–1940. The speed and amplitude are measured on a 1–5 scale; all pieces chosen for this comparison are lyrical in nature or contain lyrical passages that naturally lend themselves to the use of vibrato. The only exception to this is Victor Herbert's 1912 recording of the Van-Goens *Scherzo*. The middle section of this piece is lyrical and its recording serves as a good representation of Herbert's vibrato.

⁷⁸ Alexanian, *Theoretical and Practical Treatise*, 97.

It is important to make a distinction between “constant” and “continuous”, as it correlates to the continuity of vibrato when changing pitches. For the purposes of this paper, “continuous” is defined as vibrating both on and between every pitch, and “constant” is defined as vibrating on every pitch but not between every pitch.

Table 1: Comparison of Vibrato in Early Recordings

PERFORMER	PIECE	YEAR	SPD . 1-5	AMP . 1-5	Notes
Alexander Heindl	Rubinstein- “Melody in F”	1901	3	1	Recording technology makes it extremely hard to determine specific use of vibrato.
Aleksandr Verzhbilovich-	K.Davidoff- “Romance”	1904	4	2	Constant, some notes are not vibrated
Joseph Hollman	F.Schubert – Ave Maria	1906	4	3	Constant & continuous
Rosario Bourdon	“Berceuse” from Jocelyn	1906	4	2	Constant
Auguste van Biene -	Van Biene “Broken Melody”	1907	2.5	2	Constant
Louis Heine	Flower Song “Blumenslied”	1908	3.5	2	Constant, not every note
Louis Heine	“Berceuse” from Jocelyn	1908	3.5	2	Constant, not every note
Louis Heine	Joseph Carl Breil - “Song of the Soul”	1910	3.5	3	Constant & continuous
Victor Sorlin	“Fantasie” from Madame Butterfly	1908	4	2.5	Constant & continuous

Table 1, continued

Victor Sorlin	Gaetano Braga "Angel's serenade"	1908	4	2.5	Constant & continuous
Victor Sorlin	Francis Thomé "Simple Confession"	1910	3.5	3	Constant & continuous
Victor Sorlin	Flower Song "Blumenslied"	1910	3.5	3	Constant & continuous
Victor Herbert	Van-Goens "Scherzo"	1912	4	1.5	Very sparse use of vibrato In the middle lyrical part
Rosario Bourdon	Carl Bohm "Nordic Romance"	1912	3.5	2	Constant
Rosario Bourdon	Träumerei	1912	3.5	2	Constant
Rosario Bourdon	Van Biene "Broken Melody"	1913	3.5	2.5	Constant
Rosario Bourdon	"Fantasie" from Madame Butterfly	1913	3.5	2	Constant
Beatrice Harrison	Orientale – César Cui	1915	3.5	3	Constant & continuous
Fernand Pollain	Pierné: Sérénade	1918	4	2.5	Constant
Felix Salmond	Pierné: Serenade	1920	2.5	3	Constant
Beatrice Harrison	Elgar: Concerto	1920	4	3	Constant
Pablo Casals	Saint Saens: "The Swan"	1925- 1928	3	3.5	Constant & continuous
W.H. Squire	Saint Saens: Concerto No.1	1926	3.5	2	Constant
Guilhermina Suggia	Kol Nidrei	1927	3.5	2.5	Constant, some notes are not vibrated.

Table 1, Continued

W.H. Squire	Saint Saens: "The Swan"	1928	3.5	2	Constant
W.H. Squire	Broken Melody	1928	3.5	2.5	Constant
W.H. Squire	Godard: Berceuse from "Jocelyn"	1928	3	3.5	Constant
Anton Hekking	Tchaikovsky – Chanson Triste	1930	4	2.5	Constant & continuous
Paul Bazelaire	Saint Saens Cello Sonata No.1	1934	4	2.5	Constant & continuous
<u>Svyatoslav</u> Knushevitsky	Albeniz "The "Malaguena"	1935	3.5	3	Constant & continuous
<u>Svyatoslav</u> Knushevitsky	Tchaikovsky "Chanson Triste"	1940	3	3	Constant & continuous

This table is a personal, qualitative comparison of recordings, and serves as an attempt to represent the general sound of the cello and amount of vibrato used in the early days of cello recording. Although it is possible to hear some slight changes in vibrato from one cellist to the other, comparing early cello recordings qualitatively can point in suggestive directions. Is there an evolution? If so, how can one prove it? Attempting to compare a dim, noisy, and scratchy recording from 1905 to a higher-quality recording from 1930 poses a challenge.

The ability to determine trends in cello vibrato is inextricably linked to the clarity of the recordings themselves, as as individual taste of the cellist that further complicates the problem. The many subtle variations in vibrato speed and amplitude

and the many technological limitations of the time hamper our ability to draw a definitive conclusion as to the differences, if any, between cellists in the early days of recording. Furthermore, some cellists who recorded after 1930 used a similar vibrato to those who recorded before 1915. For example, Victor Sorlin's recordings from 1910 are similar to Svyatoslav Knushevitsky's recording of 1935, as far as vibrato is concerned. It is hard to prove a significant trend in speed and amplitude of vibrato in the time period between 1901-1940. However, one might claim that early cello vibrato was not as constant and continuous in the early years of the 20th century, as it was some time later.

By the 1940, every cellist used vibrato constantly and with great variety, the concept of vibrato did not change much over the years. Although not much may have changed in the production and philosophy of vibrato, modern high- quality recordings offer a richer and fuller picture. Compared to the beginning of the 20th century, modern technology made broadcasting and recording easier and much more accessible to the public. This resulted in cellists having a greater variety of vibrato styles to choose from, so to speak. In turn, the modern cello sound is as varied as it has ever been. From the earliest treatises, which suggested that cello vibrato was a momentary device used for temporary expression; to the end of the 19th century and beyond, when writings and recordings demonstrate a clear preference for constant and continuous vibrato, we find an evolution that has favored consistency over temporary expression.

Today, most accomplished cellists instinctively vary their vibrato speed and amplitude based on musical context, and although modern science can explain and measure the connection between certain sounds and the release of certain chemicals in

our brains (for example, during the resolution of a chord), or why certain types of oscillations tend to agree with our ears more than others, science cannot yet explain why one cellist chooses to use vibrato, when another does not. It has been claimed that cellists today have a so-called “universal sound”, presumably due to the abundance of recordings, as well as factors such as the natural desire to imitate the great cellists. If such a universal trend exists, it will require a larger-scale study of the topic.

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APPENDIX A

KUMMER, *VIOLONCELLOSCHULLE* — VIBRATO MARKINGS IN ETUDE NO.75.

84

Cantabile espressivo.

75. *dol.*

p

p

cresc.

p

APPENDIX B

KUMMER, VIOLONCELLOSCHULLE — VIBRATO MARKINGS IN ETUDE NO.83

90 Cantabile grazioso.

83. *dol.*

sottovoce.

p

APPENDIX C

KUMMER, *VIOLONCELLOSCHULLE* – ILLUSTRATION OF THE AUTHOR'S LEFT
HAND

VI



APPENDIX D

BUNTING, *Essay on the Craft of 'Cello- Playing – VIBRATO-RELATED DIAGRAMS*

