

ANALYSIS OF THE TECHNICAL LITERATURE FOR DOUBLE BASS APPLIED TO  
ORCHESTRAL EXCERPTS

by

CLÁUDIA SILVA DO AMARAL

(Under the Direction of Milton Masciadri)

ABSTRACT

This research identifies technical issues found in some of the most demanding orchestral excerpts for double bass required in auditions and offers technical exercises from the double bass literature that can help refine the technique required. The information concerning these excerpts and methods utilized results from a survey conducted in the initial part of the research with double bass students, professors, and orchestra professionals mostly from United States and Brazil. The results showed that the most demanding excerpts are those of Mozart's late symphonies, Beethoven's Symphonies no. 5 and no. 9, and Strass' tone poems *Ein Heldenleben* and *Don Juan*. The survey also showed that the five most popular methods are those by Franz Simandl, Isaia Billè, Franco Petracchi, François Rabbath, and Frederick Zimmermann. These became the main sources for analysis and commentary, supplemented by several other works in the technical literature that are highly beneficial for the technique required for the orchestral playing. The final goal of this research was to answer the following question: "Does the technical literature for double bass cover the technical skills required for the most demanding orchestral excerpts?" My research suggests that the resources for practicing skills demanded in excerpts are widely dispersed in the literature and not necessarily linked with the practice of orchestral parts.

Thus, a considerable part of this document has been devoted to selection and commentary on the literature that is relevant for the practice of orchestral excerpts. The literature for double bass, however has a few general weaknesses, such as the lack of concern with dynamics (especially piano in the low register), neglect of the connection between articulation and style, and the lack of agility exercises and studies in the low register.

INDEX WORDS: double bass, technique, technical literature, orchestral excerpts, methods, Mozart, Beethoven, Strauss, Simandl, Billè, Petracchi, Rabbath, Zimmermann, Sturm, Mengoli.

ANALYSIS OF THE TECHNICAL LITERATURE FOR DOUBLE BASS APPLIED TO  
ORCHESTRAL EXCERPTS

by

CLÁUDIA SILVA DO AMARAL

BM, Universidade Federal do Rio grande do Sul, Brazil, 2008

MM, Illinois State University, 2015

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial  
Fulfillment of the Requirements for the Degree

DOCTOR OF MUSICAL ARTS

ATHENS, GEORGIA

2018

© 2018

Cláudia Silva do Amaral

All Rights Reserved

ANALYSIS OF THE TECHNICAL LITERATURE FOR DOUBLE BASS APPLIED TO  
ORCHESTRAL EXCERPTS

by

CLÁUDIA SILVA DO AMARAL

Major Professor: Milton Masciadri  
Committee: David Haas  
Levon Ambartsumian

Electronic Version Approved:

Suzanne Barbour  
Dean of the Graduate School  
The University of Georgia  
May 2018

## DEDICATION

To Lourenço, my best friend, counselor, personal therapist, and unconditional supporter.

All my love to you!

## ACKNOWLEDGEMENTS

To Milton Masciadri, for the opportunity to pursue this degree and for believing in the value of this research. I would like to thank David Haas for guidance in the final stages, and to Levon Ambartsumian for agreeing to be part of my committee. To my former teachers Milton Romay Masciadri, who introduced me the double bass and shared his love for music, to Alexandre Ritter, for his patience and endless efforts in teaching me, and to William Koehler, for his open mind and creative playing. To all bassists who responded to my survey, without which this dissertation would not exist. Thank you very much for your time and thoughtful opinions. To Leonard Ligon for reengraving most of the music examples, and to Joanna and Timothy Smolko, who did the proofreading for this document. Many thanks to Yorke Editions, Edizioni Curci, Alphonse Leduc, International Music Co., Alfred Music, Carl Fischer, Ricordi / Hal-Leonard, and Marcos Machado for allowing me to reproduce the music examples in this document. To the friends I made in American lands, you live in my heart. And finally, to my family (including my “family-in-law”), who even from far away have always supported me and believed in my dreams. I love you all.

## TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	v
LIST OF EXAMPLES.....	ix
CHAPTER 1 INTRODUCTION .....	1
Purpose of the Study .....	2
Literature Review.....	3
Methodology .....	5
CHAPTER 2 SURVEY RESULTS.....	7
CHAPTER 3 GENERAL COMMENTS ON ORCHESTRAL TECHNIQUE .....	22
Bow .....	23
Articulation .....	24
Dynamics .....	28
String crossing and shifting .....	29
Quick Repeated String Crossing.....	41
The Left Hand.....	42
Intonation .....	43
String Crossing when the Interval is a Fourth .....	45

Double Stops .....	46
Agility .....	48
Chromatic Scales .....	51
Fingering .....	51
Synchronicity .....	53
CHAPTER 5 MOZART – EXCERPTS OF SYMPHONIES NO. 35 AND NO. 40 .....	56
The Double Bass in the Classical Period .....	56
The Excerpts and their Main Technical Issues .....	60
The Methodology Applied.....	62
CHAPTER 5 BEETHOVEN – EXCERPTS OF SYMPHONIES NO. 5 AND NO. 9 .....	77
The Double Bass at the Beginning of the Nineteenth Century .....	77
Excerpts and their Main Technical Issues .....	80
The Double Bass Literature Applied .....	82
CHAPTER 6 STRAUSS – EXCERPTS OF <i>EIN HELDENLEBEN</i> AND <i>DON JUAN</i> .....	100
The Double Bass in the Second Half of the Nineteenth Century .....	100
The Excerpts and their Main Technical Issues .....	104
The Double Bass Literature Applied .....	106
CHAPTER 7 CONCLUSION .....	116
BIBLIOGRAPHY.....	118

APPENDIX SURVEY: ANALYSIS OF THE TECHNICAL LITERATURE FOR DOUBLE  
BASS APPLIED TO ORCHESTRAL EXCERPTS ..... 121

## LIST OF EXAMPLES

	Page
Example 3.1. Salvi, fragment of Study no. 16, from <i>20 Esercizi Pratici per contrabbasso</i> .....	25
Example 3.2. Billè, fragment of “Exercise for the First Finger,” from <i>Nuovo metodo per contrabbasso</i> , Vol. 1.....	27
Example 3.3. Billè, fragment of “Other Very Useful Exercises for Limbering the Left Hand,” from <i>Nuovo metodo per contrabbasso</i> , Vol. 1.....	27
Example 3.4. Mengoli, fragment of Study no. 2, from <i>40 Studi d’orchestra</i> .....	29
Example 3.5. Mengoli, fragment of Study no. 19, from <i>40 Studi d’orchestra</i> .....	29
Example 3.6. Mozart, Symphony no. 35, first movement, m. 34.....	30
Example 3.7. Zimmermann, fragment of “Bowing Drills for the Upper and Lower Three Strings,” from <i>A Contemporary Concept of Bowing Technique for the Double Bass</i> .....	31
Example 3.8. Billè, fragment of “On Harped Chords,” from <i>Nuovo metodo per contrabbasso</i> , Vol. VI.....	32
Example 3.9. Billè, fragment of “On Harped Chords,” from <i>Nuovo metodo per contrabbasso</i> , Vol. VI.....	32
Example 3.10. Billè, fragment of Study no. 51 from <i>Nuovo metodo per contrabbasso</i> , Vol. III.....	33
Example 3.11. Nanny, fragment of “Scales and Exercises in Thirds, Fourths, Fifths, Sixths, Sevenths, and Octaves,” from <i>Méthode complète pour la contrebasse à quatre et cinq cordes</i> , Vol. II.....	34
Example 3.12. Simandl, fragment of Study no. 2, from <i>New Method for the Double Bass</i> .....	35
Example 3.13. Billè, fragment of Study no. 37, from <i>Nuovo metodo per contrabbasso</i> , Vol. III.....	35
Example 3.14. Petracchi, fragment of Exercise no. 8, from <i>Simplified Higher Technique</i> .....	36

Example 3.15. Rabbath, fragment of “Study on leaps over strings from 1st to 5th position,” from <i>Nouvelle technique de la Contrebasse</i> , Vol. 3.....	36
Example 3.16. Findeisen, fragment of Study no. 25, from <i>25 Technical Studies</i> .....	37
Example 3.17. Simandl, fragment of <i>New Method for the Double Bass</i> , Vol. 2, Part VIII.....	38
Example 3.18. Rabbath, fragment of Study no. 17, from <i>Nouvelle technique de la Contrebasse</i> , Vol. 3.....	38
Example 3.19. Sturm, fragment of Study no. 43, from <i>110 Studies</i> , Vol I.....	39
Example 3.20. Mengoli, fragment of Study no. 34, from <i>40 Studi d’orchestra</i> .....	39
Example 3.21. Mengoli, fragment of Study no. 36, from <i>40 Studi d’orchestra</i> .....	39
Example 3.22. Montanari, fragment of Study no. 3, from <i>14 Studies for String Bass</i> .....	40
Example 3.23. Montanari, fragment of Study no. 12, from <i>14 Studies for String Bass</i> .....	40
Example 3.24. Findeisen, fragment of Study no. 17, from <i>25 Technical Studies</i> , Vol. III.....	41
Example 3.25. Billè, fragment of Study no. 9, from <i>Nuovo metodo per contrabbasso</i> , Vol. II..	41
Example 3.26. Salvi, fragment of Study no. 6, from <i>20 Esercizi pratici per contrabbasso</i> .....	42
Example 3.27. Machado, fragment of “Shifting Exercise to Connect Two Positions” from <i>Tao of Bass</i> .....	43
Example 3.28. Findeisen, fragment of “Finger substitution exercise,” quoted in O’Brien’s <i>Double-Bass Notebook</i> .....	44
Example 3.29. Machado, fragment of “Exercise 1.21- Finger Substitution” from <i>Tao of Bass</i> ..	44
Example 3.30. Strauss, excerpt of <i>Ein Heldenleben</i> .....	45
Example 3.31. Machado, fragment of Exercise 1.11.d, from <i>Tao of Bass</i> .....	45
Example 3.32. Petracchi, fragments of Exercise no. 7, from <i>Simplified Higher Technique</i> .....	46
Example 3.33. Petracchi, fragment of Study no. 9, from <i>Simplified Higher Technique</i> .....	47
Example 3.34. Rabbath, fragment of “Double Stops and Chords,” from <i>Nouvelle technique de la contrebasse</i> , Vol. 4.....	47

Example 3.35. O'Brien, fragment of "Independence of Fingers Exercise No. 1" from <i>Double-Bass Notebook</i> .....	48
Example 3.36. O'Brien, fragment of "Independence of Fingers Exercise No. 2" from <i>Double-Bass Notebook</i> .....	48
Example 3.37. Salvi, fragments of Exercises 1, 2, 3, and 4, from <i>20 Esercizi pratici per contrabbasso</i> .....	49
Example 3.38. Billè, fragment of Study no. 6, from <i>Nuovo metodo per contrabbasso</i> , Vol. I...	49
Example 3.39. Petracchi, fragment of Study no. 2.b. from <i>Simplified Higher Technique</i> .....	50
Example 3.40. Hrabe, fragment of Study no. 73, from <i>Thirty-Two Etudes</i> .....	50
Example 3.41. Machado, fragment of Exercise 1.1, from <i>Tao of Bass</i> .....	50
Example 3.42. Billè, fragment of Study no. 9, from <i>Nuovo metodo per contrabbasso</i> , Vol. V.....	51
Example 3.43. Machado, fragment of Exercise 2.44, from <i>Tao of Bass</i> .....	52
Example 3.44. Mozart, <i>The Marriage of Figaro</i> , mm. 49-51.....	53
Example 3.45. Fingering suggestion for horizontal scales.....	53
Example 3.46. Synchronicity Exercise .....	54
Example 4.1. Mozart, Symphony no. 40, IV movement, mm. 49-51.....	59
Example 4.2. Mozart, Symphony no. 35, IV movement, mm. 21-32 .....	60
Example 4.3. Mozart, Symphony no. 35, I movement, m. 34 .....	60
Example 4.4. Mozart, Symphony no. 35, IV movement, mm. 26-27.....	61
Example 4.5. Mozart, Symphony no. 40, I movement, m. 119 .....	61
Example 4.6. Mozart, Symphony no. 40, I movement, m. 49.....	61
Example 4.7. Mozart, Symphony no. 40, I movement, m. 229.....	62
Example 4.8. Mozart, Symphony no. 40, I movement, m. 192-197.....	62
Example 4.9. Mozart, Symphony no. 35, IV movement, mm. 1-37.....	63

Example 4.10. Simandl, fragment of Study no. 11, from <i>Gradus ad Parnassum</i> , Vol. 1.....	64
Example 4.11. Zimmermann's exercise style applied to Mozart, Symphony no. 35, IV mov. ....	65
Example 4.12. Exercise to strength the fourth finger.....	66
Example 4.13. Sturm, fragment of Study no. 2, from <i>110 Studies</i> Vol I.....	67
Example 4.14. Exercise for fourths.....	67
Example 4.15. Salvi, Fragment of Study no.19 of <i>20 Esercizi pratici per contrabbasso</i> .....	68
Example 4.16. Sturm, fragment of Study no. 38, from <i>110 Studies</i> , Vol I.....	68
Example 4.17. Sturm, fragment of Study no. 95, from <i>110 Studies</i> , Vol II.....	69
Example 4.18. Symphony no. 40, I movement, mm. 114-138 and mm. 191-220.....	70
Example 4.19. Zimmermann's exercise style applied to Mozart, Symphony 40, I mov. ....	72
Example 4.20. Simandl, fragment of Study no. 5, from <i>New Method for the Double Bass</i> .....	72
Example 4.21. Billè, fragment of Study no. 41, from <i>Nuovo metodo per contrabbasso</i> , Vol. III.....	73
Example 4.22. Sturm, fragment of Study no. 69, from <i>110 Studies</i> .....	74
Example 4.23. Findeisen, fragment of Study no. 17, from <i>25 Technical Studies</i> .....	74
Example 4.24. Sturm, fragment of Study no. 62, from <i>110 Studies</i> .....	75
Example 4.25. Storch, fragment of Study no. 13, from <i>25 Etudes</i> .....	75
Example 5.1. Beethoven, Symphony no.5, III mov., mm. 55-61.....	80
Example 5.2. Beethoven, Symphony no.5, III mov., mm. 197-218.....	81
Example 5.3. Beethoven, Symphony no.9, VI mov. mm. 468-492.....	82
Example 5.4. Beethoven, Symphony no.5, III mov., mm. 1-61.....	82
Example 5.5. Simandl, fragment of Study no. 1, from <i>Gradus ad Parnassum</i> , Vol. 1.....	83
Example 5.6. Zimmermann's exercise style applied to Beethoven's Symphony no. 5, III mov. ....	84

Example 5.7. Billè, fragment of Study no. 30, from <i>Nuovo metodo per contrabbasso</i> , Vol. III.....	85
Example 5.8. Billè, fragment of Study no. 9, from <i>Nuovo metodo per contrabbasso</i> , Vol. III.....	86
Example 5.9. Salvi, fragment of Study no. 18, from <i>20 Esercizi pratici per contrabbasso</i> .....	87
Example 5.10. Rabbath, fragment of Studi no. 13, from <i>Nouvelle technique de la Contrebasse</i> , Vol. II.....	87
Example 5.11. Sturm, fragment of Study no.10, from <i>110 Studies</i> , Vol. I.....	88
Example 5.12. Hrabe, fragment of Study no. 52, from <i>86 Etudes</i> .....	88
Example 5.13. Sturm, fragment of Study no. 40, from <i>110 Studies</i> .....	89
Example 5.14. Sturm, fragment of Study no. 78, from <i>110 Studies</i> .....	89
Example 5.15. Symphony No. 5, III mov. mm. 140-218.....	90
Example 5.16. Simandl, fragment of Exercise no. 1 (Arpeggio), from <i>New Method for the Double Bass</i> , Vol. II.....	92
Example 5.17. Zimmermann's exercise style applied to Symphony no. 5, III mov. (Trio) .....	93
Example 5.18. Sturm, fragment of Study no 38, from <i>110 Studies</i> .....	94
Example 5.19. Sturm, fragment of Study no 45, from <i>110 Studies</i> .....	94
Example 5.20. Sturm, fragment of Study no 82, from <i>110 Studies</i> .....	95
Example 5.21. Mengoli, fragment of Study no. 26, from <i>40 Studi D'Orchestra</i> .....	95
Example 5.22. Beethoven, Symphony no. 9, VI movement, mm. 454-525.....	96
Example 5.23. Billè, fragment of Study no. 2, from <i>Nuovo metodo per contrabbasso</i> , Vol. IV.....	97
Example 5.24. Sturm, fragment of Study no. 62, from <i>110 Studies</i> , Vol. II.....	98
Example 5.25. Sturm, fragment of Study no. 90, from <i>110 Studies</i> , Vol. II.....	98
Example 5.26. Storch, fragment of Study no. 24, from <i>32 Etude</i> .....	99
Example 6.1. Strauss, <i>Ein Heldenleben</i> , rehearsal 9 to 6 measures after rehearsal 9.....	104

Example 6.2. Strauss, <i>Ein Heldenleben</i> , 4 measures before rehearsal 2, and rehearsal 5 to 4 measures after rehearsal 5.....	105
Example 6.3. Strauss, <i>Don Juan</i> , 2 after rehearsal A to 6 measures after rehearsal A.....	105
Example 6.4. Strauss, <i>Ein Heldenleben</i> , rehearsal 5 to 4 measures after rehearsal 5, rehearsal 6 to 4 measures after rehearsal 6, rehearsal 9 to 4 measures after rehearsal 10, and 4 measures before rehearsal 12 to 6 measures after rehearsal 12.....	106
Example 6.5. Zimmermann's exercise style applied to excerpts of <i>Ein Heldenleben</i> .....	108
Example 6.6. Study on triplets' fragments.....	108
Example 6.7. Salvi, fragment of Study no. 18, from <i>20 Esercizi pratici per contrabbasso</i> .....	109
Example 6.8. Simandl, fragment of Study no. 1, from <i>Gradus as Parnassum</i> , Vol. 1.....	110
Example 6.9. Billè, fragment of Study no. 30, from <i>Nuovo metodo per contrabbasso</i> , Vol. III.....	110
Example 6.10. Rabbath, fragment of Study no. 13, from <i>Nouvelle technique de la contrebasse</i> , Vol. II.....	111
Example 6.11. Rabbath, fragment of Study No. 18, from <i>Nouvelle technique de la contrebasse</i> , Vol. II.....	111
Example 6.12. Mengoli, fragment of Study No. 25, from <i>40 Studi d'orchestra</i> .....	111
Example 6.13. Strauss, excerpts of <i>Don Juan</i> .....	112
Example 6.14. Zimmermann's exercise style applied to excerpts of <i>Don Juan</i> .....	113
Example 6.15. Billè, fragment of Study no. 9, from <i>Nuovo metodo per contrabbasso</i> , Vol. V.....	114
Example 6.16. Salvi, fragment of Study no. 14, from <i>20 Esercizi pratici per contrabbasso</i> .....	114
Example 6.17. Storch, fragment of Study no. 5, from <i>32 Etudes</i> .....	115

## CHAPTER 1

### INTRODUCTION

The evolution of the bass stringed instruments in the orchestral context is a particularly interesting issue. Although currently we can state that the instrument called "double bass" is the usual bass instrument in the modern symphony orchestra, it has never had stable and consistent construction characteristics. In fact, it still seems to be an evolving, non-standardized instrument in comparison with the modern violin, viola, and cello. During its history, numerous features have been transformed or adapted, such as size, tuning, and shape. According to Paul Brun, "the development of the double bass is linked to two facets of musical history: the changing configuration of the violin family and the evolution of the orchestral ensemble."<sup>1</sup>

Indeed, most changes made throughout history have been to adapt the double bass to the new technical and musical requirements demanded by orchestral works. Even with all the modifications made physically to the instrument, the methodology for the instrument does not seem to accommodate the orchestral technique requirements. Rather, what can be observed is that most of these methods address specific techniques for the solo repertoire, in other words, of what is idiomatic for the double bass. Methods focusing on high technical complexity almost never address the lower register of the double bass, which is considered one of the instrument's most difficult registers when it comes to agility, sound quality, and articulation, which are skills commonly demanded by orchestral parts.

---

<sup>1</sup> Paul Brun, *A New History of the Double Bass* (Villeneuve d'Ascq, France: Paul Brun Productions, 2000), 13.

Faced with this reality, there is a problem that has not yet been explored in depth: research on the technical literature for double bass that deals exclusively with the non-idiomatic language found in the orchestral repertoire, especially in excerpts requested for orchestral auditions. There is a considerable number of books and compilations of excerpts from the orchestral repertoire for double bass, however, there is none that exclusively proposes specific exercises for the most common technical problems found in this repertoire. Thus, this study is significant because of the need for a guide that concentrates exclusively on the orchestral repertoire and its issues, as well as non-idiomatic language found in double bass excerpts.

### Purpose of the Study

From the beginning of the twentieth century to the present, an enormous number of double bass methods have flourished, starting a new era for the art of double bass playing. However, the technique books do not address the adaptation (or appropriation) of the double bass for the repertoire written for violone, the ancestor of the double bass, as well as the new demands of the orchestral repertoire of the twentieth century, where some of the orchestral lines for the double bass sound almost like solos, but without the idiomatic writing of the solo repertoire.

The purpose of this research is to identify the technical issues found in the most demanding orchestral excerpts commonly required in auditions, as well as identify the exercises in the most popular methods for the double bass that can assist bassists in solving these problems. The information concerning the most demanding orchestral excerpts and their main technical issues, as well as the most popular methods for the instrument, was determined by a survey during the initial part of this research.

## Literature Review

The academic discussion on the association of double bass technical literature with orchestral repertoire is quite new. Only in last few decades it is possible to find articles that address this subject, at least those which are available and in English and Portuguese.

Nonetheless, some worthy academic works have been written about this subject, some of which are discussed here.

In Mayra Pedrosa's *Abordagem de estudos em métodos de contrabaixo com vistas à execução de obras do repertório orquestral*<sup>2</sup> (Approach of studies in double bass methods for the execution of works of the orchestral repertoire), she selected the first volume of the four most popular double bass methods: Franz Simandl, Isaia Billè, Edouard Nanny, Franco Petracchi, and Frederick Zimmermann. From each of these, she selected one study/exercise for each position used in the method, linking it to the applicability in the execution of some specific orchestral excerpt. According to Pedrosa, "the goal of this research is to emphasize the applicability of the technical aspects practiced since the introduction of the student to the instrument, using works of the orchestral repertoire."<sup>3</sup> Pedrosa's purpose was to investigate the technical aspects of those etudes and associate them with the performance of selected orchestral passages, giving some focus on those requested in orchestra auditions. One of the limitations of this study, however, is that she makes only the connection from methodology to orchestral excerpt and not the reverse.

A great contribution to the double bass literature is Jack A. Unzicker's dissertation "Orchestral Etudes: Repertoire-Specific Exercises for Double Bass,"<sup>4</sup> where he creates etudes

---

<sup>2</sup> Mayra Stela Dunin Pedrosa, "Abordagem de Estudos em Métodos de Contrabaixo com Vistas à Execução de Obras do Repertório Orquestral." (Master's thesis, Universidade Federal do Paraná, 2009).

<sup>3</sup> Ibid., 5.

<sup>4</sup> Jack Andrew Unzicker, "Orchestral Etudes: Repertoire-Specific Exercises for Double Bass" (DMA diss., University of North Texas, 2011).

that address the issues found in some of the most challenging orchestral excerpts frequently requested in orchestral auditions. Unzicker validates the importance of his dissertation through a survey, asking the participants the primary and secondary technical issues of four orchestral excerpts: Ludwig van Beethoven's Symphony No. 9, Mvt. 4, and Symphony No. 5, Mvt. 3; Richard Strauss's *Ein Heldenleben*; and Wolfgang Amadeus Mozart's Symphony No. 40, Mvt. 1. In his research, however, he justifies the creation of etudes by assuming that "a literary gap exists within the available pedagogical resources for double bassists,"<sup>5</sup> even mentioning the existence of non-organized studies and exercises in the methodology for the instrument.

Another important work on this subject is the dissertation of Eric Hilgenstieler: "The Application of Contemporary Double Bass Left-hand Techniques Applied in the Orchestra Repertoire."<sup>6</sup> He associates the new approaches of the left hand (mostly used by François Rabbath) such as pivot, four finger, low-thumb, and crab with the traditional orchestral repertoire frequently requested in auditions. In order to justify the use of those new technical approaches and its benefits, he provides an analysis of the traditional left-hand technique for double bass. Hilgenstieler makes it clear that the only aspect being analyzed in his dissertation is the left-hand technique and he mostly focuses on one author, Rabbath. As a result, connections with those techniques with issues found with the right-hand technique were not made.

In the most popular technical literature for double bass, the only publication that partially concentrates on the orchestral literature is Frederick Zimmermann's book *A Contemporary Concept of Bowing Technique for the Double Bass*.<sup>7</sup> As the name suggests, this method focuses

---

<sup>5</sup> Ibid., 1.

<sup>6</sup> Eric Hilgenstieler, "The Application of Contemporary Double Bass Left Hand Techniques Applied in the Orchestra Repertoire" (DMA diss., University of Southern Mississippi. 2014).

<sup>7</sup> Frederick Zimmermann, *A Contemporary Concept of Bowing Technique for the Double Bass* (New York: MCA Music, 1966).

specifically on the right-hand technique. It is undoubtedly a valuable method, but despite giving some written suggestions, it does not discuss articulation and style, which are interpretative aspects directly related to the right arm. In a review written for the *Music Educators Journal*, Richard Webster argues that “no dynamics are indicated for the orchestral passages which are directly correlated with the difficulty of the work. Unfortunately, the text of this book is not always clearly written, thus making it difficult to follow. The graphs presented at the beginning are helpful and good, but soon become overdone and complicated.”<sup>8</sup> A few other works bring some important discussion about technique, including excerpts from the orchestral literature. Several are referenced in my research: e.g., Jeff Bradetich’s *Double Bass: The Ultimate Challenge*,<sup>9</sup> Knut Guettler’s *A Guide to Advanced Modern Double Bass Technique*,<sup>10</sup> and Murray Grodner’s *A Double Bassist's Guide to Refining Performance Practices*.<sup>11</sup>

### Methodology

The starting point of this study was a survey answered by professors, students, and professional orchestra bassists, primarily (but not limited to) those who are from Brazil and United States, countries where this author has received professional training. Questions about the demands of the orchestral literature and the use of the technical literature for double bass were asked (see attachment). This survey intended to collect data concerning the following aspects:

- most popular double bass methods;
- most demanding orchestral excerpts;

---

<sup>8</sup> Richard L. Webster, review of *A Contemporary Concept of Bowing Technique for the Double Bass*, by Frederick Zimmermann. *Music Educators Journal* 53, no. 8 (1967): 113. <http://www.jstor.org.proxy.remote.galib.uga.edu/stable/3390996>.

<sup>9</sup> Jeff Bradetich, *Double Bass: The Ultimate Challenge* (Moscow, ID: Music for All to Hear, Inc., 2009).

<sup>10</sup> Knut Guettler, *A Guide to Advanced Modern Double Bass Technique* (London: Yorke Edition, 1992).

<sup>11</sup> Murray Grodner, *A Double Bassist's Guide to Refining Performance Practices* (Bloomington: Indiana University Press, 2013).

- technical problems for both hands found in these excerpts;
- methods/technical exercises for double bass used for solving technical problems found in these excerpts.
- how bassists inform themselves about the musical style of the excerpts.

In summary, the final goal of this survey was to find answers for the following questions:

Does the most popular technical literature for double bass cover the technical skills required for the most demanding orchestral excerpts? If the answer for the previous question is no, then what does this methodology fail to cover?

To each of the composers mentioned most often in the survey is assigned a chapter, and an analysis of the relationship between their main excerpts and the findings about methodology and technical studies was performed. These chapters are introduced with a contextualized historical background of the double bass in the period of the composition, as well as a survey of how the current methodology for double bass apply to these orchestral excerpts. In addition to the chapters mentioned above, a chapter is dedicated to the general technique required by the orchestral repertoire, introducing the most significant findings in the double bass literature.

## CHAPTER 2

### SURVEY RESULTS

The intention of this survey is to recognize the diverse experiences of double bass performers and their perceptions and concerns about the methodology for the double bass and the orchestral literature. This author believes that the content of such research may be more valuable if based on a larger sample than her own experience. Information concerning double bass methodology and orchestral excerpts was collected from September 27, 2017 to December 10, 2017 through the online survey service Google Forms.<sup>12</sup> The 56 participants were professors, professional orchestra bassists, and students, mostly from the United States and Brazil, although a few bassists from Europe, Argentina, and Costa Rica also contributed. The survey consisted of 15 questions, with questions 8 to 13 being the central concern of the survey and the focus of this research. The full survey is contained in the Appendix, and this chapter will examine each of the questions and their responses.

The survey, entitled “Analysis of the Technical Literature for Double Bass Applied to Orchestral Excerpts,” opens with a permission question that says “the information collected in this survey will be used as source material for my dissertation and perhaps other publications. If you do not want me to use your real name, a pseudonym will be assigned to you. Please, check one of the following boxes:

- I give permission to use my real name
- I would like to have a pseudonym assigned to me”

---

<sup>12</sup> Google Forms, 30 Dec. 2017, < <https://docs.google.com/forms/>>.

From the 56 participants, only 3 asked to have a pseudonym assigned to them. This question was included in case some of the answers were quoted in the document.

Question one asked the name of the participant. Question two requested the email address of the participant in case follow-up questions were necessary. As the form states, email addresses will not be made available. Question three asked the institution of the participant, resulting in a wide sampling of institutions in seven countries, as follows:

#### United States institutions mentioned

Albany Symphony Orchestra	Newport Symphony Orchestra
Berklee College of Music	Northwestern University
Boston Conservatory at Berklee	Oberlin Conservatory
Boston Pops Orchestra	San Francisco Conservatory of Music
Boston Symphony Orchestra	The Orchestra Now
California State University	University of Georgia
Cleveland Institute of Music	University of Hartford
Columbus State University	University of Illinois
Dallas Symphony Orchestra	Urbana Champaign
Frost School of Music	University of Miami
Georgia College	University of Miami
Georgia State University	University of Michigan
Idaho State University	University of North Florida
Illinois State university	University of Southern Mississippi
Jacksonville State University	University of Texas
Macon Symphony Orchestra	Valdosta State University
Manhattan School of Music	Valdosta Symphony Orchestra
Mannes College of Music	Yale University
Milwaukee Symphony Orchestra	
New York Philharmonic	

#### Brazilian institutions mentioned

Camerata Florianópolis  
 Faculdade Cantareira  
 Orquestra Municipal de Sopros de Caxias do Sul  
 Orquestra Sinfônica da Universidade do Ceará  
 Orquestra Sinfônica do Paraná  
 Orquestra Sinfônica do Teatro Municipal do Rio de Janeiro  
 Orquestra Sinfônica Nacional

Universidade Estadual de Campinas  
 Universidade Federal de Santa Maria  
 Escola de Música e Belas Artes do Paraná  
 Orquestra Filarmônica de Goiás  
 Orquestra sinfônica da Universidade de Caxias do Sul  
 Orquestra Sinfônica de Porto Alegre  
 Orquestra Sinfônica do Rio Grande do Norte  
 Orquestra Sinfônica Municipal de São Paulo  
 Orquestra Unisinos  
 Universidade Estadual do Ceará  
 Universidade Federal do Estado do Rio de Janeiro  
 Universidade Federal do Rio Grande do Sul.

#### Other institutions mentioned

Orquesta Estable del Teatro Colón, from Argentina  
 Instituto Nacional de la Música, from Costa Rica  
 Conservatoire de Paris and Orchestre de l'Opéra National de Paris, from France  
 Conservatorio Statale di Musica "Giuseppe Verdi," from Italy  
 Orchestra del Teatro Regio Torino, from Italy  
 Conservatorio Superior de Música de Canarias, from Spain  
 Escuela de Música Vicente Ascone, from Uruguai  
 Orquesta Filarmónica de Montevideo, from Uruguay

Question four asked the position of the participant. The options were:

- Student
- Professor
- Professional orchestra bassist

This questionnaire was designed to be suitable for all three groups of participants: students, professors, and orchestra professionals. They could select all the options that would apply to them. The results are ranked here from the most to the least selected:

Professors and professional orchestra bassists: 22 participants (39.2%)  
 Professional orchestra bassists only: 14 participants (25%)  
 Students only: 7 participants (12.5%)  
 Professors only: 6 participants (10.7%)  
 Students and professional orchestra bassists: 3 participants (5.3%)  
 Students, professors, and professional orchestra bassists: 3 participants (5.3%)  
 Students and professors: 1 participant (1.7%)

Question five asked the country(ies) where most of the participants' musical studies occurred. This research does not intend to compare the results between countries. This question was made only with the intention of showing the source of the responses. Brazil and the United States were prominent, since the author's contacts in these countries were widespread:

USA - 26 participants (46.4%)  
 Brazil – 19 participants (33.9%)  
 Brazil/USA – 2 participants (3.5%)  
 France – 2 participants (3.5%)  
 Italy – 2 participants (3.5%)  
 Argentina – 1 participant (1.7%)  
 Brazil/Italy – 1 participant (1.7%)  
 Brazil/USA/Canada – 1 participant (1.7%)  
 Costa Rica – 1 participant (1.7%)  
 Uruguay/USA – 1 participant (1.7%)

Question six asked what type of bow the participants used. The options were:

- French
- German
- Both

This question was intended to investigate whether a recurring technical problem was related to the use of one or another bow style. The results showed that it was not possible to identify any recurring technical issues related exclusively to one kind of bow. The most recurring problems were common for both bow styles. The answers were:

French bow: selected by 26 people (46%)  
 German bow: selected by 19 people (33.9%)  
 Both: selected by 11 people (19.6%)

Question seven asked for the fingering used by the participant in the low register of the double bass. Like the previous question, this was intended to determine if there is some recurring technical problem related to the use of one or another fingering pattern. As in the previous question, it was not possible to identify any recurring technical issues related exclusively to one of the fingering patterns:

1-2-4: selected by 44 people (78.5%)

1-3-4: selected by 9 people (16%)

1-2-3-4: selected by 3 people (5.3%)

Adaptation on the regular fingering for convenience: selected by 6 people (10.7%)

Question eight read: “What are the main methods for double bass you used/use systematically in your own practice routines?” The results for this question are organized in order of the most to the least mentioned. Most of the participants just gave the name of the author, without describing a specific method. When participants mentioned specific methods, they are described as well.

Simandl, Franz: mentioned by 23 people (41%). From those, some specific methods or etudes were cited. They are:

- *30 Etudes*: mentioned by 3 people (5.3%)
- *Gradus ad Parnassum*: mentioned by 5 people (8.9%)
- *New Method for the Double Bass - Book One*: mentioned by 4 people (7.1%)
- *New Method for the Double Bass - Book Two*: mentioned by 6 people (10.7%)

Petracchi, Francesco. *Simplified Higher Technique*: mentioned by 25 people (44.6%)

Billè, Isaia. *Nuovo metodo per contrabbasso*: mentioned by 21 people (37.4%). From those, some specific methods were cited. They are:

- Vol. I. *Corso Teorico-Pratico*: mentioned by 2 people (3.5 %)
- Vol. II. *Corso Pratico*: mentioned by 2 people (3.5 %)
- Vol. III. *Corso Pratico*: mentioned by 1 person (1.7%)
- Vol. IV. *Corso Complementare*: mentioned by 1 person (1.7%)
- Vol. V. *Corso Normale*: mentioned by 1 person (1.7%)
- Vol. VI. *Corso Pratico-Studi di concerto*: mentioned by 1 person (1.7%)

Rabbath, François. *Nouvelle Technique de La Contrebasse*: mentioned by 11 people (19.6%). From those, one specific method was cited:

- Scale Method - Volume 3: mentioned by 1 person (1.7%)

Zimmermann, Frederick. *A Contemporary Concept of Bowing Technique for the Double Bass*: mentioned by 10 people (17.8%)

Streicher, Ludwig. *My Way of Playing the Double Bass*: mentioned by 8 people (14.2%).

From those, one specific method was cited:

- Vol. 5: mentioned by 1 person (1.7%)

Nanny, Édouard: mentioned by 8 people (14.2%). From those, one specific method was cited:

- *20 Etudes de Virtuositè*: mentioned by 1 person (1.7%)

Levinson, Eugene. *The School of Agility*: mentioned by 6 people (10.7%)

Rollez, Jean Marc. *Méthode de contrebasse*: mentioned by 5 people (8.9%). From those, some specific methods were cited:

- *Méthode de contrebasse* Vol. I and II: mentioned by 1 person (1.7%)
- *Méthode de contrebasse* Vol. III: mentioned by 1 person (1.7%)

Storch-Hrabe. *57 Studies*: mentioned by 5 people (8.9%)

Other works mentioned four times (7.1%):

- Vance, George. *Progressive Repertoire for the Double Bass*.
- Otakar Sevcik for double bass - One of them mentioned the edition for double bass by

Neil Tarlton, another mentioned an edition by Hal Robinson, and another specified by Abe Luboff.

Authors mentioned three times (5.3%) include Klaus Trumpf, Orin O'Brien, and Annibale Mengoli ("*20 Concert Studies*," and "*40 Orchestra Studies*."). Authors mentioned twice (3.5%) include Don Hermanns, Wilhelm Sturm, Hal Robinson (Strokes), Kreutzer, Luigi Salvi, and Marcos Machado. Authors mentioned only once (1.7%) include Davide Botto (*La Via del Contrabbasso*), Jeff Bradetich, Italo Caimmi, Kevin Casseday, Dimoff, Paul Ellison, Findeisen, Simon Fischer (violin), Miloslav Gajdos, Barry Green, Murray Grodner, Hrabe, Pierre Hellouin, Frantisek Hertl, Laszlo, Sebastian Lee, McTier, Lajos Montag, Carlo Montanari, David Moore

(*Fractal Fingering*), David Moore and Alex Hanna (*Practice Packets*), Henry Portnoi, Joel Quarrington, Josef E. Storch, and Suzuki.

Question nine asked: “If you are a double bass professor/teacher, what are the main double bass methods you use with your students?” The results for this question are organized in order of the most to the least mentioned. Most of the participants just said the name of the author, without describing a specific method. When participants mentioned specific methods, they are described as well:

Simandl, Franz: mentioned by 22 people (39.2%). From those, some specific methods or etudes were cited:

- *30 Etudes*: mentioned by 2 people (3.5%)
- *Gradus ad Parnassum*: mentioned by 2 people (3.5%)
- *New Method for the Double Bass - Book One*: mentioned by 3 people (5.3%)
- *New Method for the Double Bass - Book Two*: mentioned by 3 people (5.3%)

Billè, Isaia. *Nuovo metodo per contrabbasso*. 7 vols.: mentioned by 19 people (33.9%).

From those, some specific methods were cited:

- 18 Studies: mentioned by 1 person (1.7%)
- Vol. I. *Corso Teorico-Pratico*: mentioned by 3 people (5.3%)
- Vol. II. *Corso Pratico*: mentioned by 2 people (3.5%)
- Vol. III. *Corso Pratico*: mentioned by 2 people (3.5%)
- Vol. IV. *Corso Complementare*: mentioned by 1 person (1.7%)
- Vol. V. *Corso Normale*: mentioned by 1 person (1.7%)

Petracchi, Francesco. *Simplified Higher Technique*: mentioned by 15 people (26.7%)

Rabbath, François. *Nouvelle Technique de La Contrebasse*: mentioned by 8 people (14.2%). From those, some specific methods were cited:

- Book 1: mentioned by 1 person (1.7%)
- Book 2: mentioned by 1 person (1.7%)
- Book 3: mentioned by 1 person (1.7%)

Zimmermann, Frederick. *A Contemporary Concept of Bowing Technique for the Double*

*Bass*: mentioned by 7 people (12.5%)

Mengoli, Annibale: mentioned by 6 people (10.7%). From those, one specific method was cited:

- *20 Concert Studies*: mentioned by 1 person (1.7%)

Nanny, Édouard: mentioned by 6 people (10.7%). From those, one specific method was cited:

- *20 Etudes de Virtuositè*: mentioned by 1 person (1.7%)

Streicher, Ludwig. *My Way of Playing the Double Bass*: mentioned by 5 people (8.9%).

From those, one specific method was cited:

- Vol. 4: mentioned by 1 person (1.7%)

Sevcik, Otakar, for Double Bass: mentioned by 5 people (8.9%). From those, some specific editions were cited:

- Hal Robinson: mentioned by 1 person (1.7%)
- Abe Luboff: mentioned by 1 person (1.7%)

Storch-Hrabe. *57 Studies*: mentioned by 5 people (8.9%)

Suzuki: mentioned by 5 people (8.9%). From those, some specific editions were cited:

- Book 1: mentioned by 1 person (1.7%)
- Book 2: mentioned by 1 person (1.7%)

Vance, George: mentioned by 5 people (8.9%)

Hrabe, Josef. *86 Studies*: mentioned by 3 people (5.3%)

Authors mentioned two times (3.5%) include Hal Robinson, Italo Caimmi, Jean Marc Rollez, Klaus Trump, and Marcos Machado.

Authors and methods mentioned only once (1.7%) include *All for Strings* (Books I and II), Davide Botto (*La Via del Contrabbasso*), Cameron (*Scale Book*), Findeisen, Simon Fischer, Gajdos, Barry Green, Murray Grodner, Pierre Helloiun, Don Hermanns (*Accompanied Rudiments*), Jean-Loup Dehant, Kreutzer, Laszlo, Sebastian Lee, Daniel Massard, Carlo Montanari, David Moore (*Fractal Fingering*), David Moore and Alex Hanna (*Practice Packets*), Piermario Murelli, Orin O'Brien, Valéria Oliveira, Luigi Salvi, Schwabe (*Scale Studies*), Josef E. Storch, and Wilhelm Sturm.

Question ten asked: "In your experience, what are the most challenging orchestral excerpts for double bass required in orchestral auditions?" The results for this question are organized in order of the most to the least mentioned. Most of the participants just said the name of the composer, without describing a piece. When participants mentioned specific pieces, they are described as well:

Mozart, Wolfgang A.: mentioned by 39 people (69.6%)

6 participants said only "Mozart symphonies." However, some specific works were cited:

- Symphony no. 40: mentioned by 16 people (28.5)  
For this symphony, 4 people (7.1%) mentioned specifically the first movement, and 4 people (7.1%) mentioned the fourth movement.
- Symphony no. 35: mentioned by 13 people (23.2%)  
For this symphony, 3 people (5.3%) mentioned specifically the fourth movement.
- Symphony no. 39: mentioned by 11 people (19.6%)  
For this symphony, 1 person (1.7%) mentioned specifically the fourth movement.
- Symphony no. 41: mentioned by 6 people (10.7%)  
For this symphony, 1 person (1.7%) mentioned specifically the fourth movement.
- *Magic Flute*: mentioned by 3 people (5.3%)
- *The Marriage of Figaro*: mentioned by 3 people (5.3%)

Strauss, Richard: mentioned by 37 people (66%)

10 participants (17.8%) said only “Tone Poems.” However, some specific works were cited:

- *Ein Heldenleben*: mentioned by 19 people (33.9%)
- *Don Juan*: mentioned by 8 people (14.2%)
- *Death and Transfiguration*: mentioned by 2 people (3.5%)
- *Till Eulenspiegel*: mentioned by 1 person (1.7%)
- *Also Sprach Zarathustra*: mentioned by 1 person (1.7%)

Some of his operas were also mentioned:

- *Salome*: mentioned by 2 people (3.5%)
- *Der Rosenkavalier*: mentioned by 1 person (1.7%)

Beethoven, Ludwig van.: mentioned by 28 people (49.9%)

- Symphony no. 5: mentioned by 18 people (32%)  
For this symphony, 1 person (1.7%) mentioned specifically the second movement, and 9 people (16%) mentioned the fourth movement.
- Symphony no. 9: mentioned by 13 people (23.2%)  
For this symphony, 3 people (5.3%) mentioned the fourth movement, and from those, one person cited specifically the recitative of this movement.
- Symphony no. 3: mentioned by 3 people (5.3%)  
For this symphony, 1 person (1.7%) mentioned specifically the third movement.
- Symphony no. 7: mentioned by 3 people (5.3%)  
For this symphony, 1 person (1.7%) mentioned the first and the fourth movement.

The three composers above, Mozart, Strauss, and Beethoven, were those who were mentioned the most. The composers which were mentioned the least are listed below. However, they are listed only with the number of mentions, without specific details about pieces and movements. They are organized first in order of citations, and second in alphabetical order.

Brahms, Bruckner, Mahler, and Mendelssohn were mentioned by 5 people (8.9%) each. Smetana and Verdi were mentioned by 4 people (7.1%) each. Ginastera was mentioned by 3 people (5.3%). Schoenberg, Shostakovich, and Wagner were mentioned by 2 people (3.5%) each. Berlioz, Haydn, Stravinsky, Tchaikovsky, and Weber were mentioned by 1 person (1.7%) each.

Question eleven asked: “For the excerpts you cited above, what are the main technical issues for the right hand in your opinion?” The results from this question will be discussed here only regarding the three most cited composers, Mozart, Beethoven, and Strauss. Rather than focusing on an individual work, it shows the general problems found in each composer’s language. Many of the technical issues mentioned are closely related to each other. Therefore, some of them can be grouped together:

Issues related to Mozart:

Articulation / Spiccato / Staccato / Balzato: mentioned by 25 people (44.6%)  
 String crossing / Lack of patterns: mentioned by 19 people (33.9%)  
 Tone quality / Clearness / Phrasing: mentioned by 12 people (21.4%)  
 Speed / Agility: mentioned by 6 people (10.7%)  
 Dynamic contrast / control on *p*, *pp*, *ppp*: mentioned by 4 people (7.1%)  
 Style: mentioned by 3 people (5.3%)

There were fewer occurrences of other technical problems, such as slurs, legato, resistance, projection, bow distribution, and muscle and joint tension.

Issues related to Beethoven:

Articulation / Spiccato / Staccato / Balzato: mentioned by 19 people (33.9%)  
 String crossing: mentioned by 12 people (21.4%)  
 Tone quality / Clearness / Phrasing / Timbre contrast: mentioned by 9 people (16%)  
 Speed: mentioned by 5 people (8.9%)  
 Dynamic contrast / range: mentioned by 7 people (12.5%)  
 Slurs / Legato: mentioned by 3 people (5.3%)

There were fewer occurrences of other technical problems, such as resistance, projection, style, muscle and joint tension, and rhythmic precision.

Issues related to Strauss:

String crossing / Lack of patterns: mentioned by 17 people (30.3%)  
 Articulation: mentioned by 12 people (21.4%)  
 Tone quality / Clearness / Phrasing: mentioned by 10 people (17.8%)  
 Slurs / Legato: mentioned by 8 people (14.2%)  
 Resistance / Power / Volume: mentioned by 7 people (12.5%)

There were fewer occurrences of other technical problems, such as speed, dynamic range, rhythmic precision, style, and bow distribution.

Question twelve asked: “For the excerpts you cited above, what are the main technical issues for the left hand in your opinion?” The results from this question will be discussed here only regarding the three most cited composers of question 10: Mozart, Beethoven, and Strauss. Many of the technical issues related to each composer’s writing style, mentioned in the survey, are closely related to each other. Therefore, some of them can be grouped together:

The issues for Mozart:

Shifting / Slurs on fourths / Fingering / Extension / Pivot: mentioned by 21 people (37.4%)

Intonation / Precision: mentioned by 13 people (23.2%)

Agility / Speed / Motor coordination: mentioned by 10 people (17.8%)

Articulation / Clearness: mentioned by 4 people (7.1%)

There were fewer occurrences of other technical problems, such as resistance, vibrato, hand tension, hand shape, and efficiency.

The issues for Beethoven:

Shifting / Fingering / Extension / Pivot: mentioned by 15 people (26.7%)

Intonation / Precision: mentioned by 13 people (23.2%)

Agility / Speed / Motor coordination: mentioned by 6 people (10.7%)

Articulation / Clearness: mentioned by 3 people (5.3%)

There were fewer occurrences of other technical problems, such as resistance, vibrato, hand tension, and hand shape.

The issues for Strauss:

Shifting / Fingering / Slurs on fourths / Irregular patterns / Extension / Pivot: mentioned by 30 people (53.5%)

Intonation / Precision: mentioned by 13 people (23.2%)

Agility / Speed: mentioned by 3 people (5.3%)

Articulation / Clearness: mentioned by 3 people (5.3%)

There were fewer occurrences of other technical problems, such as resistance, vibrato, hand shape, slurs, and legato.

Question thirteen asked: “Do you use specific exercises from the double bass methods to help solve the technical issues you face in these orchestral excerpts? If so, which exercises?” Eight people (14.2%) mentioned Petracchi as a source for helping on technical issues of the left hand. One of them specified the exercises 6, 7, 11, and 17. Seven people (12.5%) mentioned Zimmermann as a source for solving technical issues of the right hand. One of them specified the first 20 pages of the method. Billè was mentioned by 5 people (8.9%). One of them specified the section “*La Scuola dell’Arco*,” of the second volume, while another specified his scales systems, and a third mentioned his “18 Studies,” for the right hand. Simandl was mentioned by 3 participants (5.3%). One specified the “*Gradus ad Parnassum*,” while another mentioned page 69 of book 2, and another mentioned his scales system. Rabbath was mentioned by 2 people (3.5%), specifically the pull-out bowing of Book 3 and his “crab technique.” Hal Robinson was also mentioned twice (3.5%), specifically the Boardwalkin’, and the Perpetual Motion. Luigi Salvi, Nanny, Findeisen, and Kreutzer were mentioned twice each (3.5%). Authors mentioned only once include Ben-Tal, Bradetich, Gary Karr (“Vomits”), Galamian, Hrabe (86 Etudes), Marcos Machado, Mengoli (Orchestra Studies), Montanari, Murelli, Sebastian Lee, Sevcik no. 5, Streicher, Trebbi, and Valéria Oliveira.

Question fourteen asked: “How do you inform yourself about style when you are preparing an orchestral excerpt?” The options were:

1.  On double bass literature/methods
2.  On general music literature
3.  Asking a professor
4.  Listening/watching performances
5.  Other:

The results:

Option 4 only: selected by 7 people (12.5%)  
 Options 2 and 4: selected by 7 people (12.5%)  
 Options 3 and 4: selected by 7 people (12.5%)  
 First four options: selected by 6 people (10.7%)  
 All five options: selected by 5 people (8.9%)  
 Options 1, 2, and 4: selected by 4 people (7.1%)  
 Options 2, 3 and 4: selected by 4 people (7.1%)  
 Option 2 only: selected by 3 people (5.3%)  
 Option 1 and 4: selected by 3 people (5.3%)  
 Options 1, 3, and 4: selected by 3 people (5.3%)  
 Option 1 only: selected by 2 people (3.5%)  
 Option 5 only: selected by 2 people (3.5%)  
 Options 2, 4 and 5: selected by 1 people (1.7%)  
 Options 1, 2, 4, and 5: selected by 1 people (1.7%)  
 Options 4 and 5: selected by 1 person (1.7%)  
 Option 3 only: selected by 0 people (0%)

In option 5, “Other,” responder mentioned treatises, discussing with the conductor, stylistic experience, study of scores, professional experience, harmonic analysis, and watching documentaries.

Question fifteen stated: “If you have any consideration about the relationship between double bass methodology and orchestral excerpts, please let me know your thoughts.” The answers collected by this question will be presented in the next chapters if they bring some contribution to the development of the research.

The practical conclusions of the analysis of this survey are as follows: The five most popular methodologies for the double bass being used were at the time of the study Simandl, Petracchi, Billè, Rabbath, and Zimmermann. The three composers with the most challenging musical language were Mozart, Strauss, and Beethoven. The excerpts mentioned most often for each composer were these:

- Mozart: Symphony no. 40, Symphony no. 35, and Symphony no. 39
- Strauss: *Ein Heldenleben*, and *Don Juan*

- Beethoven: Symphony no. 5 and Symphony no. 9

The participants shared similar technical concerns across the works of all three composers.

For the right hand the most mentioned issues were articulation, string crossing, and clearness.

For the left hand, the most mentioned issues were shifting, intonation, and agility.

For this research, the five most preferred methods for double bass will be analyzed and correlated with the three most cited composers and their main excerpts. A few other works are used, according to the judgment of this author, in order to provide further technical suggestions.

## CHAPTER 3

### GENERAL COMMENTS ON ORCHESTRAL TECHNIQUE

It is essential to recognize that each performer will respond in different ways to similar technical aspects of the repertoire. There are several reasons for this: size of arms, hands and fingers, muscular endurance, motor abilities and joints coordination, size and quality of the instrument and strings, response of bow (due to curvature) and hair quality, climatic issues, and the most obvious reason: every player is different. Thus, the suggestions made by this author, taken mostly from the literature mentioned in the survey, may not apply to every case and only the reader can judge if these recommendations apply to her/his specific situation.

The choice of etudes was based on their relevance to the orchestral writing. Most of them are not directly related to the excerpts but offer a good contribution to the skill that needs to be developed for the orchestral technique. This chapter presents a few conceptions about technique, followed by practical examples from the technical literature. Some of these conceptions include sound production, articulation, dynamics, string crossing, shifting, agility, left hand articulation, fingering, and synchronization.

An interesting reflection about the importance of practicing the orchestral technique outside of the orchestra repertoire itself is given by Paul Ellison in an interview with Andrew Kohn:

The idea of using the orchestra repertoire is helpful, but I have also seen the opposite results. In lots of places that I visit, people only use the orchestra repertoire, and they're so burned out on it, it's so stale, they know it so well, they've "learned their mistakes." They've learned their bad habits so well in that repertoire that it's really difficult to grow and move forward with the music. If they had taken the elements of that repertoire that

are complicated, worked on their right and left hand situations separately, really mastered the necessary articulation, matched that with the freedom of whatever it was that they were lacking in the left hand, and put it together, instead of beating the orchestra repertoire to death, that approach would have been a front door to that repertoire, the same as it's a front door to our solo repertoire.<sup>13</sup>

### Bow

The bow is a delicate subject: German and French bows have their unique particularities and several different conceptions are connected to each of the bow styles, regarding holding and movements of the right arm and hand. In this chapter I will only discuss aspects that are common to most bow schools. With regard to bow placement, weight, and speed, Bradetich asserts that “speed is the result of decisions made about placement and weight, but all three factors are in constant flux and negotiation with each other to find the best result.”<sup>14</sup> His summary of the general rules for bowing speed is shown here:

- Faster bow speed = lighter or fuzzier sound
- Slower bow speed = clearer or more focused sound
- Too much bow speed = overtones and squeaks, eliminating pure tone
- Too slow bow speed = choke, grinding sound
- Bow closer to the bridge = slower speed demanded
- Bow closer to fingerboard = faster speed demanded
- Apply more weight = slower speed demanded (variable depending on desired tone)
- Apply less weight = faster speed demanded (variable depending on desired tone)
- Higher pitches = faster bow speed demanded
- Lower pitches = slower bow speed demanded<sup>15</sup>

Regular speed and smooth bow change are also prerequisites for good sound production.

This can be practiced by playing open strings, for instance, with all the attention given to the small and big muscles of the right arm. Concerning bow change, Bradetich explains that “there are several reasons why the whole forearm is used.” He outlines:

---

<sup>13</sup> Andrew Kohn, “The bass etude interviews,” *American String Teacher* 57, no. 2 (May 2007): 68.

<sup>14</sup> Jeff Bradetich, *Double Bass: The Ultimate Challenge* (Moscow, ID: Music for All to Hear, Inc., 2009), 25.

<sup>15</sup> Bradetich, *Double Bass: The Ultimate Challenge*, 26.

1. By using larger muscles, which are more powerful, less is demanded of the small finger muscles.
2. By using more weight, resistance from the string is less noticeable. Greater velocity in striking the string gives clearer articulation.
3. Finger muscles need blood to work effectively: if blood supply is inadequate, fingers quickly tire. Blood circulation is dependent upon muscular activity: forearm movement will, therefore, increase stamina.”<sup>16</sup>

### Articulation

One important aspect in the preparation of an excerpt is the resonance of the string, mainly at the beginning of each note. Even when we play a legato passage, there must necessarily be a short “attack” on the string to ensure a good vibration from the beginning of any note. About this, Guettler writes: “The stroke is begun by laying the bow on the string with an appropriate amount of weight. Next, one allows the bow to draw the string very slightly sideways (just like the finger in pizzicato) without any change of weight. Now we are ready to begin the note.”<sup>17</sup>

A frequent articulation in the double bass lines of the orchestral repertoire is fast staccato in the low register. It is also one of the articulations that receive less attention from bassists in general. The pedagogy for the instrument rarely includes challenging exercises or studies in the low register. Yet Bradetich states: “Perhaps the single most difficult task in playing the double bass is playing with clarity and cleanliness on low fast passages with separate bows.”<sup>18</sup>

Luigi Salvi, in his *20 Esercizi pratici per contrabbasso*,<sup>19</sup> presents several exercises in the low register that bring a good contribution to this matter. Below are the first eight measures of the exercise no. 16, in the low register of strings E and A.

---

<sup>16</sup> Knut Guettler, *A Guide to Advanced Modern Double Bass Technique* (London: Yorke Edition, 1992), 44.

<sup>17</sup> Guettler, *A Guide to Advanced Modern Double Bass Technique*, 8.

<sup>18</sup> Bradetich, *Double Bass: The Ultimate Challenge*, 115.

<sup>19</sup> Luigi Salvi, *20 Esercizi Pratici per Contrabbasso* (Milano: Curci, 1965), 21.



Example 3.1. Salvi, fragment of Study no. 16, from *20 Esercizi pratici per contrabbasso*<sup>20</sup>

There is some controversy about the terminology used to describe the several types of staccato strokes. Some authors describe practically the same stroke with a number of different terms, such as *spiccato* (the most common of them), *sautillé*, *balzato*, and even *martelé*.

Independent of the terminology, we are still talking basically about the same problem: controlled short and fast strokes.

Besides the terminology problem, there is also the specific response each instrument and bow can offer depending on their characteristics, e.g., the curvature of the bow. One can discover something about staccato strokes by investigating the balance point of the bow and the best placement of the bow on each string, and through practicing with mirrors and recordings.

According to Bradetich, “the goal of the staccato stroke is to create clarity through articulation. It is primarily used in faster passages where a short stroke gives a certain bite to the start of the note and does not smoothly connect to the next note.”<sup>21</sup>

About the relation of bow placement and dynamics, Guettler says that “the point of the bow where spiccato works best is dependent on tempo and dynamics. Very quick spiccato is best played in the middle of the bow. At slower speeds, a point nearer the frog will give better results

<sup>20</sup> from *20 Esercizi Pratici per contrabbasso* – EC8372, page 21

By Luigi Salvi

© 1965 by Edizioni Curci s.r.l.

By courtesy of Edizioni Curci s.r.l., All rights reserved.

<sup>21</sup> Bradetich, *Double Bass: The Ultimate Challenge*, 93.

– particularly when playing forte or fortissimo.”<sup>22</sup> About the movement range for the stroke, Grodner says that “the bounce for the spiccato should never be exaggerated by being too high or too wide. Too wide a bounce results in a brushier contact with the string. Bouncing too high results in less ability for control of both sound production and metronomic accuracy.”<sup>23</sup>

Musical style is also an aspect that determines the articulation of the bow. The lighter the articulation needed, as in Mozart for instance, the more vertical and closer to the balance point is the movement of the bow on the string. In an excerpt by Strauss, on the other hand, the stroke required is heavier, demanding a more horizontal bow articulation closer to the frog.<sup>24</sup> According to Bradetich, “the ‘controlled’ spiccato can be broken down into many subcategories, but there are four basic strokes that have clearly identifiable differences:

1. Mozart (V-shape) 
2. Beethoven (U-shape) 
3. Brahms (saucer-shape) 
4. Strauss (upside-down down bow)<sup>25</sup> 

About the characteristics of each of the different strokes above, Bradetich explains:

The Mozart stroke is primarily a vertical motion with little horizontal movement. The Beethoven stroke uses more horizontal motion in the right hand and arm. [It] is longer and heavier than the Mozart stroke. The Brahms stroke is a broadening of the Beethoven stroke. It is created in a similar way but the bow remains on the string for a longer period of time and more weight is allowed into the string. The Strauss spiccato is a more aggressive. Its right arm and hand usage is very similar to the Beethoven stroke, but has a harder attack or bite into the string and is more clearly defined on the release.<sup>26</sup>

---

<sup>22</sup> Guettler, *A Guide to Advanced Modern Double Bass Technique*, 32.

<sup>23</sup> Murray Grodner, *A Double Bassist's Guide to Refining Performance Practices* (Bloomington: Indiana University Press, 2013), 38.

<sup>24</sup> Bradetich, *Double Bass: The Ultimate Challenge*, 102.

<sup>25</sup> *Ibid.*, 93.

<sup>26</sup> *Ibid.*, 94.

The agility exercises by Billè below are useful for practicing the staccato-like strokes in the low and intermediate registers. The first of them also presents a few variations, mixing short and slurred notes, a challenging combination as well.

I. STRING *etc* II. STRING *etc*

III. STRING *etc* IV. STRING *etc*

Variations

1. *etc* 2. *etc* 3. *etc*

Example 3.2. Billè, fragment of “Exercise for the First Finger,” from *Nuovo metodo per contrabbasso*, Vol. 1<sup>27</sup>

I. STRING *etc* II. STRING *etc*

III. STRING *etc* IV. STRING *etc*

Example 3.3. Billè, fragment of “Other Very Useful Exercises for Limbering the Left Hand,” from *Nuovo metodo per contrabbasso*, Vol. 1<sup>28</sup>

<sup>27</sup> ISAIA Billè – *Nuovo Metodo per contrabbasso a 4 e 5 corde* (ER 261)

Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy

All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

<sup>28</sup> ISAIA Billè – *Nuovo Metodo per contrabbasso a 4 e 5 corde* (ER 261)

Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy

All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

## Dynamics

The practice of dynamics is often overlooked in teaching studies and in the didactic material for the double bass. We spend most of our time chasing the limits of the instrument on the loud dynamics, neglecting dynamic nuances and mostly the soft dynamics. Playing *piano* can be extremely challenging depending on the nature of the passage being played, such as the beginning of the third movement of Beethoven's Symphony no. 5. As Bradetich says, a "common misconception, especially among orchestra conductors, is that playing with only two hairs of the bow will create a soft sound. This, in fact, will create a very weak sound. If playing loud or soft, a full tone should always be produced, never a weak sound. To play softly, reduce the amount of weight applied to the string."<sup>29</sup>

The simple exercise shown below can help develop awareness of the muscle control of the right arm, in order to play a good soft dynamic without loss of energy and expressivity. This exercise can be applied to any study (possibly with a few adaptations) or orchestral excerpt:

- First, play the study or orchestral excerpt with separate bows, first *mf*, then *mp*, *p*, and *pp*.
- Next, play it slurring two notes, first *mf*, then *mp*, *p*, and *pp*.
- Then, play it slurring three or four notes, first *mf*, then *mp*, *p*, and *pp*.
- Finally, play it slurring six or eight notes, first *mf*, then *mp*, *p*, and *pp*.

The following two exercises, from Mengoli's *40 Studi d'orchestra*, are recommended for excerpts such as the beginning of the third movement of Beethoven's Symphony no. 5. Like the orchestral excerpt, these studies contain several string crossings and shifts. The exercise above can conveniently be applied to all of them.

---

<sup>29</sup> Bradetich, *Double Bass: The Ultimate Challenge*, 31.



Example 3.4. Mengoli, fragment of Study no. 2, from *40 Studi d'orchestra*<sup>30</sup>



Example 3.5. Mengoli, fragment of Study no. 19, from *40 Studi d'orchestra*<sup>31</sup>

### String crossing and shifting

In a large instrument tuned in fourths, most of the work consists of string crossings and shifts. The combination of them, especially when shifting and string crossing over an inactive string at the same time, represents a challenge for intonation and legato passages. About the mechanics of string crossing and shifting, Bradetich explains:

Whether in a slur or with separate bows, a shift with a string crossing should never use the same finger on both notes. In a regular (sliding) shift, the shift is made on the string and finger being shifted to. If shifting from the D string on 1st finger to the G string with 2nd finger, the shifting motion should be made on the G string with the 2nd finger. In a

<sup>30</sup> ANNIBALE MENGOLI – *40 studi d'orchestra* (ZAN 6347)

Copyright © 1989 by Zanibon – Universal Music Publishing Ricordi S.r.l. – Milan, Italy  
All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

<sup>31</sup> ANNIBALE MENGOLI – *40 studi d'orchestra* (ZAN 6347)

Copyright © 1989 by Zanibon – Universal Music Publishing Ricordi S.r.l. – Milan, Italy  
All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

landed shift, the opposite is true [but it] occurs very rarely when shifting with a string crossing.<sup>32</sup>

It may be instructive to practice each hand separately, in order to be fully aware of wrong or unnecessary movements one may be doing. Frederick Zimmermann's studies<sup>33</sup> are great tools for the right arm and hand. His concept, which consists in the practice of the bow-arm only, can be applied to any musical passage. Below is an example of his approach applied to a small fragment of the first movement of Mozart's Symphony no. 35.



Example 3.6. Mozart, Symphony no. 35, first movement, m. 34

Zimmermann, in the introduction of his book, states that

There are two considerations which are of major importance in the course of practicing cross-string bowing patterns. First, the hair of the bow must remain as close to the string as possible, in the particular pattern being studied; and second, the raising and lowering movements of the arm must be kept at a minimum.<sup>34</sup>

Most of the patterns Zimmermann proposes in his method are built in the two upper strings on the fourth position: A in the D-string and E in the G-string. His reason for this choice is not clear, but some people may find the prolonged study with a stationary left-hand slightly uncomfortable. My suggestion is to practice his patterns with open strings, including the bottom

<sup>32</sup> Bradetich, *Double Bass: The Ultimate Challenge*, 80.

<sup>33</sup> Frederick Zimmermann, *A Contemporary Concept of Bowing Technique for the Double Bass* (New York: MCA Music, 1966).

<sup>34</sup> Zimmermann, *A Contemporary Concept of Bowing Technique for the Double Bass*, 5.

strings as well, or in the harmonics found in the middle. At the end of his book he suggests a few exercises including three strings. Some of the patterns and variations are shown in example 3.7.

#### Bowing Drills for the Upper Three Strings



#### Bowing Drills for the Lower Three Strings



#### Bowings



Example 3.7. Zimmermann, fragment of “Bowing Drills for the Upper and Lower Three Strings,” from *A Contemporary Concept of Bowing Technique for the Double Bass*<sup>35</sup>

Billè,<sup>36</sup> in book six of his method, also presents a few interesting exercises in this matter.

Two of them are below. In the first one, he includes exercises for three, four, and even five strings; the second exercise mixes open strings and pressed pitches.

<sup>35</sup> *A Contemporary Concept of Bowing Technique for The Double Bass*

By Frederick Zimmerman

Copyright (c) 1966 UNIVERSAL MUSIC CORP.

Copyright Renewed

All Rights Reserved Used by Permission

Item #HL00123248 - \$15.99 Available for purchase from local book retailers.

Reprinted with Permission of Hal Leonard LLC

<sup>36</sup> Isaia Billè, *New Method for Double-Bass*, volume 6 (Milano: Ricordi, 1922), 124.



Example 3.8. Billè, fragment of “On Harped Chords,” from *Nuovo metodo per contrabbasso*, Vol. VI<sup>37</sup>

Example 3.9. Billè, fragment of “On Harped Chords,” from *Nuovo metodo per contrabbasso*, Vol. VI<sup>38</sup>

The next exercise, also by Billè, introduces a similar idea but with a higher level of difficulty. It mixes challenging strings crossings – a few of them over an inactive string – with

<sup>37</sup> ISAIA Billè – *Nuovo Metodo per contrabbasso a 4 e 5 corde* (ER 261)

Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy

All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

<sup>38</sup> ISAIA Billè – *Nuovo Metodo per contrabbasso a 4 e 5 corde* (ER 261)

Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy

All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

uncomfortable fingerings, such as 2-2 (or 3-3 in the Italian system), and 4-4, a kind of fingering that is always a problem in instruments tuned in fourths, especially with slurs.

use all the phalanges and hold the fingers still

Example 3.10. Billè, fragment of Study no. 51 from *Nuovo metodo per contrabbasso*, Vol. III<sup>39</sup>

The isolated study of intervals can be tremendously beneficial for the practice of string crossing, shifting, and intonation. The exercise bow is in C major, which can be transposed easily to any key after one is familiar with the left-hand patterns. This exercise was extracted from Nanny's method,<sup>40</sup> but this type of exercise can be found in several other methods, such as those of Billè, Simandl, Rabbath, and Hellouin.

<sup>39</sup> ISAIA Billè – *Nuovo Metodo per contrabbasso a 4 e 5 corde* (ER 261)

Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy

All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

<sup>40</sup> Edouard Nanny, *Méthode complète pour la contrebasse à quatre et cinq cordes* (Paris: Alphonse Leduc, 1920).

The image displays six musical staves, each representing a different interval: THIRDS, FOURTHS, FIFTHS, SIXTHS, SEVENTHS, and OCTAVES. Each staff begins with a bass clef and a common time signature (C). The scales are written in a single line of music, showing the sequence of notes and their intervals. The scales are:
 

- THIRDS:** A sequence of notes with a third interval between them.
- FOURTHS:** A sequence of notes with a fourth interval between them.
- FIFTHS:** A sequence of notes with a fifth interval between them.
- SIXTHS:** A sequence of notes with a sixth interval between them.
- SEVENTHS:** A sequence of notes with a seventh interval between them.
- OCTAVES:** A sequence of notes with an octave interval between them.

 Each staff ends with a double bar line and a fermata over the final note.

Example 3.11. Nanny, fragment of “Scales and Exercises in Thirds, Fourths, Fifths, Sixths, Sevenths, and Octaves,” from *Méthode complète pour la contrebasse à quatre et cinq cordes*, Vol. II

Exercises of the study of octaves can be found in several methods and study books. A few examples of them are shown below. The first is by Simandl, which includes a variation for louder dynamics; the second is by Billè, with 12 bow variations, and the third is from Petracchi’s *Simplified Higher Technique*, divided into two parts.

Example 3.12. Simandl, fragment of Study no. 2, from *New Method for the Double Bass*<sup>41</sup>

Example 3.13. Billè, fragment of Study no. 37, from *Nuovo metodo per contrabbasso*, Vol. III<sup>42</sup>

<sup>41</sup> *New Method for the Double Bass*

by Franz Simandl, edited by Lucas Drew

Used by Permission of Carl Fischer, LLC

<sup>42</sup> ISAIA Billè – *Nuovo Metodo per contrabbasso a 4 e 5 corde* (ER 261)

Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy

All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy



Example 3.14. Petracchi, fragment of Exercise no. 8, from *Simplified Higher Technique* <sup>43</sup>

Often, we find examples in the orchestral literature with intervals larger than an octave, which are in the low register of the double bass. This necessarily means string crossing over an inactive string with shifting. The next two examples, one from Rabbath and another by Findeisen, present this kind of technical issues.



Example 3.15. Rabbath, fragment of “Study on leaps over strings from 1st to 5th position,” from *Nouvelle technique de la Contrebasse*, Vol. 3<sup>44</sup>

<sup>43</sup> *Simplified Higher Technique*

By Francesco Petracchi

Copyright © 1982 by Yorke Edition

Used by Permission

<sup>44</sup> NOUVELLE TECHNIQUE DE LA CONTREBASSE, VOL. 3

By François Rabbath

Copyright © 1984 by Editions Musicales Alphonse Leduc, Paris

International Copyright Secured. All Rights Reserved.

Used by Permission.

The image shows a musical score for a bass instrument. It consists of two staves. The top staff begins with the tempo marking 'Largo' and the dynamic marking 'f'. The music is in a key with three flats (B-flat, E-flat, A-flat) and a 3/4 time signature. The notation includes various note values, rests, and slurs. A '(simile)' instruction is placed above the second staff. The piece concludes with 'etc.' and a double bar line.

Example 3.16. Findeisen, fragment of Study no. 25, from *25 Technical Studies*<sup>45</sup>

The practice of scales and broken chords is probably the most important daily exercise that every bassist needs to practice. They can be found in every single technical book for the instrument, with several different suggestions of fingerings and how to practice them. The broken chords example below is from Simandl's *New Method for the Double Bass*, second volume.<sup>46</sup>

---

<sup>45</sup> 25 Technical Studies, Op. 14, Volume IV, for String Bass  
 By Theodor Albin Findeisen  
 Edited by Fred Zimmermann  
 Copyright © 1957 by International Music Co. (Renewed)  
 [Catalog Number: 1430]  
[www.internationalmusicco.com](http://www.internationalmusicco.com)

<sup>46</sup> Franz Simandl, *New Method for the Double Bass*. Vol. II, revised by Frederick Zimmermann, edited and annotated by Lucas Drew (New York: Carl Fischer, 1984), 40.

C major Triad in three-part arpeggios



Four-part arpeggios



Chord of the Dominant Seventh, in four-part arpeggios



Example 3.17. Simandl, fragment of *New Method for the Double Bass*, Vol. 2, Part VIII<sup>47</sup>

The following six study fragments contain a combination of technical issues discussed previously, such as string crossing and shifting, where the conceptions of articulations, dynamics, and sound production can be applied for practice purposes.



Example 3.18. Rabbath, fragment of Study no. 17, from *Nouvelle technique de la Contrebasse*, Vol. 3<sup>48</sup>

<sup>47</sup> *New Method for the Double Bass*

by Franz Simandl, edited by Lucas Drew

Used by Permission of Carl Fischer, LLC

<sup>48</sup> NOUVELLE TECHNIQUE DE LA CONTREBASSE, VOL. 2

By François Rabbath

Copyright © 1980 by Editions Musicales Alphonse Leduc, Paris

International Copyright Secured. All Rights Reserved.

Used by Permission.

Example 3.19. Sturm, fragment of Study no. 43, from *110 Studies*, Vol I<sup>49</sup>

Example 3.20. Mengoli, fragment of Study no. 34, from *40 Studi d'orchestra*<sup>50</sup>

Example 3.21. Mengoli, fragment of Study no. 36, from *40 Studi d'orchestra*<sup>51</sup>

<sup>49</sup> 110 Studies, Op. 20, Volume I, for String Bass  
By Wilhelm Sturm  
Edited by Fred Zimmermann  
Copyright © 1963 by International Music Co. (Renewed)  
[Catalog Number: 2079]  
www.internationalmusicco.com

<sup>50</sup> ANNIBALE MENGOLI – *40 studi d'orchestra* (ZAN 6347)  
Copyright © 1989 by Zanibon – Universal Music Publishing Ricordi S.r.l. – Milan, Italy  
All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

<sup>51</sup> ANNIBALE MENGOLI – *40 studi d'orchestra* (ZAN 6347)  
Copyright © 1989 by Zanibon – Universal Music Publishing Ricordi S.r.l. – Milan, Italy  
All Rights Reserved  
Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

**Presto**

*etc.*

Example 3.22. Montanari, fragment of Study no. 3, from *14 Studies for String Bass*<sup>52</sup>

**Moderato**

*etc.*

Variations

Example 3.23. Montanari, fragment of Study no. 12, from *14 Studies for String Bass*<sup>53</sup>

---

<sup>52</sup> 14 Studies for String Bass  
 By Carlo Montanari  
 Edited by Homer Mensch  
 Copyright © 1974 by International Music Co. (Renewed)  
 [Catalog Number: 2728]  
[www.internationalmusicco.com](http://www.internationalmusicco.com)

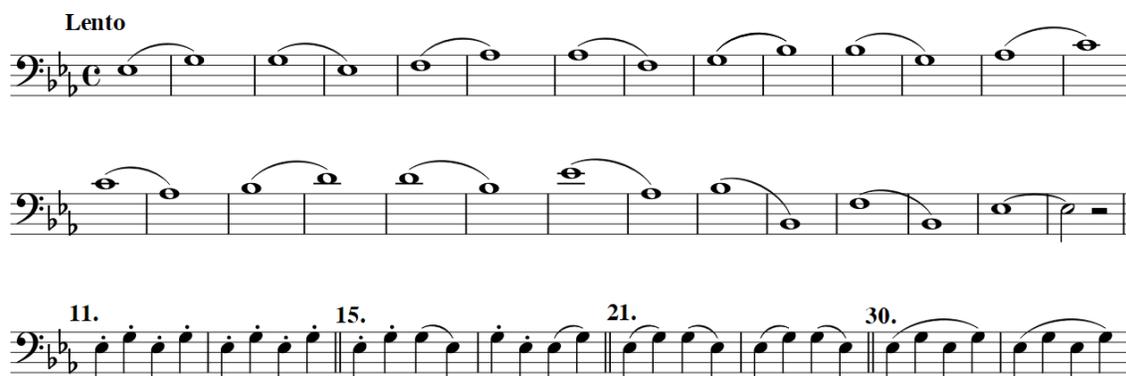
<sup>53</sup> 14 Studies for String Bass  
 By Carlo Montanari  
 Edited by Homer Mensch  
 Copyright © 1974 by International Music Co. (Renewed)  
 [Catalog Number: 2728]  
[www.internationalmusicco.com](http://www.internationalmusicco.com)



Example 3.24. Findeisen, fragment of Study no. 17, from 25 Technical Studies, Vol. III<sup>54</sup>

### Quick Repeated String Crossing

This is a recurring pattern in the Classical period repertoire which needs special attention due to the control it demands from the right arm muscles. About the practice of this pattern, Guettler says that it is “important that string crossing is achieved with the greatest possible economy of movement, [keeping] the bow so near the other string that it almost touches it.”<sup>55</sup> The next two examples are by Billè and by Salvi, which are good examples of studies for quick repeated string crossing.



Example 3.25. Billè, fragment of Study no. 9, from *Nuovo metodo per contrabbasso*, Vol. II<sup>56</sup>

<sup>54</sup> 25 Technical Studies, Op. 14, Volume III, for String Bass

By Theodor Albin Findeisen

Edited by Fred Zimmermann

Copyright © 1957 by International Music Co. (Renewed)

[Catalog Number: 1429]

www.internationalmusicco.com

<sup>55</sup> Guettler, *A Guide to Advanced Modern Double Bass Technique*, 21.

<sup>56</sup> ISAIA Billè – *Nouvo Metodo per contrabbasso a 4 e 5 corde* (ER 261)

Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy

All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy



Example 3.26. Salvi, fragment of Study no. 6, from *20 Esercizi pratici per contrabbasso*<sup>57</sup>

### The Left Hand

In addition to the conception of shifting, already discussed above, a few other considerations concerning the left hand can contribute to the practice of the orchestral repertoire, also applicable to the solo repertoire. Two related conceptions that are interesting for legato passages are those described by Bradetich as “hammer action” and “pull-off motion.”

Hammer action is essential for articulate and accurate left hand playing because it takes advantage of the innate strength and speed of the fingers. It is particularly useful in ascending slurred passages where there is no bow change or articulation in the right hand to help pronounce the change from note to note. The pull-off motion is an attempt to create the same articulate result as that of the hammer action but when playing descending notes, usually in a slur. [In the pull-off motion,] the left finger plucks the string as it releases the note, therefore articulating the next lower pitch. This action is also very useful when going from a closer note to an open string, as it helps the open string begin to vibrate more quickly, especially in a slur.<sup>58</sup>

Grodner also defends the idea that fingers work similarly to percussion sticks.<sup>59</sup> However, he warns that one should “not exaggerate by pounding too hard, as this can cause the fingers to be lifted too high. The higher the finger is lifted, the longer it takes to go up and down between notes.”<sup>60</sup>

<sup>57</sup> From *20 Esercizi Pratici per contrabbasso* – EC8372, page 21

By Luigi Salvi

© 1965 by Edizioni Curci s.r.l.

By courtesy of Edizioni Curci s.r.l., All rights reserved.

<sup>58</sup> Bradetich, *Double Bass: The Ultimate Challenge*, 57.

<sup>59</sup> Grodner. *A Double Bassist's Guide to Refining Performance Practices*, 6.

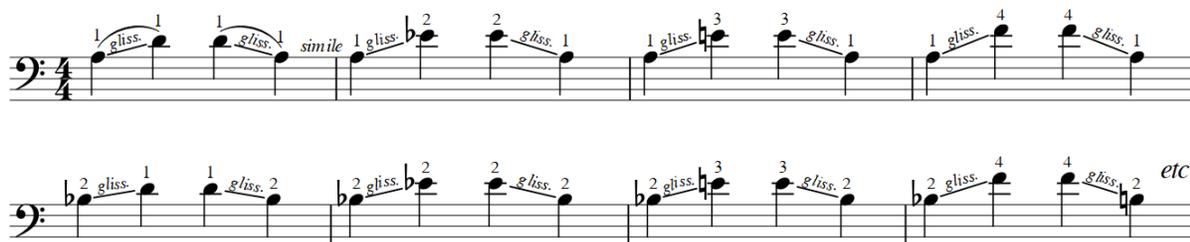
<sup>60</sup> Ibid.

## Intonation

Intonation is one of the most challenging issues for an instrument of big proportions such as the double bass. There are also several misconceptions about sound production that can damage the way we react to the response of the instrument, causing the feeling we are out of tune. One of these mistaken beliefs is that if we feel that we are out of tune – in a bass section, for instance – we should play softly. The bow, in fact, has an important role in the intonation process, as Bradetich explains:

At the very core of intonation is the process of producing and maximizing the innate resonance of the instrument on every note. This perhaps most telling aspect of intonation puts the attention on the bow. It is vital that the response of the instrument under the bow be felt and reacted to. If the tone produced is weak because the configuration of the bow placement, weight and speed is not correct, then the pitch will be flat. If the bow speed is too fast for the accompanying weight and placement, then the pitch will go sharp.<sup>61</sup>

Sliding-like exercises are suggested by several authors, such as Petracchi and Gary Karr, in slightly different ways but with the same basic idea: traveling from one note to another through a glissando, for the practice of intonation. Machado proposes a similar exercise style in a register that is very convenient for the orchestral repertoire practice, as shown below:



Example 3.27. Machado, fragment of “Shifting Exercise to Connect Two Positions” from *Tao of Bass*<sup>62</sup>

<sup>61</sup> Bradetich, *Double Bass: The Ultimate Challenge*, 87.

<sup>62</sup> *Tao of Bass*, Vol. 1

By Marcos Machado

Used by Permission

Fingering substitution is also a type of exercise helpful for the practice of intonation. The next two exercises offer a technique that can be put into practice in any key or any string. The first is by Findeisen, quoted in Orin O'Brien's *Double-Bass Notebook*, which uses a few open strings that work as intonation references. The second is from Machado's *Tao of Bass*, based on a F major scale.

**Langsam**

*f* D A G A G A D A G A G

A E D G D D A D A D A A 0 1 0 4 0 2 4 *etc*

Example 3.28. Findeisen, fragment of “Finger substitution exercise,” quoted in O’Brien’s *Double-Bass Notebook*<sup>63</sup>

4 2 1 2 4 1 2 4 2 1 4 2 1 2 4 1 2 4 2 1 4 2 1 2 4

1 2 4 2 1 4 2 1 2 4 1 2 4 2 1 4 4 3 2 1 2 3 4 1 2 3 4 3 2 1 *etc*

Example 3.29. Machado, fragment of “Exercise 1.21- Finger Substitution” from *Tao of Bass*<sup>64</sup>

<sup>63</sup> *Double Bass Notebook*

by Orin O’Brien

Used by Permission of Carl Fischer, LLC

<sup>64</sup> *Tao of Bass*, Vol. 1

By Marcos Machado

Used by Permission

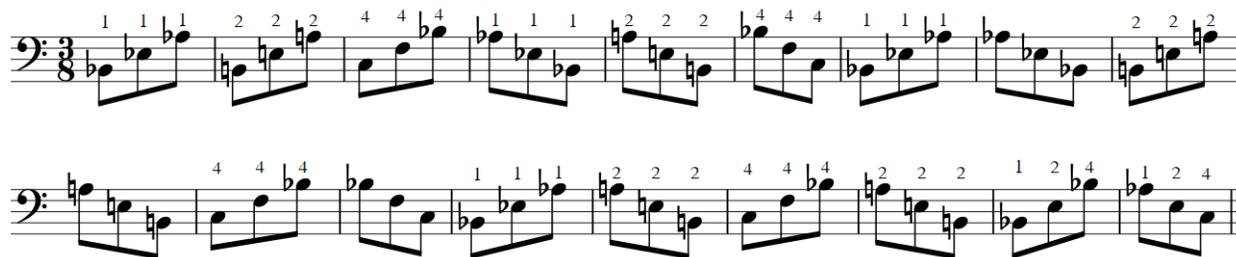
### String Crossing when the Interval is a Fourth

As Bradetich says, “playing perfect fourths on a bass, which is tuned in fourths, presents a particularly nasty problem.”<sup>65</sup> Indeed, this can be a difficult issue, mainly when playing legato passages. Several passages from the traditional orchestral excerpts for the double bass present perfect fourths, sometimes two in a sequence, as we can observe in last three notes of the example of *Ein Heldenleben* below:



Example 3.30. Strauss, excerpt of *Ein Heldenleben*

Machado’s exercise below is a great tool for the practice of this particular issue, along with string crossing. One idea on how to approach this exercise is to play only with the left hand, in order to have a better understanding of the movement of the fingers.



Example 3.31. Machado, fragment of Exercise 1.11.d, from *Tao of Bass*<sup>66</sup>

<sup>65</sup> Bradetich, *Double Bass: The Ultimate Challenge*, 59.

<sup>66</sup> *Tao of Bass*, Vol. 1

By Marcos Machado

Used by Permission

### Double Stops

The practice of double stops in the lower positions may also be beneficial for intonation purposes. Each of the next five studies approach this practice in different ways. The first two studies are from Petracchi's *Simplified Higher Technique*. The first of them (Exercise no. 7) may be best labeled as an agility exercise, but variations b and c make use of the hand shape used in part a to the practice of thirds and fifths in double stops.



Example 3.32. Petracchi, fragments of Exercise no. 7, from *Simplified Higher Technique*<sup>67</sup>

The next exercise by Petracchi, on the other hand, demands a finger substitution in order to play the second double stop of the pattern. It is interesting to observe that the last two notes before the first double stop are the same notes that build this double stop; thus, the fingers should not leave the string before the double stop happens. At the beginning of the exercise, Petracchi recommends that performers “play this exercise for intonation in all keys and also descending.”<sup>68</sup>

<sup>67</sup> *Simplified Higher Technique*  
By Francesco Petracchi  
Copyright © 1982 by Yorke Edition  
Used by Permission

<sup>68</sup> Francesco Petracchi, *Simplified Higher Technique* (London: Yorke Edition, 1982), 15.



Example 3.33. Petracchi, fragment of Study no. 9, from *Simplified Higher Technique*<sup>69</sup>

Double stops in the low register of the double bass can be especially problematic. It is not common in the literature for the instrument, but its practice can be helpful for intonation. The next exercise, from Rabbath's *Nouvelle technique de la contrebasse*, is interesting in this matter because he always relates a pitch with a neighbor open string.



Example 3.34. Rabbath, fragment of "Double Stops and Chords," from *Nouvelle technique de la contrebasse*, Vol. 4<sup>70</sup>

The next two exercises by Orin O'Brien, while focused on developing fingers independence, are also a great tool for the practice of intonation and endurance.

---

<sup>69</sup> *Simplified Higher Technique*

By Francesco Petracchi

Copyright © 1982 by Yorke Edition

Used by Permission

<sup>70</sup> *NOUVELLE TECHNIQUE DE LA CONTREBASSE, VOL. 4*

By François Rabbath

Copyright © 2012 by Editions Musicales Alphonse Leduc, Paris

International Copyright Secured. All Rights Reserved.

Used by Permission.



Example 3.37. Salvi, fragments of Exercises 1, 2, 3, and 4, from *20 Esercizi pratici per contrabbasso*<sup>73</sup>

Example 3.37. Salvi, fragments of Exercises 1, 2, 3, and 4, from *20 Esercizi pratici per contrabbasso*<sup>73</sup>

Example 3.38. Billè, fragment of Study no. 6, from *Nuovo metodo per contrabbasso, Vol. I*<sup>74</sup>

Example 3.38. Billè, fragment of Study no. 6, from *Nuovo metodo per contrabbasso, Vol. I*<sup>74</sup>

<sup>73</sup> From *20 Esercizi Pratici per contrabbasso* – EC8372, pages 6-7

By Luigi Salvi

© 1965 by Edizioni Curci s.r.l.

By courtesy of Edizioni Curci s.r.l., All rights reserved.

<sup>74</sup> ISAIA Billè – *Nuovo Metodo per contrabbasso a 4 e 5 corde* (ER 261)

Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy

All Rights Reserved - Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy



### Chromatic Scales

Chromatic scales – or fragments of them – are frequently found in the orchestral repertoire, mainly from the nineteenth century on. They are an extension of the agility exercises discussed above, but with the addition of string crossings and shifts. Grodner writes:

The practice and perfection of chromatic scales is one of the most important efforts we can make to improve intonation and learn fingering patterns that are unique to chromatic passages. Chromatic scales are a different aural experience than major or minor scales, and if you can play with positive intonation, it will allow the perfection of chromatic and diatonic passages and improve left-hand dexterity.<sup>78</sup>

Chromatic scales can be found in great part of the technical literature for the double bass.

Below is an example by Billè, where there is an association of chromatic scales with agility exercises.



Example 3.42. Billè, fragment of Study no. 9, from *Nuovo metodo per contrabbasso*, Vol. V<sup>79</sup>

### Fingering

Fingering can be a polemic aspect of the double bass technique to be discussed in a few lines. Some double bass schools seem to ignore the benefit of expanding the traditional technique to the eventual addition of one more finger (2 or 3) in the low and intermediate registers in order to optimize the movement of the left hand. Guettler advocates in favor of the four-finger system,

<sup>78</sup> Grodner, *A Double Bassist's Guide to Refining Performance Practices*, 63.

<sup>79</sup> ISAIA Billè – *Nouvo Metodo per contrabbasso a 4 e 5 corde* (ER 261)

Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy

All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

especially in the intermediate register of the double bass<sup>80</sup>. He explains “when the higher neck positions are approached, the distance between notes diminishes so that all four fingers may be used independently, with a semitone between each. This is called an ‘extended’ hand position.”<sup>81</sup>

When discussing the mechanics of this system he advises that one should “not attempt to hold 1 down the whole time [in order to] give more movement to the forearm.”<sup>82</sup> Below is an excellent exercise on this subject by Machado.<sup>83</sup> Here we can observe that when there is a half-step up of finger 1, the finger used is finger 2, and when there is a half-step down of finger 4, the finger used is 3.

The image displays four staves of musical notation for a double bass exercise. The first two staves consist of continuous eighth-note runs with various fingering patterns indicated by numbers 1-4 above the notes. The third and fourth staves are divided into four sections labeled A, B, C, and D. Each section contains a sequence of notes with slurs, illustrating specific fingering techniques for half-step movements.

Example 3.43. Machado, fragment of Exercise 2.44, from *Tao of Bass*<sup>84</sup>

This fingering approach is also useful for horizontal scales, used for fast scalar passages.

Bradetich calls it “shiftless scales,” describing it as “one-octave scales or parts of scales that can

<sup>80</sup> Guettler, *A Guide to Advanced Modern Double Bass Technique*, 65-81.

<sup>81</sup> *Ibid.*, 65.

<sup>82</sup> Guettler, *A Guide to Advanced Modern Double Bass Technique*, 66.

<sup>83</sup> Marcos Machado, *Tao of Bass*, Vol. 1 (Tecumseh, MI: Self-published, 2017), 92.

<sup>84</sup> *Tao of Bass*, Vol. 1

By Marcos Machado

Used by Permission

be played all in one position without shifting.<sup>85</sup> He continues, “The purpose of this type of finger pattern is primarily for speed, when the tempo of the music is too fast to play all the notes on the same string.”<sup>86</sup>

Following is an excerpt of *The Marriage of Figaro*, by Mozart, which exemplifies the usage of this fingering:



Example 3.44. Mozart, *The Marriage of Figaro*, mm. 49-51

This same fingering pattern idea can be applied to any scale. Below it is applied to the scale of E-flat major, and C minor (natural, melodic, and harmonic).



Example 3.45. Fingering suggestion for horizontal scales

### Synchronicity

This is a subject barely discussed in the literature for the double bass, at least not theoretically. Synchronization between hands is common in fast passages in any register of the instrument, mainly when we play the same example rhythm, like scalar passages in eighths or sixteenth notes, for instance. Variation exercises such as those found on Billè’s *Nouvo Metodo per contrabbasso*, Vol. II (“The Bow School”), Simandl’s *New Method for the Double Bass* (Part III), Hellouin’s *Les coups d’archet*, Hal Robinson’s *Strokin’*, and many others, are models for this practice.

<sup>85</sup> Bradetich, *Double Bass: The Ultimate Challenge*, 66-67.

<sup>86</sup> *Ibid.*,

This idea is useful when put into context of the excerpt being practiced. Below is an example of how to practice it in the same excerpt by Mozart used previously. Always use the same fingering you chose for the excerpt, grouping the notes in different ways. The sequence of variations 5-10 is a common practice between violinists.

The image shows ten variations of a musical phrase in bass clef, D major, 4/4 time. Each variation is a four-measure phrase. Variation 1 is the original. Variations 2-4 show different groupings of notes. Variations 5-10 show increasingly complex rhythmic patterns, including sixteenth and thirty-second notes.

Example 3.46. Synchronicity Exercise

The studies and exercises suggested in this chapter are a small sample of a selected literature for double bass. Further investigation may reveal more valuable sources for the practice

of orchestral repertoire, aside from the repertoire itself. I highly recommend the practice of a study or exercise with the style and technique demanded by a specific orchestral excerpt in mind. For instance, if one is preparing Beethoven's third movement of Symphony no. 5 (beginning), a good way to prepare would be to choose a broken chords exercise and practice it with long slurs and in piano dynamic. In this way, the preliminary technical practice can have the most positive effect.

## CHAPTER 4

## MOZART – EXCERPTS OF SYMPHONIES NO. 35 AND NO. 40

The Double Bass in the Classical Period

In the 16th century Italy, the term ‘violone’ was associated with all the members of the viol family, and only around 1600 did the term begin being used to designate the large bass viol. According to Borgir, “it is not clear when the term ‘violone’ first became associated with the bass violin.”<sup>87</sup>

The genealogy of the double bass is a matter of much controversy. Many textbooks state that the double bass is not a true member of the violin family because it shares the aesthetics features of the viol family, such as sloping shoulders, flat back, and gamba shaped corners.<sup>88</sup> Other common descriptions of the instrument say it was from the viol family and was gradually transformed into an instrument of the violin family. Considering all the ways that the origin of the double bass has been described, Brun emphasizes that “these views reflect personal predilection rather than knowledge.”<sup>89</sup>

During the second half of the eighteenth century, there is evidence of a school of virtuoso bass playing in Vienna and its area, where there emerged a number of solo pieces for the instrument, as well as independent voices in orchestral works.<sup>90</sup> This strong tradition of solo

---

<sup>87</sup> Tharald Borgir et al. "Violone," in *Grove Music Online. Oxford Music Online*, Oxford University Press, accessed September 24, 2017. <http://www.oxfordmusiconline.com.proxyre.mote.galib.uga.edu/subscriber/article/grove/music/29478>, 1.

<sup>88</sup> Michael Escreet, “Haydn and the Double Bass,” *Haydn Society of Great Britain* no. 33 (2014): 12.

<sup>89</sup> Brun, *A New History of the Double Bass*, 21.

<sup>90</sup> Escreet, “Haydn and the Double Bass,” 12.

violone playing in Austria had as its leaders players such as Johannes Sperger (1750-1812), Joseph Kampfer (fl. 1790), and Friedrich Pichelberger (fl. 1790).<sup>91</sup> According to Segerman, this tradition was possible due to the replacement of the six-string violone tuned in fourths, by the five-string violone tuned mostly in thirds, which were possibly the instruments for which Haydn and Mozart wrote.<sup>92</sup>

On the types of bass instruments used at that time, Albrechtberger wrote in 1790:

The Violone or contrabass normally has five thick strings, also of sheep's gut, which from below are tuned F A d f# a. The two lowest are normally wound. It has frets on the fingerboard at each half step. There is also another type of double bass without frets and with only four strings tuned differently, named E A d g or F A d g. This and the three-string model are rarely seen any longer.<sup>93</sup>

The tuning mentioned above was probably for solo repertoire, since the orchestra literature demanded lower notes.<sup>94</sup> About this, Chapman says: "presuming a scordatura of this low string for orchestra performance, the tuning D'-A'-D-F#-A, or even C'-G'-C-E-G, would go a long way towards solving some long-standing problems concerning range in bass parts during this period."<sup>95</sup>

The technical facility provided by this tuning, as well as the resonance of the instruments in keys such as A major, D major, F# minor, and B minor, stimulated the composition of solo works for the instrument, as well as solo passages in orchestral works.<sup>96</sup> The Viennese tuning provided to the player a convenient fingering for triadic melodies as well as a good resonance of

---

<sup>91</sup> David Wyn Jones, "Vanhal, Dittersdorf and the Violone," *Early Music* 10 no. 1 (Jan. 1892): 65-66.

<sup>92</sup> Ephraim Segerman, "Mysteries of the Early Double Bass," review of *The Baroque Double Bass Violone*. *Early Music* 27, no. 4 (Nov. 1999): 661. <http://www.jstor.org.proxy-remote.galib.uga.edu/stable/3128768>.

<sup>93</sup> Johann Georg Albrechtsberger, *Gründliche Anweisung zu Composition* (Leipzig 1790, Vienna 1837), quoted in Brun, *A New History of the Double Bass*, 100.

<sup>94</sup> David Chapman, "Historical and Practical Considerations for the Tuning of Double Bass Instruments in Fourths," *The Galpin Society Journal* 56 (Jun. 2003): 230. <http://www.jstor.org/stable/3004442>.

<sup>95</sup> *Ibid.*

<sup>96</sup> *Ibid.*, 228.

the double stops in the upper register of the instrument, with support of the harmonics of the lower strings.<sup>97</sup>

As the bottom string does not attend the orchestra range required by some composers, which could reach a low C, Chapman suggests two possible scordaturas that could solve this problem: D'-A'-D-F#-A, or even C'-G'-C-E-G.<sup>98</sup> These two scordaturas conserve the same interval configuration of the four top strings: perfect 4th, major 3rd, and minor 3rd.

Comparing the modern double bass with the eighteenth-century contrabass/violone, it is possible to say that, for most passages, the fingering is much more anatomic for the performer than in the earlier instrument. One of the disadvantages of the classical instrument is that string crossings are much more frequent, which is normally a cause of concern among bass players, since it generates more noise in the movement of the bow. Another disadvantage of the contrabass/violone is related to the number of strings. Since the bridge and the fingerboard need more space to accommodate the five strings, the movement of the right arm needs to be broader.

The modern double bass has also a considerable number of variations in the number of strings and tuning. However, the most common is still the four-string tuned E', A', D, G. In fact, the modern tuning diminishes the number of string crossings but does not eliminate it. The problem created by this tuning is the considerable increase of shifts in combination with string crossing.

Two small orchestra excerpts will be compared in order to determine the main differences in performance between the four-string double bass tuned in fourths and the five-string contrabass/violone tuned D'-A'-D-F#-A, probably the most used tuning in orchestras of that period. The excerpts were chosen according to the importance they have in the repertoire

---

<sup>97</sup> Chapman, "Historical and Practical Considerations," 229.

<sup>98</sup> *Ibid.*, 230.

performed currently. These excerpts are often used in orchestra auditions for double bass around the world. Considerations about fingering will be analyzed. The bracket above the staff means that no shifting is necessary. The letters below the staff are the names of the strings where the notes will be played, according to the fingering suggested.

The first excerpt is from Mozart's Symphony no. 40, movement IV. This is one of the most demanding excerpts requested in auditions for the double bass. In the modern instrument, numerous shifts are necessary in order to play the first two measures of the passage (mm. 49, 50). In the contrabass/violone, no shifting is necessary before the last two notes of mm. 50.

Example 4.1. Mozart, Symphony no. 40, IV movement, mm. 49-51

Considered a nightmare by many double bass players, the last movement of Mozart's Symphony no. 35 is another excerpt that demands a lot of physical exercise. There are several different fingerings possible in the modern double bass. However, none of them will avoid the performer shifting after two or three notes. One of the fingerings most used requires that the performer play each of the three last notes of measures 22 in a different position. In the contrabass/violone, from measures 21 to 23, only three shiftings are necessary, and from measure 27 to 29, no shifting is necessary.

Example 4.2. Mozart, Symphony no. 35, IV movement, mm. 21-32

### The Excerpts and their Main Technical Issues

Mozart was the most cited composer in the survey. From the 56 participants, 39 mentioned his excerpts, mostly from the Symphonies no. 35, 39, and 40. The technical problems associated with these excerpts include articulation, string crossing, clearness, agility, dynamic control, and style for the right hand, and shifting, intonation, agility, and articulation for the left hand.

Nonetheless, what can be observed after a detailed analysis of the excerpts of these symphonies is that the main problems result from the combination of several of these technical issues in only one small fragment, in addition to the demanding style of the period.

For example, in m. 34 of the first movement of Symphony no. 35, it is possible to see at least 4 simultaneous difficulties: several string crossings, one shifting, one parallel fourth,<sup>99</sup> and a *fp* in a fast tempo.

Example 4.3. Mozart, Symphony no. 35, I movement, m. 34

<sup>99</sup> “Parallel fourth” in this context means a left-hand string crossing without shifting.

The fourth movement of this same symphony is even more challenging. Measures 26-27, for instance, combine the 2-4 or (3-4, in the Italian School) repeating fingering (A-G#), shifting, and string crossing in a fast tempo and in a low register with a short articulation/bow stroke, which compromises the clearness of the excerpt. The problem associated with the fingering is due to the fourth finger (little finger) being weaker and less agile than the others.



Example 4.4. Mozart, Symphony no. 35, IV movement, mm. 26-27

In m. 119 of Symphony no. 40, there is an example of a recurring problem in the Mozart repertoire for the modern double bass player: the combination of shifting, string crossing, and spiccato stroke which happens twice in only one measure, from the D to F, and from C# to E.



Example 4.5. Mozart, Symphony no. 40, I movement, m. 119

An excerpt that is a subject of controversy between bassists in relationship to the best fingering is in the fourth movement of Symphony no. 40. In m. 49 and m. 229, it seems that there isn't any fingering suitable to solve the passage. Independently from the fingering chosen, a combination of string crossing and shifting is inevitable. In association with that, there is a fast alternation of contrasting articulation: two slurred notes and two short notes.



Example 4.6. Mozart, Symphony no. 40, I movement, m. 49



Example 4.7. Mozart, Symphony no. 40, I movement, m. 229

Also, in the first movement of the Symphony no. 40, another passage that combines at least three technical issues is in mm.28-33, mm. 193-197, and mm. 211-216. Here we see repeating string crossing and shifting with a short bow stroke.



Example 4.8. Mozart, Symphony no. 40, I movement, m. 192-197

### The Methodology Applied

The spiccato-like articulation in the Classical Period is a sensitive subject. Among string players, it raises discussions such as the bouncing width of the bow and its placement, for instance. About articulation, Bradetich explains that “in Mozart spiccato, the direction of the bow hitting the string makes the shape of a V. [This] stroke is primarily a vertical motion with little horizontal movement (down bow or up bow).”<sup>100</sup>

Concerning the width of the bow in bouncing strokes, Simandl and Bradetich use different approaches. Simandl says that “with this style of bowing, the bow leaves the string for a moment between each note. In order to avoid any roughness of tone, the playing should be done only with the wrist and with the middle part of the bow, which, in falling slightly touches the string.”<sup>101</sup> Bradetich, talking specifically about the last movement of Mozart’s Symphony no. 35,

<sup>100</sup> Bradetich, *Double Bass: The Ultimate Challenge*, 94.

<sup>101</sup> Franz Simandl, *New Method for the Double Bass*, Vol. I, 88.

says that “the speed is such that it is nearly impossible to play an off-the-string flying spiccato and achieve the necessary coordination with the left hand. A short and slightly biting on-the-string stroke may be the best practical solution.”<sup>102</sup>

Symphony no. 35, IV movement mm. 1-37

**Presto**

*p* *f*

10

16

22

28

33

*f* *f* *f*

Example 4.9. Mozart, Symphony no. 35, IV movement, mm. 1-37

This excerpt from Mozart’s Symphony no. 35 has some wide intervals that require from the bassist a shifting or a string crossing jumping over an inactive string. Intervals of sixths can be observed in mm. 21 and 23, from E to C-sharp, and in mm. 27 and 29, from E to G-sharp;

<sup>102</sup> Bradetich, *Double Bass: The Ultimate Challenge*, 116.

intervals of octaves appear from m. 32 on. These kinds of intervals need some special attention, because they can compromise the performance of such a challenging excerpt if they are not technically resolved. A suggestion for an exercise is found under the subheading “String Crossing and Shifting,” in the third chapter of this document.

The Etude No. 11 of *Gradus ad Parnassum*<sup>103</sup> has a motive slightly similar to the excerpt of the fourth movement of Mozart’s Symphony No. 35. The passage extracted from the etude is in a key close to the excerpt and presents some of the intervals of fourths and sixths.



Example 4.10. Simandl, fragment of Study no. 11, from *Gradus ad Parnassum*, Vol. 1<sup>104</sup>

The example shown below is Zimmermann’s exercise style applied to the excerpt in question. When practicing this exercise, it is important to match the articulation and dynamics of the excerpt itself.

<sup>103</sup> As well as the exercise no. 11 of *Gradus ad Parnassum*, the exercise no. 10 is also very helpful for the practice of the technique skill required for the excerpt of fourth movement of Mozart’s Symphony no. 35.

<sup>104</sup> 24 Studies "Gradus ad Parnassum", Volume I, for String Bass

By Franz Simandl

Edited by Fred Zimmermann

Copyright © 1957 by International Music Co. (Renewed)

[Catalog Number: 1754]

www.internationalmusicco.com

**Presto**

The musical score is written for two staves (treble and bass clef) in G major (one sharp) and 2/4 time. It is marked **Presto**. The score is divided into six systems, each with two staves. The first system begins with a piano (*p*) dynamic and ends with a forte (*f*) dynamic. The second system continues with piano (*p*) and forte (*f*) dynamics. The third system continues with piano (*p*) and forte (*f*) dynamics. The fourth system continues with piano (*p*) and forte (*f*) dynamics. The fifth system continues with piano (*p*) and forte (*f*) dynamics. The sixth system continues with piano (*p*) and forte (*f*) dynamics. The score includes various fingering numbers (1-4) and dynamic markings (*p*, *f*, *sf*).

Example 4.11. Zimmermann's exercise style applied to Mozart, Symphony no. 35, IV mov.<sup>105</sup>

<sup>105</sup> *A Contemporary Concept of Bowing Technique for The Double Bass*

By Frederick Zimmerman

Copyright (c) 1966 UNIVERSAL MUSIC CORP.

The practice of the fourth finger preceded by the second or third finger, depending on the school, is tremendously beneficial in excerpts such as those of Mozart, where using a simpler fingering, like 3-1, or 2-1, is not always an option. The exercise below is a suggestion of how to address this issue, strengthening the fourth finger and, consequently, increasing the agility of it.<sup>106</sup> This exercise can be easily transposed to any other combination, but the top note must always be played with the fourth finger. A few standard ways to practice it include: a) place the fourth finger as close as possible to the string; b) start playing it slowly and gradually increase the tempo; and c) practice first with separate bowing, then with slurs, then alternating both strokes.



Example 4.12. Exercise to strengthen the fourth finger

The Study no. 2 of Sturm<sup>107</sup> combines two contrasting bow strokes and a few other elements pertinent for the practice of agility. The pattern in eighth notes is in semitones, which is a good practice for the fourth finger. Another interesting aspect of this study is the dynamics, not always present in studies of this nature.

---

Copyright Renewed

All Rights Reserved Used by Permission

Item #HL00123248 - \$15.99 Available for purchase from local book retailers.

Reprinted with Permission of Hal Leonard LLC

<sup>106</sup> Exercise created by the author of this research.

<sup>107</sup> Wilhelm Sturm, *110 Studies*, Op. 20, 2 Vol., ed. Fred Zimmerman (New York: International Music Company, 1963).

*Allegro*

Example 4.13. Sturm, fragment of Study no. 2, from *110 Studies Vol I*<sup>108</sup>

Another technical problem that may contribute to a lack of clearness is fourths across neighbor strings, mainly with the fourth finger. Synchronizing this finger movement with string crossing is a skill that should be carefully practiced by the performer in order to bring more rhythmic precision and clearness to the excerpt. The exercise below brings some suggestions on how to practice it. In the excerpt of the last movement of Symphony no. 35, this same pattern will appear several times between the notes D and A, and A and E, both with the fourth finger, according to the fingering suggested. Practicing it with other fingerings may be beneficial as well.

Example 4.14. Exercise for fourths.<sup>109</sup>

<sup>108</sup> 110 Studies, Op. 20, Volume I, for String Bass  
 By Wilhelm Sturm  
 Edited by Fred Zimmermann  
 Copyright © 1963 by International Music Co. (Renewed)  
 [Catalog Number: 2079]  
 www.internationalmusicco.com

<sup>109</sup> Exercise created by the author of this document.

The exercise no. 19 from Salvi's *20 Esercizi pratici per contrabbasso* is also applicable to the practice of string crossing with the same finger.



Example 4.15. Salvi, Fragment of Study no.19 of *20 Esercizi pratici per contrabbasso*<sup>110</sup>

The following study contains several similarities with the fourth movement of Mozart's Symphony No. 35. The small excerpt below shares the same articulation, register, as well as a few similar motives.



Example 4.16. Sturm, fragment of Study no. 38, from *110 Studies Vol I*<sup>111</sup>

Other suitable kinds of study are those that alternates two notes in thirds, fourths, or fifths in neighbor strings. At a first sight, it may not share much in common with the excerpts of the

<sup>110</sup> From *20 Esercizi Pratici per contrabbasso* – EC8372, page 23

By Luigi Salvi

© 1965 by Edizioni Curci s.r.l.

By courtesy of Edizioni Curci s.r.l., All rights reserved.

<sup>111</sup> 110 Studies, Op. 20, Volume I, for String Bass

By Wilhelm Sturm

Edited by Fred Zimmermann

Copyright © 1963 by International Music Co. (Renewed)

[Catalog Number: 2079]

www.internationalmusicco.com

symphony, since the pattern is not explicit, but it requires several repetitive string crossings.

Isolating the issue may be tremendously effective in this case. What follows is a passage of the study no. 95 of Sturm that contains minor and major thirds and a few measures in fourths.

The image shows a musical score for Study no. 95 by Wilhelm Sturm, consisting of three staves of bass clef music. The first staff begins with a piano (*p*) dynamic and features a series of eighth-note patterns with slurs. The second staff continues with similar patterns, including a crescendo (*cresc.*) and a piano (*p*) dynamic. The third staff features a fortissimo (*fz*) dynamic, followed by a forte (*f*) dynamic and a final piano (*p*) dynamic. The score includes various articulations such as slurs and accents, and ends with a double bar line.

Example 4.17. Sturm, fragment of Study no. 95, from *110 Studies Vol II*<sup>112</sup>

<sup>112</sup> 110 Studies, Op. 20, Volume II, for String Bass

By Wilhelm Sturm

Edited by Fred Zimmermann

Copyright © 1963 by International Music Co. (Renewed)

[Catalog Number: 2080]

www.internationalmusicco.com

## Symphony no. 40, I movement, mm. 114-220

114 *f*

120

127

133

191 *f*

196

204

212 *f f f f f f*

Example 4.18. Symphony no. 40, I movement, mm. 114-138 and mm. 191-220

The example shown below is Zimmermann's exercise style applied to the excerpt above. Matching the articulation and dynamics of the excerpt itself is essential to optimize the practice and organize the distribution of the bow.

114 *f*

121

122

128

134 *etc.*

191 *f*

196

205

The image shows a musical score for a piano exercise. It consists of two staves. The top staff is in bass clef and contains a sequence of eighth notes with fingerings: 1 0, 0 0, 4 1, 1 0, 0 0, 0 1. The bottom staff contains a sequence of eighth notes with dynamics: *f*, *f*, *f*, *f*, *f*, *f*. The exercise is in a key with one flat (B-flat major or E-flat major).

Example 4.19. Zimmermann’s exercise style applied to Mozart, Symphony 40, I mov.

The following exercise is helping as it combines crossing, shifting, intonation, and resistance, working specifically on the types of patterns that are found on mm. 193-198, and mm. 211-216. It becomes more suitable for the excerpt above if the key signature was changed to B-flat major or E-flat major, even though it may affect the harmony. Some variations of the exercise are provided in E-flat major. Some people may achieve a clear and precise sound and articulation by starting this pattern with an up bow. Similar exercise suggestions are also in the subtitle “Quick Repeated String Crossing,” in the third chapter of this document.

The image shows a musical score for a double bass exercise. It consists of three staves in bass clef. The first staff is in 6/8 time and contains a sequence of eighth notes with slurs. The second staff contains a sequence of eighth notes with slurs. The third staff contains a sequence of eighth notes with slurs and a dynamic marking *etc*. The exercise is in a key with one flat (B-flat major or E-flat major).

Example 4.20. Simandl, fragment of Study no. 5, from *New Method for the Double Bass*<sup>113</sup>

<sup>113</sup> *New Method for the Double Bass*  
by Franz Simandl, edited by Lucas Drew  
Used by Permission of Carl Fischer, LLC

In mm. 200-210 of the Mozart's excerpt there is a sequence of ascending arpeggios. The double bass literature provides hundreds of etudes and exercises in this matter. One that suits quite well for this particular passage is the Study no. 41 of Billè's *Nouvo metodo per contrabbasso*, Vol. III, especially variation number 4.

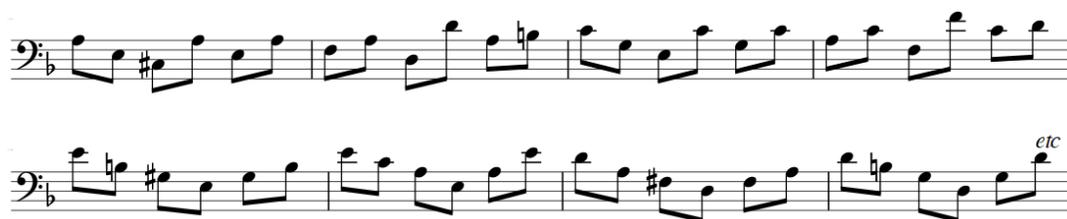
Musical score for Study no. 41 by Billè, Vol. III. The score is in bass clef, 2/4 time, and B-flat major. It consists of 11 numbered variations of ascending arpeggios. Variation 1 is marked "Moderato" and "staccato". Variations 2-5 show different articulation techniques. Variations 6-10 show "pizz" (pizzicato) techniques. Variation 11 is marked "ARCO pizz" and "with the back of the bow". The score ends with "etc".

Example 4.21. Billè, fragment of Study no. 41, from *Nuovo metodo per contrabbasso*, Vol. III<sup>114</sup>

The measures 119-121, 127, and 191-192 in this excerpt of the Symphony no. 40 combine at least three main technical issues: articulation, shifting, and string crossing. Sturm's

<sup>114</sup> ISAIA Billè – *Nouvo Metodo per contrabbasso a 4 e 5 corde* (ER 261)  
 Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy  
 All Rights Reserved  
 Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

Study no. 69 is a good tool for this practice. It passes through different key areas, which necessarily leads the performer to find different solutions to similar patterns.



Example 4.22. Sturm, fragment of Study no. 69, from *110 Studies*<sup>115</sup>

Study no. 17 of Findeisen's *25 Technical Studies* is a challenging four-page approach to shifting and string crossing. It is important to remember that for the sake of practicing an orchestral work of a specific period, the articulation applied to the study should match. Thus, practicing these studies with a spiccato stroke, as in a Classical period style, may bring a better understanding of the weight of the right arm, and the movement of the bow.



Example 4.23. Findeisen, fragment of Study no. 17, from *25 Technical Studies*<sup>116</sup>

<sup>115</sup> 110 Studies, Op. 20, Volume II, for String Bass  
By Wilhelm Sturm  
Edited by Fred Zimmermann  
Copyright © 1963 by International Music Co. (Renewed)  
[Catalog Number: 2080]

[www.internationalmusicco.com](http://www.internationalmusicco.com)

<sup>116</sup> 25 Technical Studies, Op. 14, Volume III, for String Bass  
By Theodor Albin Findeisen  
Edited by Fred Zimmermann  
Copyright © 1957 by International Music Co. (Renewed)  
[Catalog Number: 1429]  
[www.internationalmusicco.com](http://www.internationalmusicco.com)

The next two examples are from Study no. 62 from *110 Studies*, by Sturm, and Study no. 13 from *25 Etudes*, by Storch. Both offer a combination of scalar and broken chords movements, which is based Mozart's excerpt.

Allegro

*f* *p* *cresc.* *f*

*mf* *mf* etc

Example 4.24. Sturm, fragment of Study no. 62, from *110 Studies*<sup>117</sup>

Allegretto

*mf*

*mf* etc

Example 4.25. Storch, fragment of Study no. 13, from *25 Etudes*<sup>118</sup>

<sup>117</sup> 110 Studies, Op. 20, Volume II, for String Bass  
By Wilhelm Sturm  
Edited by Fred Zimmermann  
Copyright © 1963 by International Music Co. (Renewed)  
[Catalog Number: 2080]  
[www.internationalmusicco.com](http://www.internationalmusicco.com)

<sup>118</sup> 86 Etudes, Volume II, for String Bass  
By Joseph Hrabě  
Edited by Franz Simandl  
Newly Edited by Fred Zimmermann  
Copyright © 1949 by International Music Co. (Renewed)  
[Catalog Number: 1722]  
[www.internationalmusicco.com](http://www.internationalmusicco.com)

The repertoire of the Classical Period in general is tremendously challenging as a result of the light and “transparent” articulation and sonorities, in addition to the non-idiomatic writing for the modern double bass, since the music was composed for the Viennese violone. Since the most problematic issue of this repertoire concerns to the spiccato-like strokes of the period, is highly recommended to practice studies and exercises with this issue in mind. Most of the suggestions presented in this chapter are easily applicable to a number of other orchestral excerpts by Mozart and other composers of his time.

## CHAPTER 5

## BEETHOVEN – EXCERPTS OF SYMPHONIES NO. 5 AND NO. 9

The Double Bass at the Beginning of the Nineteenth Century

The sources concerning the organology of the string bass used in the Austro-German orchestras during the beginning of the nineteenth century are surprisingly controversial when the matter is the tuning system. It is clear in most of the sources that the instrument in vogue during the late eighteenth century in Vienna was the so-called Viennese violone, mentioned in the previous chapter. However, when the subject is the string bass instrument used at the beginning of the nineteenth century, the information about the tuning system starts to get obscure. Two main strands defend completely different descriptions of the instrument, both with documented information on this matter. One of them defends the use of four strings, with several tuning variations. The other defends the use of five strings, the same instrument for which Mozart had written.

In the beginning of the nineteenth century several changes were in progress at the same time, possibly one influencing one another. The size of orchestras was increasing considerably, and a new and more complex musical idiom was being produced. At the same moment, the mechanical systems of wind instruments were being improved, while new ones were being incorporated into the orchestral world.<sup>119</sup> According to Fétis, “an indirect effect of this

---

<sup>119</sup> François Joseph Fétis, “*Sur la contre-basse et sur son archet.*” *La Revue Musicale*, 1827, quoted in Paul Brun, *A New History of the Double Bass*, 130.

development was the overbalancing of the orchestra with too many low-pitched winds in relation to the limited depth of tone of the strings.”<sup>120</sup>

The manufacturing of string instruments was not able to match the advances made by the wind instruments. About this Brun says:

The low string, not very functional, was a source of preoccupation to the double bass community. It seems that no string could be manufactured that could satisfactorily reach the theoretical bottom pitches of C or E. At the pitch of C, the coarse, heavy string was flabby and hardly produced any sound at all; at the pitch of E, it was still slack and could rarely be made to sound well. In both cases they levered poor musical results.<sup>121</sup>

This is probably one of the reasons why in most European countries, the three-string double bass was the most common in the first decades of the nineteenth century.<sup>122</sup> However, “the evolution of the tuning procedure in the Austro-German countries stands quite apart from any other European tradition,”<sup>123</sup> as Brun states. Traditionally, the Germanic composers valued the low registers in their orchestrations. Although they were aware of the problem generated by the lack of technology to manufacture the lower strings, the Germans pioneered the establishment of the E string and the tuning system in fourths (E A d g).<sup>124</sup>

Although the tuning system in fourths mentioned above was the most common, according to one of the strands, several players used the tuning system in fifths, the same tuning as the cello but an octave lower (C G d a).<sup>125</sup> About this Brun says:

If perfectly in keeping with the smaller, higher members of the violin family, the system of tuning in fifths was hardly practicable on the double basses set up with excessively coarse, thick, tense, high-action strings. In an effort to lessen the incredible amount of exhausting left-hand shifting which was necessary when the

---

<sup>120</sup> Fétis, “*Sur la contre-basse et sur son archet*,” quoted in Brun, *A New History of the Double Bass*, 130.

<sup>121</sup> Brun, *A New History of the Double Bass*, 119.

<sup>122</sup> *Ibid.*, 123.

<sup>123</sup> *Ibid.*, 124.

<sup>124</sup> *Ibid.*, 125.

<sup>125</sup> *Ibid.*, 117.

strings were tuned in fifths, the double bass community adopted the tuning in fourths.<sup>126</sup>

The second strand, which defends the use of the five-stringed double bass, or the Viennese violone still in the beginning of the nineteenth century, is well documented by Buckley.<sup>127</sup> Through the investigation of well-known performers from the end of the eighteenth century, their contribution to the development of the literature for the Viennese violone, and their proven presence in Vienna at the beginning of new century, Buckley makes his point about the use of the five-stringed double bass (or violone) in Beethoven's time.<sup>128</sup> He also says:

Perhaps this tuning was already in decline at this point; (...). However, it is clear that the instrument and its associated limitations of range were well known in Vienna at the turn of the eighteenth century. These limitations are reflected consistently in Beethoven's orchestral music to op. 50, and, if less consistently, in his later music as well.<sup>129</sup>

The lower stringed instrument used during the period discussed, independently of the name given to it, was clearly not standardized. In addition, there was not a consensus on the best way of tuning it in order to provide better results with the available technology. It is possible that several different bass instruments, with a variety of different tuning and number of strings, were co-existing at the same time.

---

<sup>126</sup> Brun, *A New History of the Double Bass*, 117.

<sup>127</sup> Stephen G. Buckley, "Beethoven's Double Bass Parts: The Viennese Violone and the Problem of the Lower Compass" (DMA diss., Rice University, 2013).

<sup>128</sup> *Ibid.*, 28-29.

<sup>129</sup> *Ibid.*, 29.

### Excerpts and their Main Technical Issues

Beethoven was the third most cited composer in the survey, after Mozart and Strauss. From the 56 participants, 28 mentioned his excerpts, mostly the symphonies no. 5 and 9. The technical problems associated with these excerpts include articulation, string crossing, tone quality, speed, dynamic contrast, and legato for the right hand. For the left hand the problems were with shifting, agility, intonation, and articulation.

As with Mozart, what can be observed after a detailed analysis of the main excerpts of these symphonies is that the main problems result from the combination of several of these technical issues. Two excerpts from the third movement of Symphony no. 5 are among the most frequently requested in auditions. The first is from the beginning of the movement until m. 100. The challenge of this excerpt consists in the combination of extensive string crossing, long slurs, and shifting in a pianissimo dynamic.



Example 5.1. Beethoven, Symphony no.5, III mov., mm. 55-61

The bow needs to travel from a low note in the lower string to an intermediate register note in the higher string in two measures of a relatively fast tempo. It is not only the shifting and the short bow<sup>130</sup> that are problematic here, but the contact point of the bow that needs to move from a region of the string close to the fingerboard to the intermediate or close to the bridge

---

<sup>130</sup> The double bass bow is significantly shorter than the violin bow.

contact point (depending on the instrument), in order to balance the resonance of the strings for an optimal sound result.

The second excerpt is in mm. 140-218, the so called “Trio.” Possibly the main technical issue of this passage is articulation. Traditionally it is played “almost” off the string, with a separation between notes, but vigorously. At the end of the excerpt there is a diminuendo and a whole section that is actually a repetition of what was heard previously. It needs to be played in a piano dynamic, but with the same energy as before, making it extremely challenging.

197

*f* *dimin.* *p*

206

*sempre più p*

Example 5.2. Beethoven, Symphony no.5, III mov., mm. 197-218

The last movement of Symphony no. 9 certainly has some of the most demanding double bass parts in all of Beethoven’s compositions. The beginning starts with the famous recitative. and features mostly the cellos and basses. It is frequently requested in auditions. Technically this excerpt does not demand much from the bassists, but it is musically exigent. However, a few other passages of this movement are challenging in many technical aspects. The excerpt in mm. 454-594, for instance, has a combination of articulation, agility, intonation, and string crossing issues, to name a few. The excerpt requires a bouncing bow, but mostly on string, which is not simple in a fast tempo with several string crossings and shiftings. The intonation in the first half

of this excerpt is delicate as well, due to the keys Beethoven used here.

Example 5.3. Beethoven, Symphony no.9, VI mov. mm. 468-492

### The Double Bass Literature Applied

The excerpts discussed below are part of some of the most demanding orchestral excerpts for the double bass. One of the reasons for it is due to the style of the period, which still bears traces of the elegant idiom of the Classical Period, with the passionate sound of the Romantic Period that was emerging.

#### Symphony no. 5, III movement, mm. 1-61

Example 5.4. Beethoven, Symphony no.5, III movement, mm. 1-61

This excerpt has several combined technical issues such as string crossing, shifting, long slurs, and piano dynamic. A suggestion on how to practice this excerpt or any of the studies suggested below is what follows:

- Play it with separate bows, first *mf*, then *mp*, *p*, and *pp*.
- Play it slurring two notes, first *mf*, then *mp*, *p*, and *pp*.
- Play it slurring four notes, first *mf*, then *mp*, *p*, and *pp*.
- Play it slurring eight notes, first *mf*, then *mp*, *p*, and *pp*.

The example below is an extract from the Etude No. 1 from Simandl's *Gradus ad Parnassum*.<sup>131</sup> It is close to the range of the excerpt, as well as the key signature and length of slurs.



Example 5.5. Simandl, fragment of Study no. 1, from *Gradus ad Parnassum*, Vol. 1<sup>132</sup>

<sup>131</sup> A few other studies on *Gradus ad Parnassum* are also very interesting in that matter, such as no. 4 and no. 10, in the first volume.

<sup>132</sup> 24 Studies "Gradus ad Parnassum", Volume I, for String Bass

By Franz Simandl

Edited by Fred Zimmermann

Copyright © 1957 by International Music Co. (Renewed)

[Catalog Number: 1754]

www.internationalmusicco.com

The example below is the Zimmermann style exercise applied to this excerpt. A study of the open strings with the bowings to be used is fundamental for this excerpt. It is the best opportunity the performer will have to plan the distribution of the bow, to observe the movement of the arm and all the joints involved in a good legato with extensive string crossing.

The musical score is presented in three systems. The first system (measures 1-12) is marked **Allegro** and **pp**. The second system (measures 13-43) is marked **poco rit.** and **pp**. The third system (measures 44-50) is marked **a tempo** and **pp**. The score includes various bowing techniques such as triplets and slurs, and dynamic markings like **sf** and **pp**.

Example 5.6. Zimmermann's exercise style applied to Beethoven's Symphony no. 5, III mov.<sup>133</sup>

<sup>133</sup> *A Contemporary Concept of Bowing Technique for The Double Bass*

By Frederick Zimmerman

Copyright (c) 1966 UNIVERSAL MUSIC CORP.

Copyright Renewed

All Rights Reserved Used by Permission

Item #HL00123248 - \$15.99 Available for purchase from local book retailers.

Reprinted with Permission of Hal Leonard LLC

The next example is a fragment of the Study no. 30 of Billè's *Nuovo metodo per contrabbasso*, Vol. III. It is a good exercise for Beethoven's excerpt if practiced with the fingering the student/performer normally uses in the excerpt. The slurs are the same as in the original but practicing it with six-note slurs may be more beneficial.



Example 5.7. Billè, fragment of Study no. 30, from *Nuovo metodo per contrabbasso*, Vol. III<sup>134</sup>

As in the previous example, the Study no. 9 by Billè (Vol. III), also offers a great contribution if practiced with a similar fingering of the excerpt. The bow variation number 4 is the most suitable, but the other variations are also worthy.

---

<sup>134</sup> ISAIA Billè – *Nuovo Metodo per contrabbasso a 4 e 5 corde* (ER 261)  
 Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy  
 All Rights Reserved  
 Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

**Moderato**

Varsians

1. 2. 3.

4. 5. 6. etc

Example 5.8. Billè, fragment of Study no. 9, from *Nuovo metodo per contrabbasso*, Vol. III<sup>135</sup>

Salvi's Study no. 18 contains the kinds of patterns where the student/performer has the opportunity to pay close attention to the movement of the right arm, as well as intonation. Another aspect that appears a few times in Beethoven's excerpts is the interval of a fourth with a string crossing. The exercise below suggests this fingering pattern in mm. 6-10, where an open string should be avoided for the sake of practice.

<sup>135</sup> ISAIA Billè – *Nouvo Metodo per contrabbasso a 4 e 5 corde* (ER 261)  
 Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy  
 All Rights Reserved  
 Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy



Example 5.9. Salvi, fragment of Study no. 18, from *20 Esercizi pratici per contrabbasso*<sup>136</sup>

The next three examples, Study no. 13 of book II by Rabbath, Study no. 10 of “110 Studies,” by Sturm, and Study no. 52 of “86 Etudes” by Hrabe are built mostly out of broken chords, and not too far from the key and register of the beginning of the third movement of Symphony no. 5. As in the previous studies, changing the bowing and adapting the fingering is always beneficial.



Example 5.10. Rabbath, fragment of Studi no. 13, from *Nouvelle technique de la Contrebasse*, Vol. II<sup>137</sup>

<sup>136</sup> From *20 Esercizi Pratici per contrabbasso* – EC8372, page 22

By Luigi Salvi

© 1965 by Edizioni Curci s.r.l.

By courtesy of Edizioni Curci s.r.l., All rights reserved.

<sup>137</sup> *NOUVELLE TECHNIQUE DE LA CONTREBASSE, VOL. 2*

By François Rabbath

Copyright © 1980 by Editions Musicales Alphonse Leduc, Paris

International Copyright Secured. All Rights Reserved.

Used by Permission.



Example 5.11. Sturm, fragment of Study no.10, from *110 Studies*, Vol. I<sup>138</sup>



Example 5.12. Hrabě, fragment of Study no. 52, from *86 Etudes*<sup>139</sup>

The Study no. 40 from *110 Studies*, by Sturm is a short exercise in a close writing style of the excerpt in question. The slurs, shiftings, and string crossings are as challenging as the excerpt itself.

---

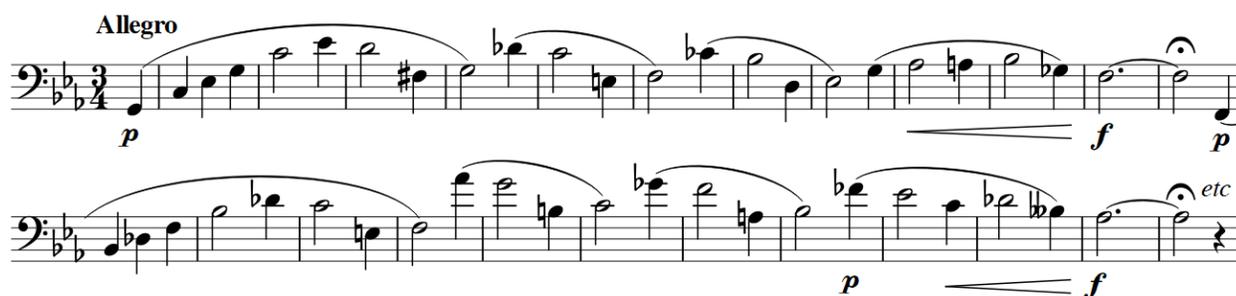
<sup>138</sup> 110 Studies, Op. 20, Volume I, for String Bass  
 By Wilhelm Sturm  
 Edited by Fred Zimmermann  
 Copyright © 1963 by International Music Co. (Renewed)  
 [Catalog Number: 2079]  
 www.internationalmusicco.com

<sup>139</sup> 86 Etudes, Volume II, for String Bass  
 By Joseph Hrabě  
 Edited by Franz Simandl  
 Newly Edited by Fred Zimmermann  
 Copyright © 1949 by International Music Co. (Renewed)  
 [Catalog Number: 1722]  
 www.internationalmusicco.com



Example 5.13. Sturm, fragment of Study no. 40, from *110 Studies*<sup>140</sup>

Study no. 78, also by Sturm, was written specifically for this Beethoven excerpt. The almost two-page long study presents an entire motive followed by variations on it.



Example 5.14. Sturm, fragment of Study no. 78, from *110 Studies*<sup>141</sup>

<sup>140</sup>110 Studies, Op. 20, Volume I, for String Bass  
By Wilhelm Sturm  
Edited by Fred Zimmermann  
Copyright © 1963 by International Music Co. (Renewed)  
[Catalog Number: 2079]

[www.internationalmusicco.com](http://www.internationalmusicco.com)

<sup>141</sup>110 Studies, Op. 20, Volume II, for String Bass

By Wilhelm Sturm  
Edited by Fred Zimmermann  
Copyright © 1963 by International Music Co. (Renewed)  
[Catalog Number: 2080]

[www.internationalmusicco.com](http://www.internationalmusicco.com)

## Symphony no. 5, III mov. mm. 140-218 (Trio)

140 *f*

150

159 1. 2. *f*

168

177

189 *f*

199 *dimin.* *p*

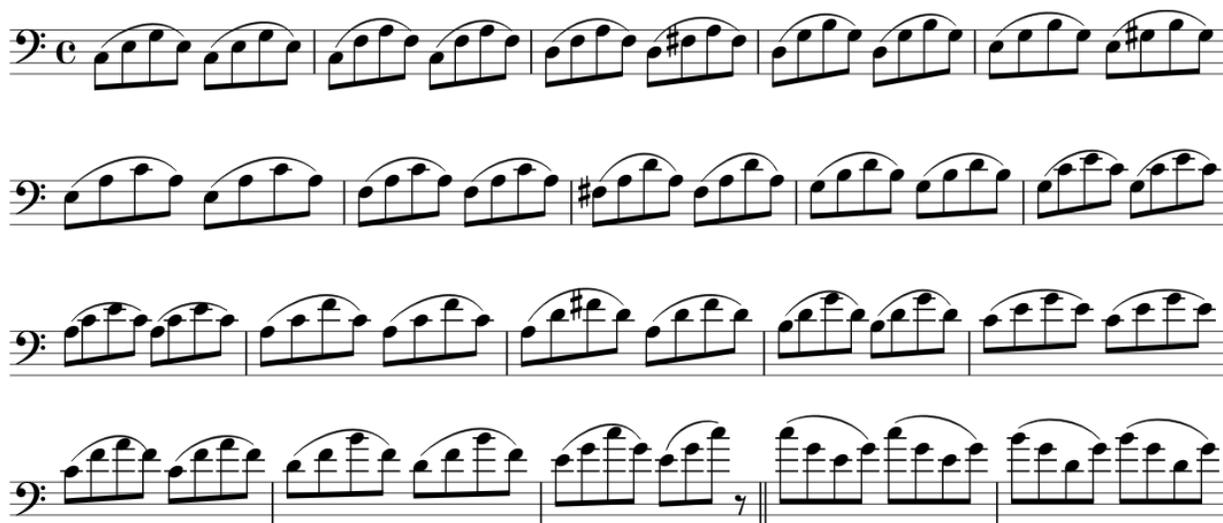
208 *sempre più p*

Example 5.15. Symphony No. 5, III mov. mm. 140-218

The main issues in this excerpt involve the speed of the passage in combination with several important details, such as the low register, string crossing, and the piano dynamic at the end of the excerpt. Playing dynamics below *mp* is difficult for string bass players, because it requires the same energy as the forte passages, just less sound. For this reason, I suggest

practicing the last two lines of this excerpt in the same manner as suggested for the beginning of this movement. Play the whole passage *f* and identify the muscles and movements of arms and hands you need for the sound you have in mind. After this is clear for you, play it *mf* with the same energy and don't play it less than *mf* until your body understands how to produce less sound with the same energy. Then keep repeating it until you reach a good *piano* dynamic.

The study of broken chords is always beneficial. This kind of exercise is easily found in almost every book on technique for double bass. Below is an example of broken chords suggested by Simandl<sup>142</sup> in the second volume of his method. Most of it is close in register and key to the excerpt, however, it is more suitable without the slurs.



continues next page

<sup>142</sup> Simandl, *New Method for the Double Bass* Vol. 2, 71.



Example 5.16. Simandl, fragment of Exercise no. 1 (Arpeggio), from *New Method for the Double Bass*, Vol. II<sup>143</sup>

The next example is the Zimmermann style of study applied to the excerpt of Beethoven's Trio. It is highly recommended to practice this study with the articulation and dynamic of the excerpt itself.

continues next page

<sup>143</sup> *New Method for the Double Bass*  
By Franz Simandl, edited by Lucas Drew  
Used by Permission of Carl Fischer, LLC



The next four examples below, Studies no. 38, 45, and 82 from *110 Studies*, by Sturm, and Study no. 29 of *40 Studi d'orchestra*, by Mengoli, are in a similar register and share a few melodic contours with the excerpt.

**Allegro**

Example 5.18. Sturm, fragment of Study no 38, from *110 Studies*<sup>144</sup>

**Moderato**

Example 5.19. Sturm, fragment of Study no 45, from *110 Studies*<sup>145</sup>

<sup>144</sup> 110 Studies, Op. 20, Volume I, for String Bass  
By Wilhelm Sturm  
Edited by Fred Zimmermann  
Copyright © 1963 by International Music Co. (Renewed)  
[Catalog Number: 2079]  
[www.internationalmusicco.com](http://www.internationalmusicco.com)

<sup>145</sup> 110 Studies, Op. 20, Volume I, for String Bass  
By Wilhelm Sturm  
Edited by Fred Zimmermann  
Copyright © 1963 by International Music Co. (Renewed)  
[Catalog Number: 2079]  
[www.internationalmusicco.com](http://www.internationalmusicco.com)

Allegro

*mf* *fz* *mf* *fz* *etc.*

*sempre staccato*

Example 5.20. Sturm, fragment of Study no 82, from *110 Studies*<sup>146</sup>

Moderato (♩ = c. 138) *etc.*

Example 5.21. Mengoli, fragment of Study no. 26, from *40 Studi D'Orchestra*<sup>147</sup>

<sup>146</sup> 110 Studies, Op. 20, Volume II, for String Bass

By Wilhelm Sturm

Edited by Fred Zimmermann

Copyright © 1963 by International Music Co. (Renewed)

[Catalog Number: 2080]

[www.internationalmusicco.com](http://www.internationalmusicco.com)

<sup>147</sup> ANNIBALE MENGOLI – *40 studi d'orchestra* (ZAN 6347)

Copyright © 1989 by Zanibon – Universal Music Publishing Ricordi S.r.l. – Milan, Italy

All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

## Symphony no. 9, IV movement, mm. 454-525

454 *f*

461

468 *f* *f*

476 4

487

493 *f* *f* *f* *f*

502 *f* *f* *f* *f* *f* *f*

510

517 *ff* *f* *f* *f* *f* *f* *f* *f*

Example 5.22. Beethoven, Symphony no. 9, VI movement, mm. 454-525

Symphony no. 9 by Beethoven contains numerous challenging excerpts for the double bass. From those frequently required in auditions, the excerpt above may be one of the most problematic in terms of intonation, articulation, shifting, string crossing, and endurance. The keys used by Beethoven in this section make the intonation very problematic. The articulation can be easily impaired by the constant string crossing and shifting, sometimes with intervals greater than an octave.

The next set of exercises fragments, extracted from works by Billè, Sturm, and Storch, share some common technical aspects with the Beethoven excerpt from Symphony no. 9. They are built out of a few scalar passages, several broken chords that require frequent shiftings and string crossings, as well as some tonicization to other key areas. An adaptation of the articulation to match with the Beethoven style is recommended.

Example 5.23. Billè, fragment of Study no. 2, from *Nuovo metodo per contrabbasso*, Vol. IV<sup>148</sup>

---

<sup>148</sup> ISAIA Billè – *Nuovo Metodo per contrabbasso a 4 e 5 corde* (ER 261)  
 Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy  
 All Rights Reserved  
 Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

Example 5.24. Sturm, fragment of Study no. 62, from *110 Studies*, Vol. II<sup>149</sup>

Example 5.25. Sturm, fragment of Study no. 90, from *110 Studies*, Vol. II<sup>150</sup>

<sup>149</sup> 110 Studies, Op. 20, Volume II, for String Bass  
By Wilhelm Sturm  
Edited by Fred Zimmermann  
Copyright © 1963 by International Music Co. (Renewed)  
[Catalog Number: 2080]

[www.internationalmusicco.com](http://www.internationalmusicco.com)

<sup>150</sup> 110 Studies, Op. 20, Volume II, for String Bass  
By Wilhelm Sturm  
Edited by Fred Zimmermann  
Copyright © 1963 by International Music Co. (Renewed)  
[Catalog Number: 2080]

[www.internationalmusicco.com](http://www.internationalmusicco.com)

The musical score is written in bass clef, 2/4 time, and D major. It consists of three staves. The first staff is marked "Allegro assai" and "mp sempre staccato". The second staff has a "cresc." marking with a dashed line leading to "ff". The third staff has a "p" marking and ends with "etc."

Example 5.26. Storch, fragment of Study no. 24, from *32 Etudes*<sup>151</sup>

In addition to the studies and exercises suggested in this chapter, several other concepts discussed in the third chapter of this document can also provide further support for the practice of Beethoven's excerpts, especially those found under the subheadings "dynamics," "string crossing and shifting," "the left hand," "intonation," and "synchronicity." Often, a number of these concepts appear combined in the excerpts, which demands from the performer a full awareness of all the aspects required for the passage, in order to achieve the best sound quality possible.

---

<sup>151</sup> 86 Etudes, Volume II, for String Bass  
 By Joseph Hrabě  
 Edited by Franz Simandl  
 Newly Edited by Fred Zimmermann  
 Copyright © 1949 by International Music Co. (Renewed)  
 [Catalog Number: 1722]  
 www.internationalmusicco.com

## CHAPTER 6

STRAUSS – EXCERPTS OF *EIN HELDENLEBEN* AND *DON JUAN*The Double Bass in the Second Half of the Nineteenth Century

At the beginning of the nineteenth century, the Viennese violone tuning was gradually replaced by other systems. As a result, this Classical era instrument, about which there is no evidence of a written method, was practically forgotten. Considered the last exponent of this period, Johann Hindle (1792-1862) gradually replaced the five-string Viennese violone with the four-string double bass tuned F-A-d-g, the system that was used in his method published in 1854.<sup>152</sup>

During the nineteenth century, the double bass continued its journey to the ideal tuning system, which may be one of the reasons why the development of the repertoire for the instrument was considerably tardy in relation to the other instruments of the violin family. Another reason was the late establishment of musical schools. According to Brun, “before the creation of an organized educational music system, the double bass was mostly badly taught and badly played.”<sup>153</sup> A considerable improvement on the technical abilities of bassists occurred after the establishment of such institutions, which resulted in an increasing demand by conductors and composers.<sup>154</sup>

---

<sup>152</sup> Alfred Planyavsky, *The Baroque Double Bass Violone* (Lanham, MD: Scarecrow Press, 1998), 131.

<sup>153</sup> Brun, *A New History of the Double Bass*, 90.

<sup>154</sup> *Ibid.*, 90.

Some of the European cities where music schools were established in the first half of the nineteenth century include Milan and Naples, in 1808; Parma, in 1820; Vienna, in 1821; London, in 1822; Turin, in 1827; Geneva, in 1836; and Leipzig, in 1843.<sup>155</sup> The creation of such institutions, as well as many others around the world, lead to astonishing developments for the double bass that would culminate in the twentieth century. Another factor that contributed enormously in the development of the instrument was the improved technology of string making and the creation of accessories such as adjustable bridges, C extensions, and others.<sup>156</sup> As a consequence, or maybe as motivation, composers such as “Berlioz, Wagner, Bruckner, Stravinsky, and Strauss developed an orchestral culture that challenged double bassists to rethink their traditional role as the foundation of the orchestra,”<sup>157</sup> as Planyavsky suggests.

A common practice in the nineteenth century was the use of mixed double bass sections. Three, four, and five-stringed basses, with a variety of different tuning systems, shared the same environment while bassists continued to seek for the ideal combination of number of strings and open pitches. In his 1844 treatise, Berlioz advocated in favor of the combination of two different four-string double basses, one tuned E-G-d-a, and the other tuned E-A-d-g, with the intention of having more open tones. Strauss also defended the use of a mixed bass section but with a different purpose.<sup>158</sup> According to Brun, he “more particularly recommended the inclusion of the ‘three-string Italian Double Bass’ which he asserted was far better suited to *cantabile* passages than the German bass.”<sup>159</sup>

---

<sup>155</sup> Brun, *A New History of the Double Bass*, 90.

<sup>156</sup> *Ibid.*, 92.

<sup>157</sup> Planyavsky, *The Baroque Double Bass Violone*, 143.

<sup>158</sup> Hector Berlioz, *Grand traité d’orchestration et d’instrumentation modernes* (Paris, 1841), quoted in Brun, *A New History of the Double Bass*, 144-145.

<sup>159</sup> Richard Strauss, *Instrumentationslehre von H. Berlioz* (1905), quoted in Brun, *A New History of the Double Bass*, 145.

For most of the nineteenth century, the three-string double bass tuned A-d-g predominated in Italy,<sup>160</sup> even though the scordatura G-d-g was also not rare, mostly due to the demands in works of composers such as Donizetti and Bellini.<sup>161</sup> However, there is evidence that the four-string double bass may have been present in Italy at that period, at least in opera orchestras, since there are works by Rossini and Verdi, for instance, that requires low notes that the three-string bass mentioned above would not be able to reach.<sup>162</sup>

With the improved manufacturing of strings around 1870, which gave easier access to lower pitches, bassists had no choice but to adapt their instruments to the demands of composers.<sup>163</sup> Some possibilities included the re-introduction of the system of tuning in fifths, the same as the cello but an octave lower (C-G-d-a); the scordatura of the bottom strings to lower pitches; the tuning of the double bass a fourth lower, resulting in B-E-A-d, suggested by W. Hause in his method;<sup>164</sup> the introduction of the five-string orchestral double bass, where the most common tuning was C-E-A-d-g, but a few other combinations may have been possible; and the contra C extension approaches, where the bottom string would be elongated to reach a low C or sometimes a low B.<sup>165</sup>

In 1880 a five-string double bass was patented by Carl Otho and introduced in several orchestras in Germany. The old 1890 edition by Franz Simandl's method<sup>166</sup> considered Otho's invention, and in 1922, Isaia Billè<sup>167</sup> also published his method for the five-string double bass.

---

<sup>160</sup> Pietro Granelli, *Dizionario della Musica Sacra e Profana* (Venice, 1820), quoted in Brun, *A New History of the Double Bass*, 127.

<sup>161</sup> Brun, *A New History of the Double Bass*, 130.

<sup>162</sup> Planyavsky, *The Baroque Double Bass Violone*, 140.

<sup>163</sup> Brun, *A New History of the Double Bass*, 149-150.

<sup>164</sup> *Ibid.*, 155.

<sup>165</sup> *Ibid.*, 150.

<sup>166</sup> Franz Simandl, *Neueste Methode des Contrabbass-Spiels* (Vienna, 1890), quoted in Brun, *A New History of the Double Bass*, 157.

<sup>167</sup> Billè, *New Method for Double-Bass*.

However, this instrument was not fully accepted by the double bass community, and some of the reasons may be due to playability issues.<sup>168</sup>

The German composers were aware of the limitations of their double basses, but they did not hesitate to push those boundaries. In most of Wagner's operas before 1850 it is rare to find a note lower than E. From the beginning of the second half of the nineteenth century, Wagner started gradually to push the low limits of his double basses. In *Das Rheingold* (1854), for example, he "directs half his double-basses to tune their E string down to E flat, in order to sustain the long 136 bars pedal point with which the work begins; and in the second act of *Tristan* [1859] two double basses have for a few bars to tune their E string down to C sharp,"<sup>169</sup> says Brun. In the third act of *Parsifal*, composed between the 1850s and 1882, Wagner consistently wrote pitches lower than the E. Brahms also changed his approach concerning the lower pitches of the double bass. In his first three symphonies, written from 1876 to 1883, the lowest note he writes for the instrument is an E. However, in his Symphony no.4 (1885), he extended the limit to a low C.

Strauss extrapolated the boundaries of the instrument not only in relation to the limits of the lower notes of the double bass, but mainly in relation to the almost soloistic character addressed to it. In *Also Sprach Zarathustra*, he consistently uses the low pitches down to C. However, in rehearsal number 10, he wrote a low B. According to Brun, "in order to reach this pitch, some bassists in the past tuned their instrument down a fourth lower than the standard orchestral tuning."<sup>170</sup> Strauss is considered one of the composers who wrote in a more

---

<sup>168</sup> Brun, *A New History of the Double Bass*, 157.

<sup>169</sup> *Ibid.*, 154.

<sup>170</sup> *Ibid.*, 155.

challenging way for the orchestral double bass, so the technical issues that bassists have to face in his works are often due to non-idiomatic writing.

### The Excerpts and their Main Technical Issues

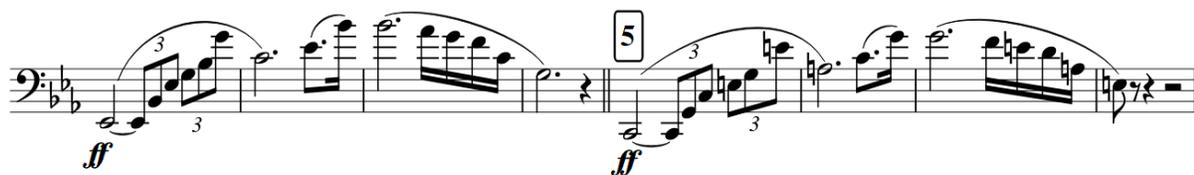
After Mozart, Strauss was the most cited composer in the survey. From the 56 participants, 37 mentioned his excerpts, most of which were in the tone poems *Ein Heldenleben* and *Don Juan*. According to the results of the survey, the technical problems associated with these excerpts include string crossing, articulation, tone quality, slurs, and resistance/power for the right hand; and shifting, intonation, agility, and articulation for the left hand.

In *Ein Heldenleben*, the excerpts frequently requested are between rehearsal numbers 1 and 12. Similar to what happens in the beginning of the third movement of Beethoven's Symphony no. 5, a recurring problem in this piece is the combination of extensive string crossings, long slurs, and shifting, complicated with a change of register from the low note in the E string to the thumb position in the G string, as we see in the example below:



Example 6.1. Strauss, *Ein Heldenleben*, rehearsal 9 to 6 measures after rehearsal 9

Slurred parallel fourths in a fast tempo are never easy to execute on a double bass. This combination, though, is part of one of the main themes of *Ein Heldenleben*. It appears twice at the beginning of the work: two measures before rehearsal number 2, and three measures after rehearsal number 5, as we see below:



Example 6.2. Strauss, *Ein Heldenleben*, 4 measures before rehearsal 2, and rehearsal 5 to 4 measures after rehearsal 5

Strauss wrote several notes (mostly Cs and E-flats) below E, the lowest note of the current standard double bass. A good part of the American double basses is well adapted with C extensions. However, most of the double basses in other countries are not equipped with such accessories, forcing bassists to transpose these lower notes an octave above.

Another aspect of this excerpt that creates a problem for the double bass is related to Strauss' key choice: the fewer open tones a passage has, the more difficult it is to keep a good intonation, which is the case in several passages in this section. In addition to this chromatic aspect of the excerpt, from rehearsal number 7 to 13 the dynamic range goes from *f* to *fff*. This long section requires a lot of resistance for a powerful sound, in combination with all the other technical issues already mentioned.

Although it looks more idiomatic for the double bass than *Ein Heldenleben*, *Don Juan* also contains several challenges for the instrument. The first major issue is the key Strauss choose for the piece: E major. It is far from being a good key for the double bass, as already mentioned. Along with that, it has several chromatic passages that can easily compromise the tonal center of the excerpt.



Example 6.3. Strauss, *Don Juan*, 2 after rehearsal A to 6 measures after rehearsal A

An aspect of the thematic material that results in an issue for the double bass is the leap at the end of the two ascending triplets' groups found at rehearsal letter A (see example 6.4. above). The bassists need to "travel" fast from the first to the third string, or to the second to the fourth string, coordinating bow and fingering. Fast passages in the low register can be particularly challenging. The low strings, mainly A and E, have a slower response than the higher strings, D and G, what can compromise the clearness of the articulation. Another issue of those fast passages is the synchronization of both hands.

### The Double Bass Literature Applied

#### Ein Heldenleben

Example 6.4. Strauss, *Ein Heldenleben*, rehearsal 5 to 4 measures after rehearsal 5, rehearsal 6 to 4 measures after rehearsal 6, rehearsal 9 to 4 measures after rehearsal 10, and 4 measures before rehearsal 12 to 6 measures after rehearsal 12

Like the beginning of the third movement of Beethoven's Symphony No. 5, this excerpt has similar technical issues such as string crossing, shifting, and long slurs. Starting the practice of this excerpt with an open string may be beneficial in creating an awareness of the distribution and control of the bow, as well as the movements and weight of the right arm. Below is a suggestion on Zimmermann's style of study.

The musical score is divided into four systems, each with a measure number in a box:

- System 1 (Measures 5-6):** Measure 5 starts with a *ff* dynamic and a slur over a triplet of eighth notes. Measure 6 starts with a *mf* dynamic and a slur over a triplet of eighth notes. A note in measure 6 is marked "D or A string".
- System 2 (Measures 9-11):** Measure 9 starts with a *ff* dynamic. Measure 10 has a *dim. - - p* dynamic marking. Measure 11 starts with a *ff* dynamic.
- System 3 (Measures 12-13):** Measure 12 starts with a *fff* dynamic. Measure 13 also has a *fff* dynamic.
- System 4 (Measures 17-18):** Measure 17 starts with a *ff* dynamic. Measure 18 starts with a *ff* dynamic and includes the instruction "etc." above the staff.

Technical markings include slurs, triplets, and fingering numbers (1, 2, 3, 4, 0). A circled box labeled "4 before 12" is placed above measure 18.

continues next page

Example 6.5. Zimmermann's exercise style applied to excerpts of *Ein Heldenleben*

This excerpt also presents a variety of different rhythms, making the use of a metronome essential for accuracy. About a specific rhythm issue, Grodner says that “rarely are the triplets clearly enunciated in this excerpt. This is more often due to mistreatment of the passage rather than the available technical ability to create clarity. The first triplet is usually rushed and thus not clearly enunciated.”<sup>171</sup> To solve this problem, Grodner suggests practicing the triplets separately, as follows:<sup>172</sup>

Example 6.6. Study on triplets' fragments

<sup>171</sup> Grodner, *A Double Bassist's Guide to Refining Performance Practices*, 97.

<sup>172</sup> *Ibid.*

The Study no. 18 of *20 Esercizi pratici per contrabbasso*, by Salvi, helps to isolate string crossing and the practice of fourths in neighbor strings. Open strings should be avoided in order to make the study more useful.



Example 6.7. Salvi, fragment of Study no. 18, from *20 Esercizi pratici per contrabbasso*<sup>173</sup>

In contrast to what happens at the beginning of the third movement of Beethoven's Symphony no. 5, the necessity here is to build a huge sound, almost reaching the limit of the instrument. The long slurs represent a problem when there is the necessity to play beyond *f*. One possibility is to break a few of these slurs but being careful to make the bow change as smooth as possible. Here is a suggestion on how to practice it:

- Play all separate notes. First *mf*, then *f*, *ff*, and finally to the limit of your instrument.
- Play two or three notes slurred (depending on the phrase), and long notes alone. First *mf*, then *f*, *ff*, and finally to the limit of your instrument.
- Play the passage with the slurs you decide for it. First *mf*, then *f*, *ff*, and finally to the limit of your instrument.

The excerpt contains a few dynamic nuances, but after reaching the maximum sound, the balance of these nuances may become easier. The suggestion above can also be applied with the

---

<sup>173</sup> From *20 Esercizi Pratici per contrabbasso* – EC8372, page 22  
 By Luigi Salvi  
 © 1965 by Edizioni Curci s.r.l.  
 By courtesy of Edizioni Curci s.r.l., All rights reserved.

studies. The following examples, which include fragments of studies by Simandl, Billè, Rabbath, and Mengoli, have several similarities with the excerpt of *Ein Heldenleben*, such as melodies constructed mostly in broken chords, long slurs, and in a similar register. Experimenting with different fingerings in these studies can help one know better the response of a particular instrument, as well as identify some technique weaknesses that can be isolated and practiced consciously.



Example 6.8. Simandl, fragment of Study no. 1,<sup>174</sup> from *Gradus ad Parnassum*, Vol. 1<sup>175</sup>



Example 6.9. Billè, fragment of Study no. 30, from *Nuovo metodo per contrabbasso*, Vol. III<sup>176</sup>

<sup>174</sup> As well as etude no. 1 of *Gradus ad Parnassum*, etudes no. 4 and no. 6 are also of a great contribution.

<sup>175</sup> 24 Studies "Gradus ad Parnassum", Volume I, for String Bass

By Franz Simandl

Edited by Fred Zimmermann

Copyright © 1957 by International Music Co. (Renewed)

[Catalog Number: 1754]

www.internationalmusicco.com

<sup>176</sup> ISAIA Billè – *Nuovo Metodo per contrabbasso a 4 e 5 corde* (ER 261)

Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy

All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

Example 6.10. Rabbath, fragment of Study no. 13, from *Nouvelle technique de la contrebasse*, Vol. II<sup>177</sup>

Example 6.11. Rabbath, fragment of Study No. 18, from *Nouvelle technique de la contrebasse*, Vol. II<sup>178</sup>

Example 6.12. Mengoli, fragment of Study No. 25, from *40 Studi d'orchestra*<sup>179</sup>

<sup>177</sup> NOUVELLE TECHNIQUE DE LA CONTREBASSE, VOL. 2

By François Rabbath

Copyright © 1980 by Editions Musicales Alphonse Leduc, Paris

International Copyright Secured. All Rights Reserved. Used by Permission.

<sup>178</sup> NOUVELLE TECHNIQUE DE LA CONTREBASSE, VOL. 2

By François Rabbath

Copyright © 1980 by Editions Musicales Alphonse Leduc, Paris

International Copyright Secured. All Rights Reserved. Used by Permission.

<sup>179</sup> ANNIBALE MENGOLI – 40 studi d'orchestra (ZAN 6347)

Copyright © 1989 by Zanibon – Universal Music Publishing Ricordi S.r.l. – Milan, Italy

All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

Don Juan

The image displays five staves of musical notation for the piece "Don Juan". The notation is in bass clef with a key signature of three sharps (F#, C#, G#). The first staff begins with a forte (*ff*) dynamic and features a triplet of eighth notes. A rehearsal mark 'A' is placed above the staff. The second staff continues with triplet patterns and a forte (*ff*) dynamic. The third staff includes a marking '10 before D' and a forte (*ff*) dynamic, followed by a section marked '6 before P' with the instruction *rapidamente* and a forte (*ff*) dynamic. The fourth staff is marked *rapidamente* and features a forte (*ff*) dynamic, with a rehearsal mark 'R' placed above. The fifth staff concludes with triplet patterns and a forte (*ff*) dynamic.

Example 6.13. Strauss, excerpts of *Don Juan*

This excerpt is built mostly in diminished broken chords and chromatic passages and, as in *Ein Heldenleben*, *Don Juan* also demands a powerful volume of sound. Zimmermann's open strings exercise style contributes to create an awareness of the movements of the right arm. Practicing it with the dynamic of the excerpt is vital. In addition, the "anchor placement" concept given by Grodner may be very effective for the big leaps found in mm. 5-7 after rehearsal A, for instance. This concept consists in the necessity of certain notes having a "solid contact with the string [even on spiccato passages], as there would be in playing that note 'on string.' The result should be more bowing control and clearer articulation of these notes (which often tend to lose

their identity),”<sup>180</sup> as Grodner explains. In this excerpt of *Don Juan*, the anchor notes would be the notes right before the leaps. For example, in measure 5 after rehearsal A, the anchor note would be the F-sharp. It can easily be applied to Zimmermann’s study, which follows.

Example 6.14. Zimmermann’s exercise style applied to excerpts of *Don Juan*

The following exercises feature mostly chromatic passages. As most of the excerpts of *Don Juan* are constructed with separate bows, it is essential to practice the studies without the

<sup>180</sup> Grodner, *A Double Bassist's Guide to Refining Performance Practices*, 79.

slurs as well, concentrating on the synchronization of left fingers and bow stroke (see exercise under the subheading “Synchronization,” in the third chapter). Practicing only the left hand is also a good exercise, creating a sense of rhythmic precision, awareness of shiftings, and intonation.<sup>181</sup>



Example 6.15. Billè, fragment of Study no. 9, from *Nuovo metodo per contrabbasso*, Vol. V<sup>182</sup>



Example 6.16. Salvi, fragment of Study no. 14, from *20 Esercizi pratici per contrabbasso*<sup>183</sup>

<sup>181</sup> See the concepts of hammer motion and pull-off action on chapter 3.

<sup>182</sup> ISAIA Billè – *Nouvo Metodo per contrabbasso a 4 e 5 corde* (ER 261)

Copyright © 1984 by Casa Ricordi S.r.l. – Milan, Italy

All Rights Reserved

Reproduced by Kind Permission of Hal Leonard MGB S.R.L., Italy

<sup>183</sup> From *20 Esercizi Pratici per contrabbasso* – EC8372, page 19

By Luigi Salvi

© 1965 by Edizioni Curci s.r.l.

By courtesy of Edizioni Curci s.r.l., All rights reserved.

Example 6.17. Storch, fragment of Study no. 5, from *32 Etudes*<sup>184</sup>

The third chapter of this document provides further assistance for the practice of the excerpts from Richard Strauss. Some useful subheadings are “articulation,” string crossing and shifting,” “the left hand,” “intonation,” “string crossing when the interval is a fourth,” “chromatic scales,” and “synchronicity.” As stated in the previous chapter, the combination of several technical issues demands from the performer full awareness of all the aspects required for the passage in order to achieve the best sound quality possible.

---

<sup>184</sup> Thirty-Two Etudes

J.E. Storch

© BELWIN MILLS PUBLISHING

ALL RIGHTS RESERVED

Used by Permission of ALFRED MUSIC

## CHAPTER 7

### CONCLUSION

The purpose of this research was initially to assess the amount and quality of information available for the double bass performer regarding the orchestral repertoire. As a result of both the survey and the investigation on both standard and non-standard resources, I discovered that we double bassists have abundant material in matter of information and technical literature. However, this remains an unsolved problem: how to put this material into context and make connections between it and the repertoire for the double bass. It is true that this same material has some serious weaknesses regarding a few specific points, such as dynamics (especially piano in the low register), the connection between articulation and style, and agility exercises in the low register, mainly on strings E and A.

For the practice of orchestral technique skills, this author highly recommends works such as Sturm's *110 Studies*, Mengoli's *40 Studi d'orchestra*, and Salvi *20 Esercizi pratici per contrabbasso*. These works require a demanding agility by the bassist in the low and intermediate register, which is tremendously beneficial for orchestral writing. Several other methods also offer great contributions. However, the advanced exercises and studies concentrate too much in the higher register. Even with methods such as Sturm and Mengoli for orchestra, I believe there is a lack in the writing for the very low register of the instrument, meaning from the half to the second position in the two lower strings, which is the hardest register when it comes in agility, clarity, sound quality, and articulation.

The final purpose of this document was to inspire and encourage other researchers and educators to keep investigating and broadening this subject. There is much more to be uncovered and analyzed, both in the literature for double bass and in the orchestral works. The connection of style and double bass technique is a subject that can be widely explored, resulting in a great contribution to the development of the instrument.

## BIBLIOGRAPHY

- Billè, Isaia. *New Method for Double-Bass*. Milano: Ricordi, 1922.
- Borgir, Tharald, et al. "Violone." In *Grove Music Online. Oxford Music Online*. Oxford University Press, accessed September 24, 2015. <http://www.oxfordmusiconline.com.proxyremote.galib.uga.edu/subscriber/article/grove/music/29478>.
- Buckley, Stephen George. "Beethoven's Double Bass Parts: The Viennese Violone and the Problem of the Lower Compass." DMA diss., Rice University, 2013.
- Bradetich, Jeff. *Double Bass: The Ultimate Challenge*. Moscow, ID: Music for All to Hear, Inc., 2009.
- Brun, Paul. *A New History of the Double Bass*. Villeneuve d'Ascq, France: Paul Brun Productions, 2000.
- Chapman, David. "Historical and Practical Considerations for the Tuning of Double Bass Instruments in Fourths." *The Galpin Society Journal* 56 (June 2003): 224-233. <http://www.jstor.org/stable/3004442>.
- Dunin Pedrosa, Mayra Stela. "Abordagem de Estudos em Métodos de Contrabaixo com Vistas à Execução de Obras do Repertório Orquestral." Master's thesis, Universidade Federal do Paraná, 2009.
- Escreet, Michael. "Haydn and the Double Bass." *Haydn Society of Great Britain* 33 (2014): 12-19. Retrieved from <http://search.proquest.com/docview/1677331543?accountid=14537>.
- Findeisen, Theodore A. *25 Technical Studies*. New York: International Music Company: 1957.
- Grodner, Murray. *A Double Bassist's Guide to Refining Performance Practices*. Bloomington: Indiana University Press, 2013.
- Guettler, Knut. *A Guide to Advanced Modern Double Bass Technique*. London: Yorke Edition, 1992.

- Hilgenstieler, Eric. "The Application of Contemporary Double Bass Left Hand Techniques Applied in the Orchestra Repertoire" DMA diss., University of Southern Mississippi, 2014.
- Hrabe, Joseph. *86 Etudes for String Bass*. Edited by Franz Simandl. New York: International Music Co., 1949.
- Jones, David Wyn. "Vanhal, Dittersdorf and the Violone". *Early Music* 10, no. 1 (Jan. 1892): 64–67. <http://www.jstor.org.proxy-remote.galib.uga.edu/stable/3126735>.
- Kohn, Andrew. "The Bass Etude Interviews." *American String Teacher* 57, no. 2 (May 2007): 66- 70.
- Machado, Marcos. *Tao of Bass*, Vol. 1. Tecumseh, MI: Self-published, 2017.
- Mengoli, Annibale. *40 Studi d'orchestra*. Milan: Zanibon - Universal Music Publishing Ricordi S.r.l, 1989.
- Montanari, Carlo. *14 Studies for String Bass*. Edited by Homer Mensch. New York: International Music Co., 1974.
- Nanny, Edouard. *Méthode complète pour la contrebasse à quatre et cinq cordes*. Paris: Alphonse Leduc, 1920.
- O'Brien, Orin. *Double Bass Notebook*. New York: Carl Fischer, LLC, 2016.
- Petracchi, Francesco. *Simplified Higher Technique*. London: Yorke Edition, 1982.
- Planyavsky, Alfred. *The Baroque Double Bass Violone*. Lanham, MD: Scarecrow Press, 1998.
- Rabbath, François. *Nouvelle technique de la contrebasse*. Paris: Alphonse Leduc, 1977.
- Salvi, Luigi. *20 Esercizi pratici per contrabbasso*. Milano: Curci, 1965.
- Segerman, Ephraim. "Mysteries of the Early Double Bass." Review of *The Baroque Double Bass Violone*. *Early Music* 27, no. 4 (Nov. 1999): 660–61. <http://www.jstor.org.proxy-remote.galib.uga.edu/stable/3128768>.
- Simandl, Franz. *New Method for the Double Bass*. Revised by Frederick Zimmermann. Edited and Annotated by Lucas Drew. New York: Carl Fischer, 1984.
- Simandl, Franz, and Frederick Zimmermann. *Gradus ad Parnassum: 24 Studies for String Bass*. Edited by Frederick Zimmermann. New York City: International Music Co., 1957.
- Storch, Josef Emanuel. *32 Etudes for String Bass*. Miami: Edwin F. Kalmus, 2003.

Sturm, Wilhelm. *110 Studies*, Op. 20, 2 Vol., ed. Fred Zimmerman. New York: International Music Company, 1963.

Zimmermann, Frederick. *A Contemporary Concept of Bowing Technique for the Double Bass*. New York: MCA Music, 1966.

## APPENDIX

SURVEY: ANALYSIS OF THE TECHNICAL LITERATURE FOR DOUBLE BASS  
APPLIED TO ORCHESTRAL EXCERPTS  
(English Version)

The purpose of this survey is to gather information about the most popular double bass methods as well as some aspects of orchestral excerpts frequently required in auditions. Please answer the questions only considering your own experience as musician, without appeal to any external source. The questionnaire can be responded to in any order, and you are free to not answer any non-required questions if you are not comfortable or sure about it.

Thank you for your consideration,  
Claudia Amaral

\* Required

The information collected in this survey will be used as source for my dissertation and maybe other publications. If you do not want me to use your real name, a pseudonym will be assigned to you. Please, check one of the following boxes \* (Mark only one oval.)

- I give permission to use my real name
- I would like to have a pseudonym assigned to me

1. Name: \*
2. Email address (will not be published in any case): \*
3. Institution(s) (University/Orchestra):
4. Position (select all that apply): \* (Check all that apply.)

- Student
- Professor
- Professional orchestra bassist

5. Country(ies) where the most part of your musical studies happened: \*
6. Bow: \* (Mark only one oval.)

- French
- German
- Both

7. Fingering (in the lower register): \* (Mark only one oval.)

- 1 - 2 - 4
- 1 - 3 - 4
- 1 - 2 - 3 - 4
- Other:

8. What are the main methods for double bass you used/use systematically in your own practice routines? \*

9. If you are a double bass professor/teacher, which are the main double bass methods you use with your students?

10. In your experience, which are the most challenging orchestral excerpts for double bass required in orchestral auditions? \*

11. For the excerpts you cited above, what are the main technical issues for the right hand in your opinion?

12. For the excerpts you cited above, what are the main technical issues for the left hand in your opinion?

13. Do you use specific exercises from the double bass methods to help solving the technical issues you face in these orchestral excerpts? If so, which exercises?

14. How do you inform yourself about style when you are preparing an orchestral excerpt? (Check all that apply.)

- On double bass literature/methods
- On general music literature
- Asking a professor
- Listening/watching performances
- Other:

15. If you have any consideration about the relationship between double bass methodology and orchestral excerpts, please, let me know your thoughts.

ANÁLISE DA LITERATURA TÉCNICA PARA CONTRABAIXO  
APLICADA A EXCERTOS ORQUESTRAIS  
(Portuguese Version)

O objetivo desta pesquisa é reunir informações sobre os métodos de contrabaixo mais populares, bem como aspectos de excertos orquestrais frequentemente exigidos em audições. Por favor, responda às perguntas considerando apenas a sua própria experiência como musicista, sem utilizar nenhuma fonte externa como recurso. O questionário pode ser respondido em qualquer ordem e você está livre para não responder a alguma pergunta não obrigatória, caso você não se sinta à vontade ou não tenha certeza.

Obrigada pela consideração,  
Cláudia Amaral

\* Required

As informações coletadas nesta pesquisa serão utilizadas como fonte para minha dissertação, assim como para outras possíveis publicações futuras. Se você não quer que o seu nome verdadeiro seja utilizado, um pseudônimo será atribuído a você. Por favor, escolha uma das opções abaixo: \*

- Permito que meu nome verdadeiro seja utilizado
- Gostaria de ter um pseudônimo atribuído a mim

1. Nome: \*

2. Endereço de email (não será publicado em nenhuma situação) \*

3. Instituição(ões) (Universidade/Orquestra)

4. Posição/Cargo (selecione todas as opções que se aplicam) \*

- Estudante
- Professor
- Musicista de orquestra

5. País(es) onde ocorreu a maior parte dos seus estudos como contrabaixista: \*

6. Arco: \*

- Francês
- Alemão
- Ambos

7. Digitação (no registro grave): \*

- 1 - 2 - 4
- 1 - 3 - 4
- 1 - 2 - 3 - 4
- Other:

8. Quais são os principais métodos para contrabaixo que você utilizou/utiliza sistematicamente nos seus estudos de contrabaixo? \*

9. Se você é professor(a), quais são os principais métodos de contrabaixo que você utiliza com seus alunos?

10. De acordo com a sua experiência, quais excertos de orquestra pedidos em audições são mais exigentes/desafiadores? \*

11. Dos excertos citados acima, quais são os principais problemas técnicos para a mão direita na sua opinião?

Powered by

12. Dos excertos citados acima, quais são os principais problemas técnicos para a mão esquerda na sua opinião?

13. Você utiliza exercícios específicos da metodologia para contrabaixo para resolver problemas técnicos encontrados em excertos de orquestra? Se sim, quais?

14. Como você se informa a respeito de estilo musical quando você está preparando um excerto de orquestra?

- Na literatura/metodologia para contrabaixo
- Na literatura geral de música
- Perguntando para um professor
- Ouvindo/vendo performances
- Other:

15. Se você tem alguma consideração sobre a relação entre a metodologia para contrabaixo e excertos de orquestra, por favor, registre aqui.