



UNIVERSITY OF GOTHENBURG
ACADEMY OF MUSIC AND DRAMA

Exerting the Excerpts

A comparative study between orchestral cello excerpts and technical
etudes

Carys James

Degree Project, Master of Fine Arts in Music,
Symphonic Orchestra Performance
Spring Semester 2017

Degree Project, 30 higher education credits
Master of Fine Arts in Music, Symphonic Orchestra Performance
Academy of Music and Drama, University of Gothenburg
Spring Semester 2017

Author: *Carys James*

Title: Exerting the Excerpts, A comparative study between orchestral cello excerpts and technical etudes

Supervisor: *Ms Ulrika Davidsson*

Examiner: *Mr Ole Lutzov Holm*

ABSTRACT

Key words: Audition, Caprices, Cello, Etudes, Excerpts, Orchestra, Orchestral Excerpts Orchestral Playing, Practice Methods, Studies, Technical exercises, Technique

This thesis aims to identify and analyse the technical demands of orchestral excerpts for cello and how they can be practised by various study methods. This thesis begins by identifying the technical demands set by orchestral excerpts for cello and orders the excerpts by the technical demand. The second part of the thesis looks at how traditional study methods can be used to practise these technical demands. The final part of the thesis assesses how alternative methods can be used to practise the technical demands. Through all the research and analysis, it is clear that there is no one practice system that can be used for all the techniques.

Contents

I. Introduction

- 1.1 Background
- 1.2 Research question
- 1.3 Method and material
- 1.4 Terminology

II. Orchestral excerpts

- 2.1 Technical demands of Orchestral Excerpts for cello
- 2.2 Orchestral excerpts grouped by technical demands
- 2.3 Summary

III. Traditional study methods

- 3.1 Traditional study methods, and how they tackle the difficulties set by
orchestral excerpts
- 3.2 Spiccato
- 3.3 Up and Down Bow Spiccato
- 3.4 Sautillé
- 3.5 Shifting Position
- 3.6 Left hand strength, dexterity and anticipation
- 3.7 Legato String crossings
- 3.8 Detached String crossings
- 3.9 Harmonics
- 3.10 Double Stops
- 3.11 Summary
- 3.12 Organisation

IV. Alternative solutions to using traditional studies for the practice of orchestral excerpts

- 4.1 Possible solutions for the study of cello excerpts other than traditional
study methods
- 4.2 Study systems on orchestral excerpts designed for other instruments
- 4.3 Modern study systems and their use in the preparation for cello
orchestral playing
- 4.4 Summary

V. Conclusion

I. INTRODUCTION

1.1 Background

Orchestral excerpts are the focus of practice for anyone preparing for orchestral audition. It is fundamental for me to study orchestral excerpts in detail to complete my Masters degree in Symphonic Orchestral performance at the Academy of Music and Drama in Gothenburg and prepare for professional orchestral auditions. Excerpts are used in orchestral auditions to test musical awareness and the power to convey characters, but this thesis will concentrate on only the technical demands of orchestral excerpts. This is because I have always struggled most with the technical demands of playing the cello rather than musical awareness. I learned piano from a very early age and took up the cello much later, as a result my musical awareness has always been ahead of my technical ability on the cello.

Although there are excerpts that are commonly selected for audition, it is possible for orchestras to pick unusual excerpts at short notice for the candidates. In this instance, it is more important to be on a generally high level of playing, particularly in technique rather than well practised in a few select excerpts. Furthermore, the number of potential excerpts for any string instrument is too large to practise all of them between each audition preparation period. It is possible to receive over twenty excerpts for one audition with on average three weeks to prepare. These excerpts are designed to test orchestral playing which often has a very different technical focus from that which is practised in solo repertoire. The range of techniques and short amount of time to prepare excerpts mean that it is crucial that the candidate is already confident in orchestral techniques before receiving the selected orchestral excerpts.

1.2 Research Questions

In order to assess the usefulness of practising studies for the preparation of excerpts, this thesis will aim to answer the following research questions

What are the technical demands of orchestral excerpts for Cello?

How can orchestral excerpts be grouped by technical demands?

How do traditional study methods tackle difficulties set by orchestral excerpts?

What are alternative solutions to using traditional study methods for the practice of orchestral excerpts?

1.3 Method and Material

This thesis will aim to research the technical demands of cello orchestral excerpts and group them by these demands. I will begin this research by annotating commonly used excerpts books of *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire*¹ and *Orchestral Excerpts from the Symphonic Repertoire for cello, volume 1,2*

¹ Rolf Beker and Rudolf Mandalka, *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire* (Mainz: Schott Music GmbH & Co. KG, 1993).

and 3². Additionally, I will study excerpt booklets I obtained from auditions I have attended previous to completing this thesis. These annotations will facilitate categorization of excerpts into technical and musical demands.

Once categories are identified, it is imperative for me to investigate the relevance of some existing study systems including Piatti's *Twelve Capricci for Violoncello Solo*³, Popper's *40 Studies: High School of Cello Playing, Opus 73*⁴, Feuillard's *Daily Exercises for Violoncello*⁵ and Ševčík's *Violin Studies, Opus , 40 variations for Cello arr. Feuillard*⁶ for these techniques. They are the most commonly used technique books for cello in Europe. Score comparisons between these traditional study methods and orchestral excerpts will assess how relevant practice of existing etudes is to preparing for orchestral audition. I have chosen these particular study methods as these are the ones I have used and still practise now to develop my own cello technique. I will practically try the etudes by playing them in relation to the excerpts. This will determine further the usefulness of traditional study methods in preparing for professional orchestral audition.

After the traditional study methods are assessed, focus will shift to literature study in alternative methods for practising the technical difficulties in orchestral excerpts. I have selected two doctoral essays which are written on the subject of practising cello orchestral excerpts. The existing doctoral essays focus on the technical execution of the excerpts and look at detailed analysis to offer solutions to the study of orchestral excerpts. In this thesis I will focus on the essay by Linda Jean Shay "Selected Orchestral Excerpts for Cello: Analysed and Graded"⁷ which works towards the completion of a masters table analysing the technical difficulties in cello orchestra excerpts and Susan Elizabeth Moyers's "A detailed study of selected orchestral excerpts for cello"⁸ which carefully analyses common excerpts to suggest technical solutions. I will then investigate the study methods of orchestral excerpts for other instruments and discuss how this could be applied for cello. I will conclude the literature study by looking at modern alternative study systems for cello and assess how useful they are in preparation for the technical demands of orchestral excerpts.

² Leonard Rose, *Orchestral Excerpts from the Symphonic Repertoire for cello, volume 1,2 and 3* (New York: International Music Company, 1953).

³ Alfredo Piatti, *Twelve Capricci for Violoncello Solo, Op.25* (Munich: G. Henle Verlag, 2003).

⁴ David Popper, *40 Studies: High School of Cello Playing, Opus 73* (New York: International Music Company, 1982).

⁵ Louis R. Feuillard, *Daily Exercises for Violoncello* (Mainz: Schott Music International GmbH & Co. KG, 1919).

⁶ Otakar Ševčík, *Violin Studies, Opus , 40 variations for Cello arr. Feuillard* (Leipzig: Bosworth & Co,1905).

⁷ Linda Jean Shay "Selected Orchestral Excerpts for Cello: Analysed and Graded" (PhD diss., The Ohio State University, 1977).

⁸ Susan Moyers "A detailed study of selected orchestral excerpts for cello" (PhD diss., University of Miami, 2009).

1.4 Terminology

Ricochet is the technique of throwing the bow onto the string in the upper half to create a big natural bounce. This is controlled to produce quick successive jumping notes.

Spiccato is the technique of bouncing the bow around the balance point to create a light off the string effect. This is a one note per bow technique. It is created by physical movements of the right arm of the player.

Up and Down bow Spiccato is the same as spiccato bowing but it has multiple notes per bow either on an up or down bow. It is most easy to execute the closer it is to the frog of the bow.

Sautillé is the technique of bouncing the bow in the middle so it creates a very light bounce. Sautillé can only be achieved at high tempo. Sautillé is much lighter than Spiccato. Sautillé bowing uses the natural wood of the bounce rather than requiring individual controlling movements.

String Crossings refers to the change in bow across different strings. Detached string crossings refers to this when there is one note per bow. Legato string crossings means there is a slur over the string crossing so there is more than one note per bow.

Left Hand Dexterity is the ability to have strength and speed in the left hand. It can be the exact motion of picking up and putting down notes without any changes in pitch and the ability to move in exact rhythm at high speeds.

Left Hand Anticipation is the technique of playing one note whilst anticipating the next. This can be the preparation of position changes or for the crossing of strings. In the crossing of strings in a legato line, left hand anticipation is used thus although only one note is heard, the left hand is holding down more than one note.

Left Hand Extensions is the extension of normal positions. For Example, in first position on the A string the first finger Plays B and the fourth finger plays D. However, this can be extended back so the range becomes B flat to D.

Shifting in and out of neck positions refers to the left hand position changes from low positions to neck positions. Low positions being up until fourth position. Neck positions are those played in the neck of the cello from extended fourth position to seventh position.

High position shifting refers to the left hand position changes above seventh position. These are all in thumb position therefore they are not numbered.

II. ORCHESTRAL EXCERPTS

The first chapter of this thesis aims to assess the technical demands set by orchestral excerpts for cello. These selected excerpts are taken from excerpts booklets I have been given at previous professional auditions, Beker and Mandalka's *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire*, Leonard Rose's *Orchestral Excerpts from the Symphonic Repertoire for cello, volume 1,2 and 3* and from booklets from mock auditions set by Högskolan för scen och musik vid Göteborgs universitet in the master of orchestra performance course.

The analysis of the excerpts will be drawn from varying styles and eras of classical music reflecting the breadth of orchestral excerpts commonly set for professional auditions. Although it is possible for more contemporary repertoire to be chosen, such as symphonic passages by Allan Pettersson or Schoenberg's *Verklarte Nacht*, I have decided to focus on the most common excerpts to assess the similarities and differences in technical demand. Although rarely asked in the same audition for cello, excerpts from both symphonic and operatic repertoires will be considered.

Technical demands and general difficulties faced in orchestral excerpts will be detailed to demonstrate their purpose at audition. This detailing will be arranged by composer than their orchestral repertoire which is most commonly selected at orchestral audition.

The techniques detailed in the following lists are described in the Terminology section of the previous Introduction chapter of this thesis.

2.1 Technical Demands of Orchestral Excerpts for Cello

Beethoven

Symphony No. 5, 2nd movement theme and variations *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p.7* – left hand extensions, left hand dexterity, string crossings, anticipation in bow and left hand, stylistic awareness, intonation, dynamic control.

Symphony No. 5, 3rd movement beginning to bar 18 *Excerpt from BBC National Orchestra of Wales excerpt list for cello tutti* – legato long phrasing, string crossings, dynamic control, rhythm, intonation, inaudible shifts.

Symphony No. 5, 3rd movement bar 141 – 213 *Excerpt from the BBC National Orchestra of Wales excerpt list for cello tutti* – spiccato, dynamic control, articulation, detached string crossings.

Symphony No. 6, 2nd movement cello first desk solo passage Leonard Rose *Orchestral Excerpts from the Symphonic Repertoire for cello Book 3 p. 7* – legato string crossing, left hand anticipation, dynamic control, left hand extensions, intonation.

Symphony No. 7, 1st movement Vivace dotted section Leonard Rose *Orchestral Excerpts from the Symphonic Repertoire for cello Book 3 p. 9* – detached string crossings, left hand strength and dexterity, dynamic control, left hand anticipation.

Symphony No. 8, 3rd movement trio *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p.9* –detached string crossings, spiccato, passive and active energy, left hand extensions, dynamic control, stylistic awareness.

Coriolan Overture, Bar 102 – 240 *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p. 12* –spiccato, detached string crossings, left hand extensions, dynamic control.

The Creatures of Prometheus, No.5 bar 33 – 72 *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p.44* –Vibrato variation, up and down bow spiccato, shifting across full range of the cello, spiccato, changes between solo and tutti sound, legato string crossings, detached string crossings.

Berlioz

Romeo and Juliet, 1st movement beginning to bar 25 Leonard Rose *Orchestral Excerpts from the Symphonic Repertoire for cello Book 1 pp.12-13* – detached string crossings, staccato, spiccato, left hand strength dexterity, articulation in the bow.

Symphonie Fantastique, 2nd movement ending from animato onwards Leonard Rose *Orchestral Excerpts from the Symphonic Repertoire for cello Book 3 p.12 and Orchestral Booklet number 5 set by HSM for symphonic mock audition* – bow distribution, left hand dexterity, legato string crossing, shifting, left hand anticipation.

Bizet

Carmen, Act I Finale from figure 171 to five bars after figure 176 *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p. 14* – sautillé, spiccato, detached string crossings, articulation, left hand dexterity, left hand anticipation.

Brahms

Symphony No. 2, 1st movement bars 82 – 106 and 340 – 371 *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p.15* – continuous vibrato, legato string crossing, anticipation of bow, left hand extensions, shifts in and out of neck positions, dynamic control.

Symphony No.2, 2nd movement Adagio non troppo opening *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p.16* – bow distribution,

continuous vibrato, dynamic control, shifting in and out of neck positions, legato string crossing.

Symphony No. 3, 3rd movement Poco allegretto opening Leonard Rose *Orchestral Excerpts from the Symphonic Repertoire for cello Book 3 p16* – mezza voce expressive sound, continuous vibrato, bow distribution, shifting in and out of neck positions, legato string crossings, anticipation in left and right hand.

Bruckner

Symphony No. 7, beginning to bar 23 *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p.16* – Legato string crossings, vibrato, bow distribution, left hand anticipation.

Debussy

La Mer, from two bars before figure 9 to six bars after figure 9 Leonard Rose *Orchestral Excerpts from the Symphonic Repertoire for cello Book 2 p.22* – bow distribution, dynamic range, range of expressive sound, rhythm, shifting from low to high positions, shifting in and out of neck positions, intonation.

Mendelssohn

Midsummer Night's Dream, Scherzo from the beginning the Allegro Vivace section Leonard Rose *Orchestral Excerpts from the Symphonic Repertoire for cello Book 1 pp. 40-41* – left hand dexterity, left hand anticipation, left hand extensions, shifting in out and out neck positions, string crossings, sautillé bowing, dynamic control, bow distribution, switching between pizzicato and arco quickly.

Midsummer Night's Dream, Finale beginning, the Allegro molto section Leonard Rose *Orchestral Excerpts from the Symphonic Repertoire for cello Book 1 p.41*- spiccato bowing, bow control between slurs and off the string bowing, string crossing, anticipation in the right hand, left hand anticipation, left hand extensions, shifting in and out of neck positions.

Mozart

Symphony No. 35, in D major, K.385, 4th movement bar 88 - 109 and 134 – 181, *Excerpt from BBC National Orchestra of Wales cello tutti audition* – detached string crossings, dynamic contrast, stylistic awareness, left hand strength and dexterity, right hand articulation, left hand extensions, spiccato.

Symphony No. 41, first movement from two bars after figure 12 until five bars after figure 14 *Excerpt from BBC National Orchestra of Wales cello tutti audition* – left hand strength and dexterity, left hand extensions, spiccato, detached string crossings.

Symphony No. 41, fourth movement from figure 8 until figure 13 *Excerpt from BBC National Orchestra of Wales cello tutti audition* – left hand dexterity, stylistic awareness, shifting in low positions, left hand extensions, detached string crossings, spiccato.

Don Giovanni, KV. 527, Act I, No. 12 Aria, *Excerpt from HSM Opera mock excerpt booklet 5 and Orchestra Probespiel p. 48* – legato phrasing, shifting, left hand strength and dexterity, dynamic control, string crossings, left hand anticipation.

The Magic Flute, K.620, Overture bars 27-54, *Excerpt from Gothenburg Opera Cello tutti and Gävle Symphony Orchestra cello tutti audition* – left hand strength and dexterity, dynamic control, spiccato, bow distribution.

The Marriage of Figaro, KV. 492, Overture from the beginning to bar 9 and bar 157 – bar 164, *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p.20* – dynamic control, left hand strength and dexterity, legato string crossings.

Sibelius

Symphony No.2, 3rd movement beginning until bar 121, *Excerpt from the Gävle Symphony Orchestra cello tutti audition* – left hand strength and dexterity, sautillé, dynamic control, detached string crossings, left hand extensions

Symphony No.3, 1st movement from fifteen bars before figure 14 until nine bars after figure 1, *Excerpt from Norrköping Symphony Orchestra cello tutti audition* – left hand strength and dexterity, detached string crossings, shifting in and out of neck positions

Shostakovich

Symphony No. 5, 3rd movement soli passage
Orchestral excerpts set by Oslo Philharmonic Orchestra for cello tutti, Leonard Rose Book 2 p. 50 – intonation, continuous vibrato, bow distribution, shifting in and out of neck position, high position shifting.

Symphony No. 5, 1st movement dotted passage from tempo change crotchet = 138, Leonard Rose *Orchestral Excerpts from the Symphonic Repertoire for cello Book 2 p.49* – shifting in and out of neck position, high position shifting, intonation, bow distribution, left hand extensions.

Symphony No. 11, 2nd movement from figure 27 until three bars after figure 32 *Excerpt from BBC National Orchestra of Wales cello tutti audition* – left hand strength and dexterity, left hand extensions, intonation, shifting, dynamic control.

Symphony No. 15, 2nd movement from figure 53 to figure 59, *Orchestral Excerpt Booklet number 5 set by HSM for symphonic mock audition* – dynamic control, legato string crossings, continuous vibrato, shifting in and out of neck positions, high position shifting such as octaves and sevenths, intonation.

Smetana

The Bartered Bride Overture from the beginning to bar 290 *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire pp.20 - 22* – articulation, dynamic range, sautillé, detached string crossings, left hand strength and dexterity, bow distribution, shifting in and out of neck, dynamic control.

Strauss

Don Juan from the beginning to seven bars after letter G *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire pp.23-24* – rhythmic execution, dynamic control, shifting, intonation, bow distribution, left hand extensions, left hand dexterity detached string crossings.

Der Rosenkavalier 3rd act beginning until figure 15 *Excerpt from HSM Opera mock excerpt booklet 1-* sautillé bowing, left hand strength and dexterity, string crossings, dynamic control, bow distribution.

Ein Heldenleben beginning until 2 bars after figure 2 *Excerpt from BBC National Orchestra of Wales cello tutti audition* – shifting in and out of neck position, dynamic control, legato string crossing, intonation on awkward interval shifting, vibrato variation, bow distribution.

Till Eulenspiegel from eight bars before figure 31 until 6 bars after figure 33 *Excerpt from the Gävle Symphony Orchestra cello tutti audition* – left hand strength and dexterity, ricochet, detached string crossings, legato string crossings, dynamic control

Tschaikovsky

Symphony No. 6 3rd movement beginning to bar 24 *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p.30* – dynamic control, shifting between low and neck positions, dynamic control, up bow spiccato.

Verdi

Requiem, Offertorio beginning to bar 34 *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p. 35* – shifting across the entire range of the cello, dynamic control, bow distribution, left hand articulation, vibrato variation, legato string crossings, left hand anticipation.

Rigoletto Act 1, No. 2 bar 522 – 569 *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p.32* - incremental dynamic control, intonation, bow distribution, sotto voce sound, left hand strength and dexterity, legato string crossings, left hand anticipation.

Rigoletto Act 2, No.9 bar 114 – 130 *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire* *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p.52* – left hand strength and dexterity, shifting in low and fourth positions, detached string crossings, spiccato, dynamic control, left hand extensions, intonation, left hand anticipation.

La Traviata Act 1, No.2 Chorus from beginning to bar 14 *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire p.33* - legato string crossings, incremental dynamic control, intonation, shifting, bow articulation.

2.2 Orchestral excerpts grouped by technical demands

The analysis of orchestral excerpts allows them to be grouped by their technical demands. The grouping of these demands demonstrates any similarities between difficulties which could be focussed on in practice away from the excerpts themselves. This would allow the focus of technical practice for orchestral excerpts. Although it might seem facile to group excerpts, this will allow for an overview on the excerpts themselves.

This thesis now addresses this grouping by listing first the technical demand and then the excerpts which contain these challenges.

Detached string crossings:

Beethoven, Symphony No. 5, 3rd movement bar 141 – 213

Beethoven, Symphony No. 7, 1st movement Vivace dotted section

Beethoven, Symphony No. 8, 3rd movement trio

Beethoven, Coriolan Overture, Bar 102 – 240

Berlioz, Romeo and Juliet, 1st movement beginning to bar 25

Bizet, Carmen, Act I Finale from figure 171 to five bars after figure 176

Mendelssohn, Midsummer Night's Dream, Scherzo beginning the Allegro Vivace section

Mozart, Symphony No. 35 in D major, K.385, 4th movement bar 88 - 109 and 134 – 181

Mozart, Symphony No.40 in G minor, K.550 1st movement bar 114 - 134

Mozart, Symphony No.40 in G minor, K.550 4th movement bar 229 – 237

Mozart, The Magic Flute, K.620 Overture bars 27-54

Sibelius, Symphony No.2, 3rd movement beginning until bar 121

Sibelius, Symphony No.3, 1st movement fifteen bars before figure 14 until nine bars after figure 1

Strauss, Till Eulenspiegel, from eight bars before figure 31 until 6 bars after figure 33

Smetana, The Bartered Bride, Overture beginning to bar 290

Dynamic Control:

Beethoven, Symphony No.5, 2nd Movement theme and variations
Beethoven, Symphony No. 5, 3rd movement beginning to bar 18
Beethoven, Coriolan, Overture Bar 102 – 240
Beethoven, Symphony No. 8, 3rd movement trio
Brahms, Symphony No. 2, 1st movement bars 82 – 106 and 340 – 371
Bizet, Carmen, Act I Finale from figure 171 to five bars after figure 176
Mendelssohn, Midsummer Night's Dream Scherzo, beginning the Allegro Vivace section
Mendelssohn, Midsummer Night's Dream Finale beginning, the Allegro molto section
Mozart, Symphony No. 35 in D major, K.385, 4th movement bar 88 - 109 and 134 – 181
Mozart, Don Giovanni, KV. 527, Act I, No. 12 Aria
Mozart, The Marriage of Figaro, KV. 492, Overture beginning to bar 9 and bar 157 – bar 164
Sibelius, Symphony No.2, 3rd movement beginning until bar 121
Smetana, The Bartered Bride, Overture from the beginning to bar 290
Strauss, Don Juan, beginning to seven bars after letter G
Strauss, Till Eulenspiegel, from eight bars before figure 31 until 6 bars after figure 33
Tschaikovsky, Symphony No. 6, 3rd movement beginning to bar 24
Verdi, Requiem, Offertorio beginning to bar 34
Verdi, Rigoletto, Act I, No. 2 bar 522 – 569

Extension work:

Beethoven, Symphony No.5, 2nd Movement theme and variations
Beethoven, Coriolan, Overture Bar 102 – 240
Berlioz, Romeo and Juliet ,1st movement beginning to bar 25
Brahms, Symphony No. 2, 1st movement bars 82 – 106 and 340 – 371
Mendelssohn, Midsummer Night's Dream, Scherzo beginning the Allegro Vivace section
Mozart, Symphony No.40 in G minor, K.550 1st movement bar 114 - 134
Mozart, Symphony No.40 in G minor, K.550 4th movement bar 229 - 237
Shostakovich, Symphony No. 5, 1st movement dotted passage from tempo change crotchet = 138
Strauss, Don Juan, beginning to seven bars after letter G
Verdi, La Traviata, Act 1, No.2 Chorus from beginning to bar 14
Verdi, Rigoletto, Act I, No. 2 bar 522 – 569

High position shifting:

Debussy, La Mer, from two bars before figure 9 to six bars after figure 9
Shostakovich, Symphony No. 5, 3rd movement soli passage
Shostakovich, Symphony No. 5, 1st movement dotted passage from tempo change crotchet = 138
Shostakovich, Symphony No. 15, 2nd movement from figure 53 to figure 59
Verdi, Requiem, Offertorio beginning to bar 34

Intonation:

Beethoven, Symphony No.5, 2nd Movement theme and variations
Brahms, Symphony No.2, 2nd movement Adagio non troppo opening
Mozart, Don Giovanni, KV. 527, Act I, No. 12 Aria
Shostakovich, Symphony No. 5, 3rd movement soli passage
Shostakovich, Symphony No. 5, 1st movement dotted passage from tempo change
crotchet = 138
Shostakovich, Symphony No. 15, 2nd movement from figure 53 to figure 59
Strauss, Don Juan, beginning to seven bars after letter G
Verdi, Requiem, Offertorio beginning to bar 34
Verdi, Rigoletto, Act I No. 2 bar 522 – 569

Left hand Anticipation:

Beethoven, Symphony No.5, 2nd Movement theme and variations
Beethoven, Symphony No. 6, 2nd movement cello first desk solo passage
Berlioz, Symphonie Fantastique, 2nd movement ending from animato onwards
Bizet, Carmen Act I, Finale from figure 171 to five bars after figure 176
Brahms, Symphony No. ,2 1st movement bars 82 – 106 and 340 – 371
Debussy, La Mer, from two bars before figure 9 to six bars after figure 9
Mendelssohn, Midsummer Night's Dream, Finale beginning, the Allegro molto section
Mozart, Don Giovanni, KV. 527, Act I, No. 12 Aria
Mozart, The Magic Flute, K.620, Overture bars 27-54
Shostakovich, Symphony No. 5, 1st movement dotted passage from tempo change
crotchet = 138
Verdi, Requiem, Offertorio beginning to bar 34
Verdi, Rigoletto, Act I No. 2 bar 522 – 569
Verdi, La Traviata, Act 1 No.2 Chorus beginning to bar 14

Left hand Strength and Dexterity:

Beethoven, Symphony No.5, 2nd Movement theme and variations
Beethoven, Symphony No. 7, 1st movement Vivace dotted section
Berlioz, Romeo and Juliet, 1st movement beginning to bar 25
Berlioz, Symphonie Fantastique, 2nd movement ending from animato onwards
Bizet, Carmen, Act I Finale from figure 171 to five bars after figure 176
Mendelssohn, Midsummer Night's Dream, Scherzo beginning the Allegro Vivace section
Mozart, Symphony No. 35 in D major, K.385, 4th movement bar 88 - 109 and 134 – 181
Mozart, Symphony No.40 in G minor, K.550 1st movement bar 114 – 134
Mozart, Symphony No.40 in G minor, K.550 4th movement bar 229 - 237
Mozart, Don Giovanni, KV. 527, Act I, No. 12 Aria
Mozart, The Marriage of Figaro, KV. 492, Overture from the beginning to bar 9 and bar
157 – bar 164
Mozart, The Magic Flute, K.620, Overture bars 27-54
Sibelius, Symphony No.2, 3rd movement beginning until bar 121

Sibelius, Symphony No.3, 1st movement from fifteen bars before figure 14 until nine bars after figure 1
Smetana, The Bartered Bride, Overture from the beginning to bar 290
Strauss, Don Juan, beginning to seven bars after letter G
Tschaikovsky, Symphony No. 6 3rd movement beginning to bar 24
Verdi, Rigoletto, Act I No. 2 bar 522 – 569
Verdi, La Traviata, Act 1 No.2 Chorus beginning to bar 14

Legato String Crossings:

Beethoven, Symphony No. 6 2nd movement cello first desk solo passage
Beethoven, Symphony No. 5 3rd movement beginning to bar 18
Berlioz, Symphonie Fantastique 2nd movement ending from animato onwards
Bizet, Carmen Act I, Finale from figure 171 to five bars after figure 176
Brahms, Symphony No. 2 1st movement bars 82 – 106 and 340 – 371
Brahms, Symphony No. 3 3rd movement Poco allegretto opening
Mozart, Don Giovanni, KV. 527, Act I, No. 12 Aria
Mozart, The Marriage of Figaro, KV. 492, Overture beginning to bar 9 and bar 157 – bar 164
Shostakovich, Symphony No. 5, 1st movement dotted passage from tempo change crotchet = 138
Strauss, Till Eulenspiegel, from eight bars before figure 31 until 6 bars after figure 33
Verdi, Requiem, Offertorio beginning to bar 34
Verdi, Rigoletto, Act I No. 2 bar 522 – 569
Verdi, La Traviata, Act 1 No.2 Chorus beginning to bar 14

Ricochet

Strauss, Till Eulenspiegel, from eight bars before figure 31 until 6 bars after figure 33

Sautillé bowing:

Bizet, Carmen, Act I Finale from figure 171 to five bars after figure 176
Mendelssohn, Midsummer Night's Dream, Scherzo beginning the Allegro Vivace section
Mendelssohn, Midsummer Night's Dream, Finale beginning the Allegro molto section
Sibelius, Symphony No.2, 3rd movement beginning until bar 121
Smetana, The Bartered Bride, Overture beginning to bar 290

Shifting in and out of neck positions:

Beethoven, Symphony No. 6, 2nd movement cello first desk solo passage
Beethoven, Symphony No.5, 2nd Movement theme and variations
Brahms, Symphony No. 2, 1st movement bars 82 – 106 and 340 – 371
Brahms, Symphony No. 3, 3rd movement Poco allegretto opening
Debussy, La Mer, from two bars before figure 9 to six bars after figure 9

Mendelssohn, Midsummer Night's Dream, Scherzo beginning the Allegro Vivace section
Sibelius, Symphony No.3, 1st movement from fifteen bars before figure 14 until nine bars after figure 1
Shostakovich, Symphony No. 5, 3rd movement soli passage
Shostakovich, Symphony No. 5, 1st movement dotted passage from tempo change
crotchet = 138
Smetana, The Bartered Bride, Overture from the beginning to bar 290
Strauss, Don Juan, from the beginning to seven bars after letter G
Tschaikovsky, Symphony No. 6, 3rd movement beginning to bar 24
Verdi Requiem, Offertorio, beginning to bar 34

Spiccato Bowing:

Beethoven, Coriolan Overture, Bar 102 – 240
Beethoven, Symphony No. 8, 3rd movement trio
Berlioz, Romeo and Juliet, 1st movement beginning to bar 25
Mendelssohn, Midsummer Night's Dream, Scherzo beginning the Allegro Vivace section
Mendelssohn, Midsummer Night's Dream, Finale beginning the Allegro molto section
Mozart, Symphony No. 35 in D major, K.385, 4th movement bar 88 - 109 and 134 – 181
Mozart, Symphony No.40 in G minor, K.550 1st movement bar 114 – 134
Mozart, Symphony No.40 in G minor, K.550 4th movement bar 229 - 237
Mozart, The Magic Flute, K.620, Overture bars 27-54
Smetana, The Bartered Bride, Overture beginning to bar 290

Up and Down bow spiccato:

Tschaikovsky, Symphony No. 6, 3rd movement beginning to bar 24

Vibrato variation:

Brahms, Symphony, No. 2 1st movement bars 82 – 106 and 340 – 371
Brahms, Symphony, No.2 2nd movement Adagio non troppo opening
Brahms, Symphony, No. 3 3rd movement Poco allegretto opening
Bruckner, Symphony, No. 7 1st movement beginning to bar 23
Debussy, La Mer, from two bars before figure 9 to six bars after figure 9
Verdi, Requiem, Offertorio beginning to bar 34

2.3 Summary

Evidently there are many technical problems which a cellist must master in order to successfully execute orchestral excerpts. These techniques are however commonly found in multiple excerpts. Therefore, if the technical demand itself is addressed, the excerpt becomes markedly easier. Moreover, if the reason why the excerpt is selected is accurately addressed, the test of technique in orchestral audition is therefore passed.

The demands of orchestral excerpts range from seemingly the most basic techniques such as shifting or dynamic control which are commonly set and therefore easy to address to those which are far more advanced and therefore rarely employed by composers in orchestral repertoire. This is evident in the lists of excerpts in this chapter which show that advanced techniques i.e up and down spiccato, are less numerous than those that demonstrate dynamic control.

It is therefore clear that there are many technical difficulties set by orchestral excerpts which must be practised in order to successfully execute them under pressure at professional orchestral audition. It is inarguable that there are a lot less potential techniques than possible excerpts. Therefore, a practice of the techniques themselves is far superior and less time consuming than practising the individual excerpts. This is particularly relevant when considering auditions which have sight reading tests where there are only two minutes to prepare an excerpt which could contain any of the techniques listed. The question which must now be asked is of, how to practise these techniques.

III. TRADITIONAL STUDY METHODS

3.1 Traditional study methods, and how they tackle the difficulties set by orchestral excerpts

The annotations of orchestral excerpts will now be utilized to assess the relevance of Traditional Study Methods. This consideration will be centred on Feuillard's *Daily Exercises for Violoncello*⁹, Piatti's *Twelve Capricci for Violoncello Solo*¹⁰, Popper's *40 Studies: High School of Cello Playing*¹¹ and Ševčík's *Violin Studies, Opus , 40 variations for Cello arr. Feuillard*¹². The focus on these particular study methods is due to my personal background being focussed around these four study books. I can therefore most accurately and honestly assess these methods as these are the ones I have been brought up with and still use to further develop.

There is no current system for cello based solely on orchestral technique. Feuillard's *Daily Exercises for Violoncello* focus on working in each position to develop the strength of the left hand however he does not develop this into a level directly relatable to advanced orchestral repertoire. Piatti's *Twelve Capricci for Violoncello Solo* contrast Feuillard with technical virtuosity which allow far more advanced, wholly removed from orchestral technique. *40 Studies: High School of Cello Playing* by Popper presents a medium, but is almost exclusively concentrated on left hand strength and geography of the fingerboard, neglecting the bowing arm. Ševčík's *Violin Studies, Opus , 40 variations for Cello arr. Feuillard* are limited because they wholly concentrate on basic bow technique which is suited to a more basic level than preparation for professional orchestral audition. This section of the thesis will therefore assess how applicable traditional study methods are to orchestral playing.

⁹ Louis R. Feuillard, *Daily Exercises for Violoncello* (Mainz: Schott Music International GmbH & Co. KG, 1919).

¹⁰ Alfredo Piatti, *Twelve Capricci for Violoncello Solo, Op.25* (Munich: G. Henle Verlag, 2003).

¹¹ David Popper, *40 Studies: High School of Cello Playing, Opus 73* (New York: International Music Company, 1982).

¹² Otakar Ševčík, *Violin Studies, Opus , 40 variations for Cello arr. Feuillard* (Leipzig: Bosworth & Co, 1905).

3.2 Spiccato

Spiccato - "Separated. In playing of bowed str. instr., form of staccato bowing in which the bow is allowed to bounce on the str.; prod. by rapid movements with restricted (central) portion of the bow"¹³

The technique of playing off the string with a bouncing bow is one utilised widely in both soloist and orchestral music. Spiccato is dictated by the dynamics it is written in and the character it is being used to express. Each style requires a different approach and is executed through slight variations in the movement of the right fingers, hand, wrist and arm.

The trio of Beethoven's eighth symphony presents an orchestral cellist with the challenge of playing brushed spiccato in a quiet dynamic whilst executing clean string crossings. This excerpt is commonly asked for in professional orchestral auditions due to these technical demands:



Example 1: Beethoven *Symphony No.8*, Third movement bars 45-53¹⁴

Beethoven utilises the cello in Example 1 as an accompaniment figure for the horns in the trio of his third movement of the eighth symphony. However, this excerpt is commonly asked for in audition because of the demands on both the left and right hand. In this passage the cellist must perform complicated left hand fingering patterns to cover open strings from sounding whilst jumping across many strings. In an historically informed orchestra, it is imperative to use open strings which then demands the cellist to jump from the C string to the A string within the first two notes of the excerpt. This is an extremely difficult feat when trying to play both in time with a good sound. It is possible to practise this within traditional cello study methods as Popper writes a very similar passage in the eleventh study of his forty studies high school for cello playing:

¹³ "The Oxford Dictionary of Music, Spiccato" Accessed April 20th, 2017.

http://www.oxfordmusiconline.com/subscriber/article/opr/t237/e9691?q=spiccato&search=quick&pos=3&_start=1#firsthit.

¹⁴ Beker and Mandalka, *Orchester-Probenspiel Violoncello: excerpts from the Operatic and Concert Repertoire*, 9.



Example 2: Popper *40 Studies: High School of Cello Playing*, Study 11 bars 1-7¹⁵

It is evident to even the untrained eye that Example 2 is directly relatable to the excerpt from Beethoven's eighth symphony. Both passages share the same key signature, use the same tempo and use jumping across the strings simulating arpeggios. However, although Popper's study might train similar techniques whilst providing respite from monotonously practising the Beethoven excerpt, I do not consider it completely relatable. If auditioning for a larger symphony orchestra with eight to ten cellos in a section, it is imperative to cover the open strings in the Beethoven excerpt whereas they are enforced in the Popper study. This is practically demonstrated in Video 1. The video shows how the example 2 is incredibly similar to example 1. Therefore, a practice of example 2 would infinitely benefit example 1. I believe that this study is one of the most directly relatable from the traditional cello study methods to orchestral cello playing.

Popper's high school for cello is further relevant to the development of orchestral spiccato technique. This is most evident in his nineteenth study entitled "'Lohengrin' Study"



Example 3: Popper *40 Studies: High School of Cello Playing*, Study 19 bars 1-11¹⁶

Example 3 is the only study from Popper's *40 Studies: High School of Cello Playing*, specifically designed to tackle the difficulties of orchestral playing. This could moreover be said for all of the Traditional Study methods. Example 3 could therefore be highlighted as one of the most relatable studies from all of the Traditional Study methods for

¹⁵ Popper, *40 Studies*, 22.

¹⁶ *Ibid.*, 40.

orchestral excerpts. It is written however only for the excerpt from *Lohengrin* and is not relatable to any of the other excerpts. The similarities however to the original excerpt cannot be understated.



Example 4: Wagner *Lohengrin* Act 3 Scene 3 from ten bars before figure 43 to three bars after figure 43 ¹⁷

Example 4 shows remarkable similarities to Example 3. Both extracts are in the same key, dynamic and bowing style with extremely similar rises and falls of pitch within first and fourth position. However, one must question the purpose of practising a study for an excerpt when so incredibly similar rather than just the excerpt itself. This could also be stated in relevance to the practise of example 2 in preparation for example 1. Furthermore, it would actually be more time consuming to learn an additional two pages of study to an already lengthy four-page excerpt. The only benefit must surely be to distract from the tedium of practising the excerpt itself to learn something only marginally different.

The Scherzo from Mendelssohn's *Midsummer Night's Dream* is notoriously difficult for all string players. The difficulties faced in this excerpt combine left hand extended positions and difficult shifting with string crossings and spiccato and sautillé bowing.



Example 5: Mendelssohn *Midsummer Night Dream* from eight bars after N to four bars before O¹⁸

¹⁷ Beker and Mandalka, *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire*, 38.

¹⁸ Felix Mendelssohn, *A Midsummer Night's Dream Overture and incidental music*, Op.61 (Leipzig: Breitkopf & Härtel, 1880) 7.

Example 5 presents a challenge for any cellist in a professional audition. It is possible to practise some of the techniques through traditional study methods particularly in Popper's thirty-eighth study from his *40 Studies: High School of Cello Playing*:



Example 6: Popper *40 Studies: High School of Cello Playing*, Study 38 bars 41 -56¹⁹

Example 6 practises spiccato and shifting in the neck positions of the cello, similar to the excerpt from *Midsummer Night's Dream*. However, Example 6 does not focus on this challenge and allows a solution of shifting on the downbeats, which is much easier than the position changes in Example 5. Instead this passage of the study acts as a form of respite from the major focus of the etude which is octave shifting evident in the last line of the extract. There are clear limitations therefore in practising Example 6 for the techniques of Example 5. Although Popper writes in the same style and musical character as Mendelsohn, Example 6 does not require challenging left hand position changes at the same time as uncomfortable string crossings as seen in Example 5.

3.3 Up and Down Bow Spiccato

Up and Down bow spiccato is the technique of having multiple notes in a bow which are jumped rather than slurred or hooked. It allows the same effect as normal spiccato but due to the weight distribution of the bow, there are natural dynamic differences. Up bow spiccato is much lighter and has a natural sense of leading towards the next note whereas downbow spiccato has a natural diminuendo.

Piatti employed Up and Down Bow Spiccato in many of his caprices. It is quite difficult to get this technique perfect but it is very impressive when achieved correctly.

¹⁹ Popper, *40 Studies: High School of Cello Playing*, Opus 73, 82.

Allegro, bene spiccato.

Example 7: Piatti's *Twelve Capricci for Violoncello Solo*, Caprice 9 bars 1-8 ²⁰

Example 7 is aimed at practising spiccato; however, it is limited in practice for the study of orchestral excerpts. In this caprice the cellist is required to execute double stops in the left hand alternated with upbow spiccato. This is a very soloistic practice and although impressive in concert, extraneous to orchestral playing.

Example 8: Piatti's *Twelve Capricci for Violoncello Solo*, caprice 10 bars 5 - 12²¹

Example 8 is furthermore not entirely useful when studying orchestral repertoire techniques. Although Example 8 is written to focus on spiccato again, it is not similar to Example 5 because it alternates slurred bowing with up bow spiccato, similar to his Example 7. Any study of this caprice would improve left hand strength in thumb position, but it does not require extensive shifting in and out of neck or the string crossings which render the Example 5 so difficult. Therefore, I consider this caprice to again not be particularly applicable to orchestral playing. Piatti writes one more caprice for cello based on spiccato:

²⁰ Piatti, *Twelve Capricci for Violoncello Solo*, Op.25, 24.

²¹ *Ibid.*, 26.

Allegretto capriccioso.

Example 9: Piatti's *Twelve Capricci for Violoncello Solo*, Caprice 12 bar 1-9 ²²

Example 9 is from Piatti's twelfth caprice for solo cello and is the last one written for the study of spiccato. This caprice is incredibly difficult due to the interchanges between chords and upbow spiccato and requires the performer to play chords within the slurred spiccato passages. This compounds the idea that a study of Piatti's caprices would not be relevant to orchestral playing as this is a technique never used in orchestral repertoire due to the technical difficulty. When I have seen performances of this caprice, it has never been executed using the bowing Piatti wrote as it is far too difficult. Although a traditional study method, Piatti's caprices are very soloistic in nature and as a consequence are often set by major solo competitions as compulsory repertoire, such as the Tchaikovsky Gold Medal Award.

Up and Down bow spiccato is rarely used in orchestral repertoire due to it being very difficult to play evenly and thus complicated to sound together in a tutti section. Furthermore, the sections of orchestral repertoire which requires down or up bow spiccato are sparse such as in Mahler's ninth symphony:

Nicht eilen bis zum Schluß.

Example 10: Mahler *Symphony 9*, second movement from 17 bars before the end of the movement until the end of the movement²³

Example 10 requires the tutti cellist to play down bow spiccato. Mahler has utilised this normally soloistic technique because he wants a natural diminuendo on each down bow. In Example 10 there are long pauses between these bows to allow for the section to prepare, and furthermore each bow requires no shifting and has no chords, unlike Example 8 or 9.

²² Ibid., 32.

²³ Gustav Mahler, *Symphony No.9 in D major cello part*, (Vienna: Universal Edition, 1912) 19.



Example 11: Rossini *William Tell* Overture from one bar before H to eleven bars after H²⁴

Example 11 is arguably the most famous use of down bow spiccato in the orchestral repertoire from Rossini's *William Tell* Overture. Although not transcribed, it is common practice to group the semiquavers in this passage and furthermore groups of three quavers into one bow respectively. Although one might assume that the study of Example 7, 8 and 9 which use this technique extensively might prove good preparation for the playing of this piece, this is not the case. The grouping of notes in example 11 is done to reflect the natural jump of the bow and the use of the right arm. Example 10 and 11 are never asked for in a professional audition situation because it is only used sparingly to contribute to the musical phrasing rather than as an example of advanced technique. A cellist would be required to execute up bow spiccato is in Haydn's cello concerto in D:

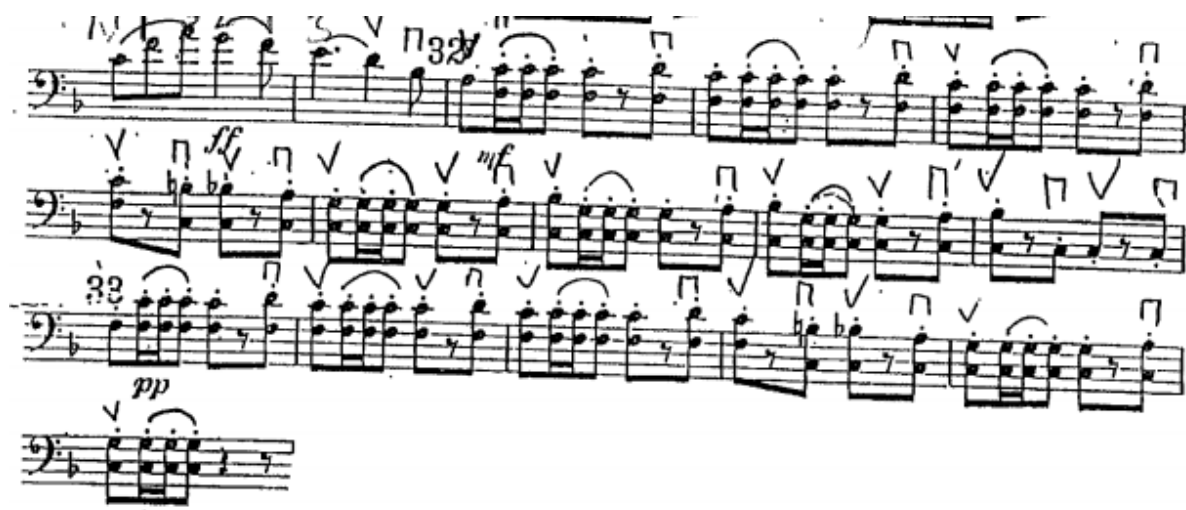


Example 12: Haydn *Cello concerto in D major*, cello solo part first movement bars 29-33²⁵

This extract is a scan from the practice part of a leading orchestral cellist in Scandinavia and shows in the second bar of the solo entry the upbow spiccato on the second beat. The cello concerto by Haydn in D major is always asked for professional audition, due to the complexity of its execution, particularly for the left hand. When performing orchestral auditions in Scandinavia, the classical concerto rounds are mostly screened. It is clear from this part that this particular cellist has decided to do separate bows in this place rather than the upbow spiccato that Haydn originally writes. This is because upbow spiccato and separate bowed spiccato should sound identical and therefore an endeavour to play the original bowing although commendable, is not necessary.

²⁴ Gioacchino Rossini, *Guillaume Tell*, (Leipzig, Breitkopf & Härtel, 1933) 3.

²⁵ Joseph Haydn, *Cello Concerto No.2 in D major*, *Hob.VIIb:2* (Munich: G. Henle Verlag, 1990) 2.



Example 13: Strauss, *Till Eulenspiegel* from two bars before figure 32 to five bars after figure 33²⁶

Example 13 is a passage from an orchestral excerpt showing staccato groupings on notes on a down bow. Although this might appear to be the same technique as Example 9, it is in fact very different. Example 13 is Ricochet rather than Spiccato bowing. Instead of the bow lightly jumping in Example 9, Example 13 involves throwing the bow at the string from a much greater height then controlling that bounce.



Example 14: Tchaikovsky *Symphony 6* second movement bars 1-17²⁷

²⁶ Richard Strauss, *Till Eulenspiegel lustige Streiche, Op.28 cello part* (Munich: Edwin F Kalmus, 1953) 6.

²⁷ Tschaikovsky, *Symphony Number 6 Op.74 cello part* (Leipzig: Breitkopf & Härtel, 1990) 8.

Example 14 is the only orchestral excerpt I have experienced with any up or down bow spiccato as can be seen in the tenth, twelfth and fourteenth bar of this excerpt. This is the same technique as Example 7, 8 and 9 written by Piatti also on up bow spiccato. Example 14 uses longer groupings of notes in the up bow spiccato than example 7 or 8 and much shorter groupings than Example 9. A cellist able to play such a demanding caprice as Example 9 would view the up bow spiccato of Example 14 as negligible. The up bow spiccato of Example 14 is merely incidental as the excerpt is not set to examine the players' ability to execute this technique. The excerpt is far more a test of sound, vibrato and phrasing. The up bow spiccato of Example 14 is so much simpler than Example 9.

A study of the spiccato in Piatti's caprices such as Examples 7, 8 and 9 are not relevant to orchestral auditions. Up and Down bow spiccato are very rarely used in orchestral repertoire thus rarely tested in professional audition. However, all cellists have to play the first movement of Haydn's cello concerto in D major in orchestral audition but because it is not an orchestral technique, it is not really of importance to execute the original up bow spiccato written. Although up and down bow spiccato is used to show soloistic skills in caprices, this is very far removed from orchestral technique.

3.4 Sautillé

Sautillé - "A bowstroke played rapidly in the middle of the bow, one bowstroke per note, so that the bow bounces very slightly off the string of its own accord. It is not indicated in any consistent manner: sometimes dots are placed above or below the notes, sometimes arrow-head strokes, and sometimes the stroke is simply left to the performer's discretion. 'Spiccato' and 'sautillé' are sometimes used as synonyms, though SPICCATO tends to be applied to a broader range of off-the-string strokes"²⁸

Sautillé bowing is an advanced technique often requested in professional orchestral auditions. This technique invokes the natural bounce in the wood of the bow to perform extreme quick running passages. This is very difficult to execute under pressure as it is impossible to use the natural bounce of the bow if tension exists in any part of the right arm. If the performer is able to perform the bowing technique under the pressure of audition, it means they will play with ease in an orchestral setting. Sautillé bowing is unique in string playing technique as the quicker the tempo, the easier it becomes. The most commonly set orchestral excerpts to test sautillé bowing are Strauss's opening to the third Act of Rosenkavalier, the Scherzo from Mendelssohn's *Midsummer Night's Dream* and Smetana's *Bartered Bride Overture*.

The opening of Strauss's Third Act of Rosenkavalier is one of the most difficult cello excerpts and uses sautillé bowing.

²⁸ The Oxford Dictionary of Music, Sautille" Accessed April 20th, 2017.

http://www.oxfordmusiconline.com/subscriber/article/grove/music/24643?q=sautille&search=quick&pos=1&_start=1#firsthit.



Example 15: Strauss *Rosenkavalier* Third Act from three bars before figure 1 to figure 2 ²⁹

Example 15 has the original tempo marking “As quick as possible” meaning a spiccato style bowing directed by active energy in the right hand and arm is impossible. I have seen the excerpt hand marked at a tempo marking of one bar equals 90 beats per measure. In order to achieve this the left hand must be completely secure so the bow is allowed to naturally bounce across the strings throughout the excerpt. Additionally, the changes in dynamic requires difference lengths of bow which is furthermore difficult to execute.

Feuillard only briefly addresses sautillé bowing in his Daily exercises.



Example 16: Feuillard’s *Daily Exercises for Violoncello* study 36 bars 1-9 and variation 42³⁰

Example 16 is part of a tiny final section of only five pages dedicated to bowing techniques from Feuillard’s *Daily Exercises for Violoncello*. Within this section there are only three variations on sautillé bowing. Example 16 concentrates on the difference of sautillé across the strings. This is useful in practising how the bow responds with the different thickness of string but it is not truly useful when preparing to play the sautillé bowing of Strauss’s *Rosenkavalier*. Example 6 only changes the note every beat as it allows the player to wholly focus on the bowing technique. Sautillé bowing is different depending on the left hand position as the length of the string shortens and lengthens so the player must compensate by the position of the bow in relation to the bridge to create an even sound. If the player is in a low left hand position it is imperative to play closer to the fingerboard so that when in a high left hand position compensation in the bow can be made by moving closer to the bridge to create a more even sound.

²⁹ Richard Strauss, *Der Rosenkavalier*, Op.59 cello part, (Miami: Edwin F. Kalmus, 1986) 57.

³⁰ Feuillard, *Daily Exercises for Violoncello*, 43.

Feuillard's thirty-second is an easier version of the thirty-sixth exercise:



Example 17: Feuillard's *Daily Exercises for Violoncello* study 36 bars 1-11 and variation 25³¹

In example 17 the cellist has again repeated notes but this time the string crossings are much more gradual and the left hand is only in simple first position without extension therefore rendering this exercise not useful for practising Strauss's *Rosenkavalier*. Furthermore, all of Feuillard's exercises are based on duple groupings whereas example 15 are grouped in triple figures. Emphasis on duple groupings means the active energy of the bow to be always in down bows as shown in example 16 and 17. However triple figure grouping mean that the bow alternates between needing active energy on down and up bows. This is far more complicated to co-ordinate.

Moreover, Mendelssohn's excerpt from the Scherzo of his *Midsummer Night's Dream* is founded on the same technical difficulties of the excerpt from Strauss's *Rosenkavalier* in example 15.



Example 18: Mendelssohn *Midsummer Night's Dream* Scherzo from one bar before N until four bars before O³²

Example 18 is grouped in triple figures similar to example 15. This is contrary however to example 16 and 17 which are solely in duple time figures. Although this may seem unimportant, it is very crucial to the technical execution as it dictates where the physical

³¹ Feuillard, *Daily Exercises for Violoncello*, 39.

³² Mendelssohn, *A Midsummer Night's Dream Overture and incidental music*, Op.61, 7.

energy should be. Practice of example 16 and 17 therefore would not wholly benefit the preparation of example 15 and 18.



Example 19: Feuillard's *Daily Exercises for Violoncello*, study 33 bars 1-7 and variation 31³³

Example 19 is the excerpt from the thirty-third study of Feuillard and we can see how it is more useful as the left hand pattern is far more complicated than the previously mentioned exercises in sautillé bowing. This is therefore far more relevant when considering the excerpt from Smetana's *Bartered Bride* overture:



Example 20: Smetana *Bartered Bride* Overture bars 57 - 72³⁴

Both Example 19 and 20 are grouped in four and require only very gradual string crossing change. There could be some usefulness in the practice of example 19 in relevance to example 20. Example 20 combines piano dynamic and sautillé bowing throughout different left hand positions making it difficult to maintain a quality sound. The changes of left hand position in example 20 are not addressed at all by example 19. Example 19 only utilises first to fourth position whereas example 20 uses up to seventh position. Feuillard uses repetitions in example 19 similar to example 17 which although allows concentration on the bow means it is limited in preparing for example 20. The technical difficulties of example 20 render it difficult to execute under pressure and as these

³³ Feuillard, *Daily Exercises for Violoncello*, 40.

³⁴ Bedrich Smetana, *The Bartered Bride*, JB 1:100 (New York: Edim F. Kalmus, n.d. 1933-1970), 1.

difficulties are not wholly addressed by example 19 the practice of which would only be partially useful.

Piatti does not write for sautillé or straight back and forth spiccato in any of his caprices. This is perhaps because Piatti's caprices are intended to be performed as virtuosic solo pieces. Sautillé bowing, although very difficult to successfully execute, is not very impressive to the unknowing audience whereas the techniques Piatti typically employs in his caprices with double stopped passages and up and down bow spiccato, are much more impressive to the general audience. A study of Piatti's caprices therefore would not be useful when trying to develop sautillé bowing for the typically set audition excerpts.

Popper's *40 Studies: High School of Cello Playing* additionally never present a study which explicitly implies and states to use sautillé bowing. The closest study to sautillé bowing is the twenty-seventh study:



Example 21: Popper *40 Studies: High School of Cello Playing*, study 27 bars 1-5³⁵

In example 21, Popper advises how it is “to be played throughout with springing bow” at an Allegro tempo marking. This suggests a spiccato bowing rather than sautillé bowing. It is possible to use a much quicker speed to play this using a sautillé bowing therefore changing the tempo marking from Allegro to Presto. This makes example 21 much more useful for the study of orchestral excerpts, particularly example 20 as it is grouped in fours and focuses largely on the first to neck positions with occasional accents, gradual dynamics and string crossings. Example 21, if played with sautillé bowing, is much more difficult than the example 20. I consider example 21 to be certainly more useful for the study of sautillé bowing than example 17 or 19 when considering the practice of example 20. However, I do not consider the study entirely useful when playing examples 15 and 18. An effort to playing example 21, although commendable would certainly not be entirely relevant to orchestral playing, particularly as the last lines are so soloistic:

³⁵ Popper, *40 Studies: High School of Cello Playing*, Opus 73, 58.



Example 22: Popper *40 Studies: High School of Cello Playing*, study 27 bar 53 until the end
36

Sautillé Bowing has been a very big struggle for me to develop in my technique. I believe this is largely due to the severe lack of practice material available to develop this technique. I have discovered that a common method of practising sautillé passages is to practise marcato bowing until the string crossings, bowings and left hand patterns are completely secure. Once this level of security is achieved it is then advised to simply play at a very quick tempo and try to get the bow to bounce. This lack of definition is something I am unwilling to accept. I have been advised by instrumental tutors to learn solo pieces which include sautillé bowing to play something other than excerpts. This technique is of course flawed as playing solo pieces as studies is completely unnatural to any musician. The passages of sautillé bowing must be however considered in relation to the development of a study system. Both pieces that have been suggested to me are intended to be played as solo pieces



Example 23: Tchaikovsky *Pezzo Capriccioso* Cello solo part bars 112 -116 ³⁷

Example 23 has been suggested to me on several occasions by different teachers to learn in order to become more secure in sautillé style bowing. It is a solo piece for cello and orchestra although it is often played in arrangement for cello and piano. However most of example 23 is in thumb position, something which is not used in any of the aforementioned sautillé excerpts examples 15, 18 and 20 as it is very difficult to execute successfully. Furthermore, the sautillé passage in example 23 is many pages long and is not something that can be practised every day to keep a high level of sautillé bowing.

³⁶ Popper, *40 Studies: High School of Cello Playing*, Opus 73, 59.

³⁷ Pyotr Tchaikovsky, *Pezzo Capriccioso*, Op.62 cello part (New York: International Music Company, 2016), 1.

The second movement from Elgar's cello concerto has also been suggested to me as a piece I could concentrate on in order to become more confident at Sautillé bowing



Example 24: Edward Elgar *Cello Concerto* second movement cello solo part bars 21- 24³⁸

Example 24 is based around groupings of four notes and goes up in scalar and arpeggio figures on the cello. The pitch of this piece is mainly in the high register of the cello. I do not consider it from an analytical view to therefore be beneficial to the study of sautillé bowing in orchestral excerpts. This is because excerpts are mostly in lower positions, typical to orchestral style writing and in stark contrast to example 24.

I have studied both example 23 and 24 and yet I still have trouble with this style of bowing in the orchestral excerpts. Although I appreciate the advice from my teachers I do not think it has largely benefitted my orchestral playing to study these solo works. I have also practised all the sautillé studies and I still have struggled with the difficulties in the orchestral excerpts, which is why they are set. Although Piatti, Feuillard and Popper do have some exercises for sautillé bowing they are not applicable to the excerpts from examples 15, 18 and 20.

3.5 Shifting Position

Shift – “In string playing, the movement of the left hand when changing POSITION.”³⁹

Shifting is one of the most basic and fundamental of cello techniques, typically introduced in the first or second year of playing. Knowledge of geography of the fingerboard and the ability to shift accurately is always tested in orchestral auditions. The lowest left hand positions from half to fourth position utilise the same arm angle and approach to playing. However, through the fifth, sixth and seventh positions the thumb must be placed in a new position and the arm angle must be higher. Above seventh position on the cello, thumb position is used and this requires a completely different approach. In thumb position the weight of the left elbow and forearm must channel through to the hand as the thumb is

³⁸ Edward Elgar, *Cello Concerto Op.85 Cello solo part*, (London: Novello & Co., 2010) p.4

³⁹ The Oxford Companion to Music, shift. Accessed April 20th 2017.

http://www.oxfordmusiconline.com/subscriber/article/opr/t114/e6155?q=shifting+&search=quick&pos=4&_start=1#firsthit.

now used as an extra digit to play with. Changes through these great physical differences are difficult, particularly when exposed or at high speed.

Additionally, shifting of melodically awkward intervals is often tested in professional orchestral auditions. This is because playing a string instrument is incredibly like singing. Although every string player at conservatoire level has played all the notes on every possible finger and can play each one separately with ease, the interval between the two notes can present a sudden host of issues. It is easy to shift in regular intervals such as perfect fourths and fifths, major thirds and sixths and octaves. However, intervals such as sevenths, ninths, tenths, and augmented intervals are incredibly difficult to play in tune as they are to sing. Most string playing is completely controlled by the freedom of the musical mind; thus the phrase exists: if you can sing it you can play it.

Shifting in and out of neck positions is extremely uncomfortable as the changing hand shapes are so different. This is therefore tested at orchestral auditions. In particular, it is the large shifts rather than the shifting passages which work by step that are the most uncomfortable because of the differences in hand and arm angle. One of the commonly requested excerpts focusing on this is from the third movement of Brahms's third symphony:

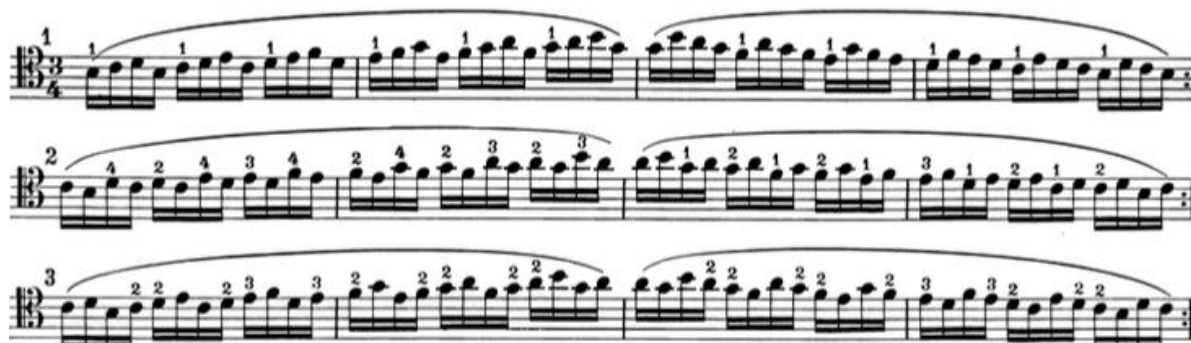
The image shows a musical score for the third movement of Brahms' Symphony No. 3. The score is written in bass clef, 3/8 time, and F major. It consists of six staves of music. The tempo is marked 'Poco Allegretto' and the initial dynamic is 'mezza voce'. The score includes various dynamics and articulations: 'espress.' (expressive), 'dolce' (sweet), 'dim.' (diminuendo), and 'dolce' (sweet). A box labeled 'A' is placed above bar 23. The score ends with a fermata over the final notes.

Example 25: Brahms *Symphony 3* third movement bars 1-38⁴⁰

Example 25 quickly addresses the technique of accurate shifting through the physically different positions in and out of the neck whilst maintaining a melodic line.

⁴⁰ Johannes Brahms, *Symphony No. 3 in F major*, (Leipzig: Breitkopf & Härtel, 1927), 8.

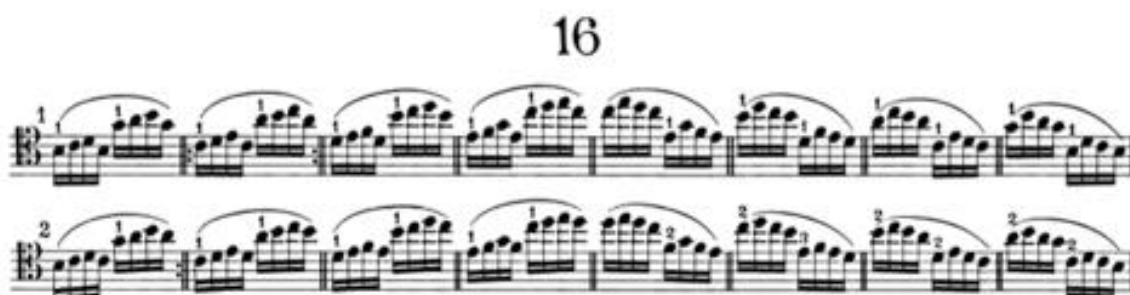
Feuillard focusses almost wholly on the left hand in his *Daily Exercises for Violoncello* and therefore tackles the practice of physically uncomfortable shifts in and out of neck position.



Example 26: Feuillard's *Daily Exercises for Violoncello* Study 9 bar 1-12⁴¹

Example 26 is used to build an extended knowledge of the differences in positions which are used in Example 25 by Brahms to create the phrases. There example 26 can be used to gain greater confidence in executing passages in low and neck positions. This is relatable to example 25 which only utilizes low and neck positions and is selected for professional orchestral audition to test the ability to maintain pitch throughout all of these positions.

Feuillard develops his shifting exercise into higher positions:



Example 27: Feuillard's *Daily Exercises for Violoncello*, study 16 bar 1-16⁴²

This study is directly relevant to developing the knowledge of shifting between the lower and neck positions of the cello. It is perhaps one of the most widely and commonly played of all Feuillard's exercises. This is because it practises shifting great physical distances on the cello. However, it shifts into positions not used by Brahms in example 25.

A study of example 27 would therefore be somewhat beneficial to mastering the shifts in example 25. However, the usefulness of this study is not only limited to Brahms symphonies but I consider also directly relatable to the shifting passage in Mendelssohn's *Midsummer Night's Dream*.

⁴¹ Feuillard, *Daily Exercises for Violoncello*, 8.

⁴² Feuillard, *Daily Exercises for Violoncello*, 19.



Example 28: Mendelssohn *Midsummer Night's Dream*, Scherzo from 11 bars before 0 to four bars before 0⁴³

Example 28 is one of the most difficult lines from this excerpt as in addition to the bowing difficulties, demands the cellist to shift extremely quickly in and out of neck positions. This rapid shifting in physically uncomfortable positions is directly tackled by Feuillard in example 27.

Piatti wrote twelve caprices for the cello which are designed to demonstrate the virtuosic nature of the instrument. The sixth caprice shows the entire range of the cello with the main theme rising and falling in arpeggio like figures.

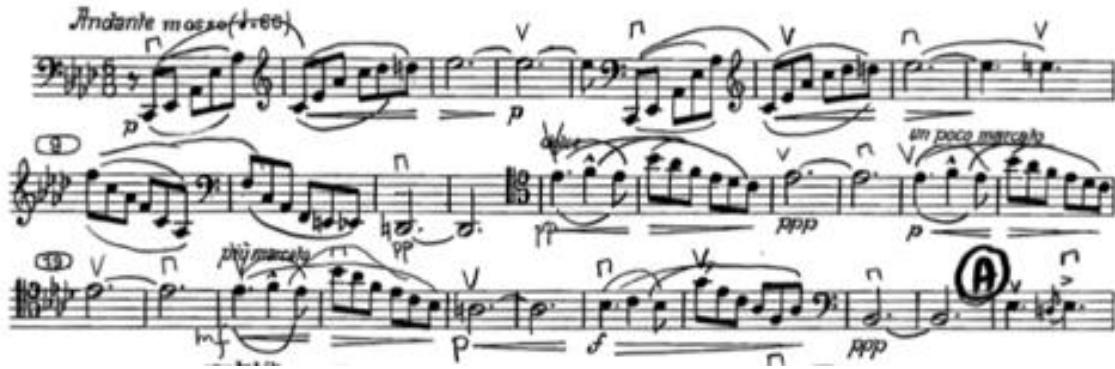


Example 29: Piatti's *Twelve Capricci for Violoncello Solo*, caprice 6 bar 1-8⁴⁴

Example 29 is to be played at the Adagio marking in a melodic singing style across the cello. It is a very beautiful caprice and is designed to show the singing nature of the cello. Example 29 practises shifts at regular intervals across the fingerboard. Practice of example 29 would directly benefit the excerpt for cello often set from Verdi's *Offertorium* from the *Missa da Requiem*

⁴³ Mendelssohn, *A Midsummer Night's Dream Overture and incidental music*, Op.61, 7.

⁴⁴ Piatti, *Twelve Capricci for Violoncello Solo*, Op.25, 15.



Example 30: Verdi *Requiem*, Offertorio bars 1-29⁴⁵

Example 30 is in the same key as Piatti's sixth caprice and tests the cellists' ability to play arpeggio figures across the range of the cello in a melodic singing style. A study of example 29 evidently would be beneficial for the study of the excerpt from example 30. However due to the nature of Piatti's caprices being written for a solo rather than orchestral cello the caprice develops out of the useful main theme into a more soloistic passage not entirely relevant to orchestral playing. From bar 13 of example 30 Verdi employs shifts in and out of neck position similar to that of example 25. Example 30 is often selected at orchestral audition because of the problems in this excerpt of shifting between different positions. It is evident that the opening of example 30 is based on arpeggio figures as written in example 29, it could be argued that it would be more simple to practise arpeggios in relevant keys than practising example 29. This can be seen as Piatti develops example 29 into a much more technically demanding caprice.



Example 31 Piatti's *Twelve Capricci for Violoncello Solo*, caprice 6 bars 15 - 26⁴⁶

This second theme of the caprice from example 29 demonstrates the cellist's ability to perform double stops and develops through various keys with complicated left hand patterns. Indeed, example 31 is developed much more in Piatti's caprice than example 29. Therefore, a practice of the sixth caprice by Piatti would be beneficial for a musician wishing to practise orchestral technique only for minority of the bars which practises without double stops.

⁴⁵ Beker and Mandalka, *Orchester-Probenspiel Violoncello: excerpts from the Operatic and Concert Repertoire*, 35.

⁴⁶ Piatti, *Twelve Capricci for Violoncello Solo*, Op.25, 15.

Furthermore, I have found from personal experience playing example 30, that it is most difficult to execute under pressure the passage from bar 16. This is because it is a very exposed shift from fourth position into neck position and alternates from the bowing whether it should be executed on and up or down bow. It is not practical to have any kind of noise between the bar line of bar 16 and 17, thus the shift must be practised and perfected so that the muscle memory is able to execute it under pressure without any audible guide. It could therefore be argued that a practice of example 26 would be far more beneficial to the preparation of example 30 than example 29.

The first movement of Shostakovich's fifth symphony presents a problematic dotted figure passage for the cello and is therefore set at orchestral auditions to test the ability to shift at speed with accuracy.

Example 32: Shostakovich *Symphony No. 5* cello part, first movement from two bars before figure 32 until 8 bars after figure 35⁴⁷

⁴⁷ "Orchestra Excerpts, Cello: Shostakovich: Symphony No5, Mvt.I (Reh.32-39)"<http://orchestraexcerpts.com/shostakovich-symphony-5-mvt-i-cello-excerpt/> Accessed: October 2016.

Example 32 develops from the mid and low range of the cello moving in step to a much higher pitch. Shostakovich marks dots on all of the semiquavers in example 32 which creates another problem as it means there can be no audible shifting as the shifts must take place between the slurs to avoid a glissando effect. Therefore, a slurred shifting study such as that of example 26 or 29 is not relevant when discussing how to practise the techniques of example 32 as the shifts are not slurred.

However, Popper writes his fifth study in his high school for cello playing as a dotted study for cello with incremental climbing of pitch.



Example 33: Popper *40 Studies: High School of Cello Playing*, study 5 bars 56-70⁴⁸

Although not in the same key and slightly different rhythm to the excerpt from example 32, example 33 still has many similarities. The only way to play example 32 reliably is to utilise high positions on the D string whereby moving up incrementally onto the A string for the very high notes at the end of the excerpt. This is addressed in example 33 as Popper dictates the fingerings for nearly every note so the cellist climbs up on the low strings to anticipate the high notes on the A string. A mastery of example 33 would therefore ensure a left hand confident with incremental shifting which would provide a much stronger basis for learning of example 32.

However, the shifting of melodically awkward intervals is often also tested at professional audition. The successful execution of this is completely different to melodically regular shifting. String playing is similar to singing as we both pitch internally in order to achieve the desired note. I have been advised many times to try and sing the shifts in my head just before I play them as the hand therefore knows where to go. A fine example of this is the opening of Strauss's *Ein Heldenleben*:

⁴⁸ Popper, *40 Studies: High School of Cello Playing*, Opus 73, 10.



Example 34: Strauss *Ein Heldenleben* bars 1-14⁴⁹

Example 34 is set at orchestral audition to test the ability to shift with confidence in physically and melodically uncomfortable intervals. Example 34 shows how the cellist must shift with confidence, dynamic and speed. This is evident in bar six of Example 34 where the cellist must shift from a low position to a high one in the interval of a seventh in the time of just a semiquaver. This requires a great deal of practice to execute reliably. Feuillard's *Daily Exercises for Violoncello* are moreover applicable to example 34 demonstrated in example 27 which practises physically uncomfortable shifting from low to neck positions. Therefore proficiency in example 27 would facilitate greater ease in the change of physical position in example 34. However, example 27 still does not directly practise the shifting of melodically uncomfortable intervals demonstrated in example 34.

⁴⁹ Strauss, *Ein Heldenleben Op.40 cello part* (New York: Edwin F. Kalmus: 1956), 1.

Shostakovich
Symphony nr 15
7

Vc.

(4)

52 Adagio

13 Pos. I Solo

53 2

f espr.

54 p f

55 p

56 15 Pos. I

57 3 1 2 p

f espr.

58 3 mf

59 16 mf

Example 35 Shostakovich *Symphony No. 15*, second movement from the beginning until figure 59⁵⁰

Example 35 is full of melodically awkward shifts. This is a solo and thus must be played as much as possible on the A string without glissando or audible note preparation such as shifting a major third on the first finger then placing the third finger down. The shifts therefore cannot be prepared like in example 32 or 33. This is apparent in example 35

⁵⁰ Högskolan för scen och musik vid Göteborgs universitet "Mock Symphonic Booklet No.3".

four bars before figure fifty-four as the cellist must shift from an E natural directly into the next bar onto a B flat. This is a melodically awkward shift and is therefore very difficult to pitch. It is further troublesome as it is in neck positions and on a diminuendo. This interval appears again four bars before figure fifty-eight into the next bar again presenting the same pitching problems. Example 35 demands the cellist to make many octave shifts for example in the bar before figure fifty-four and the bar before figure fifty-eight, these are not melodically uncomfortable shifts and are therefore easier to execute. However, Shostakovich changes the pattern between the fifth and sixth bars after figure fifty-five. Between these bars there is a major seventh interval which is much more difficult to pitch especially when only momentarily before the same pattern is executed with an octave shift instead.

The shifting of uncomfortable pitches is tested at orchestral audition because most cellists are very under-practised in this. This is due to the lack of any traditional study method directly addressing this. Although Feuillard's *Daily Exercises for Violoncello* provide solutions to many left hand problems this cannot be said for melodically uncomfortable shifting. Indeed, the chapter of Feuillard entitled "Exercises in the whole compass of the Cello" only transition from lower to higher pitches through arpeggios or scales which of course do not have awkward melodic intervals. Additionally, although Popper is excellent for practice of incremental shifting such as example 33, he does not address melodically awkward shifting in any of his forty studies for High School Cello Playing. The same is lacking throughout Piatti's *Twelve Capricci for Violoncello Solo*.

The changes of left hand position is one of the first techniques taught in string playing, yet it can cause an instrumentalist problems throughout their playing life. Both physically and melodically uncomfortable shifts are tested in professional orchestral auditions through many different possible excerpts. Although the nature of Feuillard's exercises mean they can at sometimes be too simplistic focussing too much on left hand development, I consider them far more relevant to orchestral playing; particularly shifting; than The Popper *40 Studies: High School of Cello Playing* and the Piatti *Twelve Capricci for Violoncello Solo*. Popper and Piatti write their studies to demonstrate the technical prowess of the performer and therefore don't concentrate on the mundanities of orchestral technique. Therefore, neither Popper nor Piatti write exercises concentrating on shifting in and out of neck position because although troublesome to execute under pressure, it is not virtuosic. Moreover, although Popper and Piatti briefly feature shifting in and out of neck in their studies, such as example 33 or 29, neither directly address it. Furthermore, none of the traditional study methods actually directly practise the shifting of melodically awkward intervals. There is therefore only limited usefulness in the practice of traditional study methods when preparing for orchestral excerpts.

3.6 Left hand strength, dexterity and anticipation

Left hand strength and dexterity is something which all string players must consider and practise throughout their development. The technical term refers to the strength and flexibility of the individual fingers in the left hand and is crucial for the execution of any advanced level repertoire. Left hand anticipation is the ability of the left hand to precede the movement of the right hand whereby resulting in a smoother end sound, particularly

important to legato passages. It is difficult to allow a relaxed playing style cohesive to flexible fingers when under the stress of audition. It is difficult to develop independent fingers due to two of the fingers being joined by the same tendon. Left hand changes in and out of extensions are difficult to manage because they require a very different physical sensation. When all of these elements of left hand technique combine, they form the basis of the most commonly requested excerpt. I have been asked this excerpt from the second movement of Beethoven's fifth symphony at every symphonic audition I have done to date. This is because it is one of the most revealing excerpts aimed at being able to show a player's level of left hand strength, dexterity and anticipation.

The image displays a musical score for cello, labeled as Example 36. It consists of several staves of music in bass clef, 3/8 time signature, and A-flat major. The score includes various dynamics such as *p dolce*, *f*, *p*, *f*, *p cresc.*, and *pp*. Performance markings include accents (∩), slurs, and the instruction *arco*. The excerpts are numbered: 1-9, 49-59, 98-106, 114-123. The music features complex rhythmic patterns and dynamic contrasts.

51

Example 36 Beethoven *Symphony No.5* second movement bars 1-9, 49- 59, 98-106, 114-123

Example 36 is a set of theme and variations in A flat major and is the melodic theme of the movement. Example 36 is in an uncomfortable key for cello as it requires many extensions particularly in neck positions as the cellist cannot make use of the open A or D strings unless in accidentals. It is very hard to keep a strong sense of key throughout example 36.

⁵¹ Beker and Mandalka, *Orchester-Probenspiel Violoncello: excerpts from the Operatic and Concert Repertoire*, 8.

The third variation of this excerpt is inarguably the most challenging. It requires incredibly quick shifting in and out of uncomfortable positions particularly in the third and fifth bars and in the sixth bar the cellist must shift from a normal position into a bar on the second or fourth finger which is very hard to execute.

Feuillard focusses hugely on these issues raised by the Beethoven excerpt in his Daily Exercises for cello. The second study written by Feuillard in his *Daily Excercises for Violoncello* is particularly applicable to the excerpt from Beethoven in example 36.



Example 37: Feuillard's *Daily Excercises for Violoncello*, study 2 variations 10-17⁵²

The player must play detailed patterns in half position and first position to execute the passage in example 37, which is similar to the left hand techniques utilized in example 36. In particular, it is evident that the third and fourth part of Example 36 is very similar in technical difficulty to the patterns of Example 37. This intricate left hand patterns are a constant source of practice for any cellist wishing develop technique. The similarities in between example 37 and example 36 is demonstrated through Video 2. It clearly demonstrates how left hand dexterity is tackled directly by Feuillard in example 37 which when mastered would benefit the execution of example 36 greatly. It is possible to gain great benefit from practise of example 37 at all points of development as a cellist.

Beethoven's symphonies present many challenges to an orchestral cellist and are therefore often requested at audition as they can be incredibly technically exposing. The Trio from his eighth symphony requires a dexterous left hand and is therefore often asked at orchestral audition.

⁵² Feuillard, *Daily Excercises for Violoncello*, 2.

Example 38: Beethoven *Symphony No. 8*, third movement bars 59-73⁵³

Example 38 is an accompanying figure to the horn melody and although seemingly simplistic, it is very hard to execute at a high level. For symphonic auditions, the cellist must cover the open strings which means the first two notes in the F major arpeggio pattern shown in the third bar of this excerpt must be executed by an extended fourth position. This is a very large stretch for some cellist, including myself as it is an octave stretch but the bottom note is one string lower which means the stretch is even bigger than if it were on the same string such as in the fifth bar of the third part of example 36 between the ninth and tenth notes C and G. Furthermore, in example 38 the cellist must constantly switch in and out of simple and extended fourth positions and in and out of normal fingering and barred fingers. This is evident in the last note of bar seven of example 38 which must anticipate the consequent note so the cellist must land on that note with a barred finger onto the bottom string. This is very difficult to perform and requires an incredible amount of practice to get such an organised left hand.

Popper writes a similar study to the excerpt from Beethoven's eighth symphony in his *40 Studies: High School of Cello Playing*

⁵³ Beker and Mandalka, *Orchester-Probenspiel Violoncello: excerpts from the Operatic and Concert Repertoire*, 9.



Example 39: Popper 40 Studies: High School of Cello Playing, study 11 bars 1-9⁵⁴

It is easy to see the similarities between example 38 and example 39. Both pieces are in the same key and have the same jumps in arpeggio figures that is challenging to execute. Example 39 is actually more challenging to execute than example 38 particularly if the cellist performs the study without using open A strings. However, Popper writes example 39 to be performed with open strings which introduces a new challenge of crossing many strings in the space of one quaver. This then makes a much easier time for the left hand. Therefore, a practice of example 39 would be incredibly useful if utilising open strings in example 38. However, it is not appropriate to use open strings when applying for a Tutti job in a symphony orchestra as the section is too big and thus if every cellist was to use open strings it would sound out of place. Perhaps example 39 would be most beneficial for a cellist who was applying to a smaller orchestra such as a chamber orchestra which might aim to employ open strings regularly to play in a more historically informed fashion.

Bartok's concerto for orchestra is very demanding for left hand dexterity and is therefore set as an orchestral excerpt for symphonic orchestral auditions.



⁵⁴ Popper, 40 Studies: High School of Cello Playing, Opus 73, 22.

Example 40: Bartok's *Concerto for Orchestra* cello part bars 129-146⁵⁵

Example 40 is very demanding on the left hand as although from the second bar until the penultimate bar it is in fourth position on the A string, it requires a lot of independence in the left hand. There is a lot of alternation between the third and fourth fingers which is very difficult to execute at speed. Feuillard's *Daily Exercises for Violoncello* are very applicable to this excerpt because they similarly demand left hand independence of fingers.

Example 40 is similar to example 37, as the cellist must have strong independent fingers which remain close to the string at all times to play at speed. Example 37 is therefore very useful in developing the left hand strength required to play example 40. Example 37 could be further relevant if it was developed out of the low positions into fourth positions similar to the patterns used by Bartok in example 40. Feuillard does write a different exercise for cello in the fourth position to develop left hand strength.



Example 41: Feuillard's *Daily Exercises for Violoncello* study 14 bars 1-12⁵⁶

Example 41 is the only passage solely dedicated to developing left hand strength in fourth position in Feuillard's *Daily Exercises for Violoncello*. Left hand strength and dexterity in the fourth position is totally different from that in the low positions as in fourth position the arm is at a higher height and the thumb must remain rooted to the neck of the cello instead of opposite the second finger. Therefore in fourth position the thumb cannot provide support for the left hand in the execution of intricate patterns of notes. I do not consider myself to have small hands and yet I am unable to play the stretches written by Feuillard in example 41. For example, in the second bar Feuillard writes a stretch from third finger on F sharp to fourth finger on G sharp, this is simply something which I cannot physically reach as my hand stretch is not big enough. I cannot reach most of the stretches between third and fourth finger in example 41 and therefore it is not useful for me to practise this study as I cannot do it for the intended purpose as I have to do constant micro shifts.

However, Popper writes a very useful study in his *40 Studies: High School of Cello Playing* for developing left hand strength and dexterity.

⁵⁵ Bela Bartok, *Concerto for Orchestra* (London: Boosey & Hawkes, 1993), 11.

⁵⁶ Feuillard, *Daily Exercises for Violoncello*, 17.

Allegro.

mf To be played throughout with springing bow.

Example 42: Popper *40 Studies: High School of Cello Playing*, study 27 bars 1-7⁵⁷

Example 42 begins in a similar way to example 40 as it is chromatically running in fourth position. Popper develops the beginning of example 42 through different positions and strings throughout the whole study. It is very useful to practise chromatic patterns when developing left hand dexterity and strength as it focusses on changes to and from third finger which I find particularly challenging. This is due to the second and third fingers being joined by the same tendon. Therefore, an independence of these fingers from each other is very hard to achieve. Although example 42 works a lot on independent fingers it does not develop strength except in chromatic scalar patterns whereas example 40 is challenging in the changing pattern which is not at all scalar in its design. Practice for the technical difficulties of example 40 would ideally develop left hand strength and dexterity in semitone patterns which were not simply scalar.

Left hand dexterity and strength in difficult positions is often tested at professional audition because it is particularly relevant to orchestral playing. If one person in a section does not have good left hand strength and control when playing the difficult orchestral passages, it produces a confused muddy sound and therefore compromises the sound of the overall section. It is a technique that every cellist must constantly address. The usefulness of Feuillard's *Daily Exercises for Violoncello* cannot be underestimated when developing left hand strength. He writes extensively with this specific purpose in mind. However as shown, there are limitations when considering the direct relevance of the studies to orchestral cello playing. It can be considered that this is due to the time they were written. Feuillard died before Bartok wrote his concerto for Orchestra and perhaps if Feuillard had seen the Concerto for Orchestra, he would have developed his system to incorporate the demands of the piece. Popper's *40 Studies: High School of Cello Playing* can provide something for the lack of traditional study method studies for the development of left hand technique but again they are limited due to the nature of them. I have seen all of Popper's *40 Studies: High School of Cello Playing* performed as they are innately musical studies written for that end purpose. They are designed to show the virtuosic nature of the cello as an instrument but this is not celebrated in typical orchestral writing for obvious reasons. Feuillard's *Daily Exercises for Violoncello* can be too simplistic in nature but I think this is much better than the over complications presented by Popper and Piatti who wish to celebrate extended techniques which are too soloistic. An ideal of a study system concentrating on left hand dexterity and strength in simple and extended

⁵⁷ Popper, *40 Studies: High School of Cello Playing*, Opus 73, 58.

positions designed for orchestral technique would therefore be based on the ideas of Feuillard but extended to fit the needs of modern orchestral playing.

3.7 Legato String crossings

Legato string crossings refers to the technique of moving the elbow in the smoothest way possible anticipating the change of string to create a legato join. This is made difficult by the nature of each string on the cello being so different. This is due to the difference in the thickness of the strings and the positioning of the sound post. It is possible to dull down the difference of the strings with alterations in the set-up of the cello but they can never be eliminated completely. However, when writing for the cello many passages require the same character throughout crossing all these strings. This ability to cross the strings without creating an obvious difference in sound quality is tested in many orchestral excerpts.

One of the most challenging excerpts for cello legato string crossings is the twelfth number from the first act of Mozart's *Don Giovanni*.

The image shows a musical score for cello in Mozart's *Don Giovanni*, Act 1 number 12, bars 1-16. The score is in 2/4 time, key of B-flat major, and marked 'Andante grazioso' and 'Vel. obbligato'. It features a piano dynamic and includes a first ending bracket in the third measure of the second system.

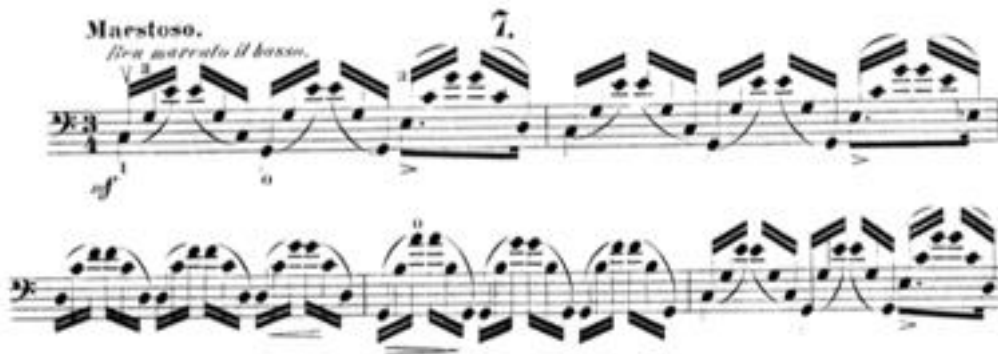
Example 43: Mozart *Don Giovanni*, Act 1 number 12 bars 1-16⁵⁸

Example 43 immediately demands for legato strings crossings in a piano dynamic. This is difficult as the A string is so much bolder than the D string in nature. It is written for cello continuo and this is a skill often required in playing of Operas and baroque music and has a unique set of demands. In example 43 the cello accompanies Zerlina's Aria "*batti, batti, o bel Masetto*". The text narrates how Zerlina is asking for forgiveness from Masetto for her transgressions. Therefore, the cello must play example 43 in a very calm, flowing character despite the difficulties caused by the string crossings. The last two semiquavers of the third bar of example 43 must be played in a left hand position of a bar to further anticipate the following notes to create a smooth crossing and legato sound. It is

⁵⁸ Wolfgang Amadeus Mozart, *Don Giovanni*, K.527 cello part, (New York: Edwin F. Kalmus, n.d. 1933-70) 24.

important in continuo playing to highlight the harmonic progression through the moving line. In example 43 this moving line is in the lower part on the D string so the player must compensate the smooth legato string crossing further through lightening the right arm weight on the A string. Although the string crossings render example 43 extremely stressful for the cellist, the resulting character must be one of absolute serenity and that is why it is set in orchestral auditions.

Perhaps one of the most challenging studies for legato cello string crossings is Piatti's seventh caprice.



Example 44 Piatti's *Twelve Capricci for Violoncello Solo*, caprice 7 bars 1-5⁵⁹

Example 44 marks the bottom string as the melodic line “ben marcato il basso” similar to the line written by Mozart in example 43. Example 44 is extremely good practice for a cellist who wishes to develop an even sound across the strings. The left hand patterns are not too difficult throughout the whole of the caprice and therefore focus can remain wholly on the legato string crossings. However, example 44 is written to cross a minimum of three strings in each beat which is not applicable to the idea of keeping extremely small string crossings from the example 43. The study of example 44 is therefore not entirely useful to the development of cello orchestral technique demonstrated in example 43.

If Piatti's *Twelve Capricci for Violoncello Solo* proves too complicated and soloistic for orchestral technique, then the simplicity of Feuillard's *Daily Exercises for Violoncello* could prove more relevant.



Example 45: Feuillard's *Daily Exercises for Violoncello*, study 34 bars 1-9 and variations 38 and 39⁶⁰

⁵⁹ Piatti, *Twelve Capricci for Violoncello Solo*, Op.25, 18.

⁶⁰ Feuillard, *Daily Exercises for Violoncello*, 41.

Example 45 is an extract from the thirty fourth study of Feuillard's *Daily Exercises for Violoncello* written in a theme and variation style. I consider that the thirty ninth variation of example 45 is most applicable to the study of example 43 as it is extremely similar. Example 45 simplifies the left hand to allow the player to focus on the string crossing and it is entirely written for the legato crossing between the A and D string. To execute both example 45 and example 43 the cellist must play on the D string as close as they can to the A and vice versa so the physical change of strings is not too great and thus there is no accent when the bow changes string. A practice of example 45 would prove useful when considering the string crossings written in example 43 However, Feuillard simplifies the left hand so far in example 45 that it does not prepare in any other way than string crossing and does not consider how to hide the shifts that are needed in the example 43.

The third variation from Beethoven's second movement of his fifth symphony also requires incredible bow control through legato string crossings.



Example 46: Beethoven *Symphony No. 5*, second movement bar 98 - 106⁶¹

In addition to the aforementioned difficulties of left hand agility shown in example 36, example 46 also requires smooth string crossings. In the fourth, fifth and penultimate bars of example 46, the cellist must perform repeated smooth string crossings between the A and D string in a quiet dynamic. In the seventh bar the cellist must shift onto a barred second finger to execute string crossings between the D and G string. Therefore, a study of example 45 would again be useful for the learning of example 46.

Popper's *40 Studies: High School of Cello Playing* are evidently not wholly beneficial for the practice of legato string crossings such as those set in the second movement of Beethoven's fifth symphony in example 36 as he does not have any studies that wholly concentrate on this. Feuillard's *Daily Exercises for Violoncello*, are too simplistic in nature in order to really develop enough into a practice for orchestral techniques. He writes well in his variations for legato string crossings like the Mozart style of writing but he does not develop the study to any other strings so it is therefore not realistic to simply practise the crossing of two strings without regular changes in the left hand. Piatti's *Twelve Capricci*

⁶¹ Beker and Mandalka, *Orchester-Probenspiel Violoncello: excerpts from the Operatic and Concert Repertoire*, 8.

for *Violoncello Solo* are good for legato string crossing and they offer practise technique at a level far more advanced than that set by orchestral excerpts. However, the caprices remain written in this solo style which allows for rubato and individual free interpretation which is simply not the case for orchestral excerpts.

3.8 Detached String crossings

Detached string crossings are also tested regularly in professional auditions. Beethoven's *Coriolan Overture* is specifically requested for this purpose.

Example 47: Beethoven *Coriolan Overture* bars 102-112⁶²

Example 47 demands the cellist to cross between the A and D string with a detached bowing style in an accompaniment figure. It is important for both the left and right hand to be organised to mitigate against unwritten accents. Feuillard's bowing exercises in detached string crossings are also relevant to example 47.

Example 48: Feuillard's *Daily Exercises for Violoncello*, study 43 bars 1-9 and variations 26-31⁶³

⁶² Beker and Mandalka, *Orchester-Probenspiel Violoncello: excerpts from the Operatic and Concert Repertoire*, 12.

⁶³ Feuillard, *Daily Exercises for Violoncello*, 41.

Example 48 is from the thirty fourth exercise written by Feuillard and again specifically challenges the string crossings between the A and D string. I consider example 48 useful for the development of the technique required for the example 47. It is interesting to note that Feuillard recognised his own failings in addressing bowing technique in his Daily Exercises as he adapted the Ševčík violin exercises for cello to advance bowing styles.



Example 49: Ševčík *Violin Studies* arr. Feuillard for cello variation 27 bars 1-14⁶⁴

Example 49 is similar to the example 48 but has a more complicated left hand pattern. Example 49 is much more applicable to the demands set in orchestral excerpts such as example 47 as each excerpt has multiple difficulties. The bowing is never the only technique to master in a single excerpt. Although the left hand changes make it a more interesting study to learn, it is still not entirely relevant to the string crossings of example 47 as example 49 is written for the crossing between the D and G string as opposed the to A and D string and the left hand pattern of example 49 is still not on a par with that of example 47.

Beethoven's trio from the eighth symphony also has a difficult bowing pattern.



Example 50: Beethoven *Symphony No. 8*, third movement bars 45-58⁶⁵

⁶⁴ Ševčík, *Violin Studies, Opus , 40 variations for Cello* arr. Feuillard, 13.

⁶⁵ Beker and Mandalka, *Orchester-Probenspiel Violoncello: excerpts from the Operatic and Concert Repertoire*, 9.

Beethoven demands the cellist to cross many strings at once in the space of just a quaver throughout example 50. It is a very difficult bowing pattern to use and as already stated in example 38 there are two different patterns of bowing depending on the style of interpretation. If the player wants to do a historically informed interpretation of example 50 the cross in the first two notes of this excerpt is between the C and the A string, if they want to do a more modern approach the cross is from the C to the D string. Although the latter approach is slightly easier for the string crossing both have a danger of catching the strings in-between the intended ones whereby creating extra noise in the performance of this excerpt.

Piatti only writes one caprice dedicated to detached string crossings.



Example 51: Piatti's *Twelve Capricci for Violoncello Solo*, caprice 1 bars 1-11⁶⁶

Example 51 is dedicated the string crossings from the G to D string. The melody is in the lower line and it requires an incredibly close string crossing. However, example 51 is far more applicable to solo playing and reminiscent of the Bach solo suites than cello orchestral parts as it has a drone of the other string. Additionally, the marking for example 51 is "sul punta d'arco" which is hardly every used in orchestral playing as it is too messy for a whole section to play crossings at the tip.

The answer for this style of string crossing can therefore be only practised in Popper's *40 Studies: High School of Cello Playing*.



Example 52: Popper *40 Studies: High School of Cello Playing*, study 1 bars 7-15⁶⁷

⁶⁶ Piatti, *Twelve Capricci for Violoncello Solo*, Op.25, 2.

⁶⁷ Popper, *40 Studies: High School of Cello Playing*, Opus 73, 2.

Example 52 is particularly applicable to the Example 50 as in the second bar of the third line the cellist must cross between the C and A string rapidly in the same triplet figures that Beethoven writes.

The Traditional Study Methods evidently address the problems of detached string crossings far better than they address legato string crossings. Video 1 demonstrates how relevant example 52 is to example 50 regarding the technique of detached string crossings. Popper's *40 Studies: High School of Cello Playing* are particularly good at addressing detached string crossings as it is a style he regularly writes in. Furthermore, Ševčík writes well for orchestral technique in his *Violin Studies arr. Feuillard for cello* shown in example 49. However similar to Feuillard's *Daily Exercises for Violoncello*, Ševčík is too basic in his approach when considering the advanced style of string crossing in example 47. Piatti again is not relevant for orchestral technique in his *Twelve Capricci for Violoncello Solo* shown in example 51. I consider that traditional study methods meet the needs of the orchestral cellist developing string crossings far more than perhaps other orchestral techniques. There is still much room for development and improvement in a study that would aim to address the demands set by orchestral excerpts regarding string crossings

3.9 Harmonics

Harmonics - "Any note prod. by an instr. is accompanied by a number of other notes at fixed intervals above it. These are heard as the constituents of the single note, but can be prod. separately. On str. instrs. this is done by touching the string lightly at various points ('nodes') so splitting up the vibrations and producing notes of a flute-like purity (in Ger. and Fr. harmonics are indeed called flageolet)"⁶⁸

Harmonics are often used in etudes as a demonstration of virtuoso technique. However, the extent to which they are used in orchestral repertoire is to be assessed. Popper wrote his *40 Studies: High School of Cello Playing* for the application of highly advanced cello technique. This is evident in his fortieth study based around knowledge of the harmonics on the fingerboard:

⁶⁸ "The Oxford Dictionary of Music, Harmonics" Accessed April 20th, 2017.
http://www.oxfordmusiconline.com/subscriber/article/opr/t237/e4712?q=harmonics&search=quick&pos=3&_start=1#firsthit.

No. 40 (Study in Harmonics)

Scherzando.

Example 53: Popper *40 Studies: High School of Cello Playing*, Study 40 bars 1-12 ⁶⁹

The execution of example 53 is undoubtedly impressive, however it is not related to harmonics in orchestral repertoire. Popper did not write example 53 focussing on the demands of orchestral repertoire and allows a cellist to demonstrate technical prowess in a virtuoso soloist fashion. The most complicated harmonic pattern I have encountered in my orchestral experience is from Stravinsky's *Firebird Suite*:

Example 54: Stravinsky *Firebird Suite*, first movement bars 14⁷⁰

Stravinsky writes an arpeggio figure for the tutti cello on the D string with a series of harmonics which would seem to relate directly to example 53. Stravinsky however is aware of the treachery related to tutti cello playing complicated patterns in harmonics and marks the passage of example 54 in glissando. Although Stravinsky employs harmonics he did not do this to play a melodic passage, it is an orchestral sound effect of glissando on harmonics on the D string of the cello. The successful execution of example 54 therefore requires the tutti cello to begin on the correct harmonic and glissando until the top harmonic with the rising and falling of pitch exacted as a group.

Therefore, it is evident that Harmonics although used in orchestral repertoire, are never used in orchestral excerpts. This is because complicated patterns of harmonics on the cello are very virtuosic and therefore not possible to execute in unison as part of a section in orchestra and when they are used in orchestral parts it is in a much more simplistic manner. Therefore, the exercises set by Popper in example 53 are purely for soloistic virtuosic playing and therefore are totally alien to orchestral playing. This is clear

⁶⁹ Popper, *40 Studies: High School of Cello Playing*, Opus 73, 86.

⁷⁰ Igor Stravinsky, *The Firebird Suite* (Moscow: P.Jurgenson, 1912).

evidence that a complete study of Popper's *40 Studies: High School of Cello Playing* would be contradictory to development in orchestral playing.

3.10 Double Stops

Double Stops - "Term used of str. instr., to indicate stopping and playing on 2 str. simultaneously to produce a 2-part effect. Also used, loosely, when one or both of the str. are 'open'".⁷¹

It is widely acknowledged that the development of every cellist requires daily study of double stops. The most basic form being scalar passages in double stops as set by the thirtieth study of Feuillard in his *Daily Exercises for Violoncello*:

Example 55: Feuillard's *Daily Exercises for Violoncello*, study 30 bars 1-26⁷²

It is imperative for the development of every cellist to practise double stops as prescribed by Feuillard in example 55. This importance is based on demands set by the most complicated soloistic passages such as Dvorak's cello concerto:

⁷¹ "The Oxford Dictionary of Music, Double Stopping" Accessed April 20th, 2017. http://www.oxfordmusiconline.com/subscriber/article/opr/t237/e3129?q=double+stops&search=quick&pos=2&_start=1#firsthit

⁷² Feuillard, *Daily Exercises for Violoncello*, 38.

Example 56: Dvorak *Cello concerto*, cello solo part from 13 bars after figure 15 until the end of the first movement⁷³

The usefulness therefore of the practice of example 55 is evident in example 56. Although, example 56 is commonly used a test piece for orchestral auditions, again it requires the cellist to demonstrate technical demands which are not applicable in an orchestral excerpt setting. The solo work set in orchestral auditions is more to demonstrate musical personality in the auditionee, whereas the excerpts test the orchestral proficiency of the individual auditioning.

Although Feuillard's scalic exercises in double stops in example 55 are valuably as handing strengthening exercises in addition to the solo repertoire required in professional auditions, Piatti writes extensively in double stops which are in a much more complicated pattern. This is evident in his third caprice:

Example 57: Piatti's *Twelve Capricci for Violoncello Solo*, caprice 3 bars 111 - 139⁷⁴

Piatti writes in a very advanced way for the cello in example 57 demanding the cellist to switch between double stops of octaves and thirds in quick succession. This is extremely difficult to execute to a high standard and I consider that this technical mastery, apart

⁷³ Antonin Dvorak, *Cello Concerto in B minor, Op.104 Cello solo* (Berlin: N.Simrock, 1896), 7.

⁷⁴ Piatti, *Twelve Capricci for Violoncello Solo, Op.25*, 9.

from developing left hand strength, is not relevant to orchestral repertoire. If double stops occur in an orchestral piece, they are most commonly separated by *divisi* which means that the cello section splits the double stop so that each person plays one or two notes out of a chord, to ensure that the section will play completely in tune. This is something I have experienced in professional orchestral sections to guarantee the highest possible standard of performance. Many composers realized this and marked the orchestral parts as *divisi* when there are double stops. This is evident in the opening of Tchaikovsky's second movement of his fifth symphony:



Example 58: Tchaikovsky *Symphony No. 5*, second movement bars 1-11⁷⁵

In example 58, the celli play a chorale like figure which is marked in double stops. However, it is widely acknowledged that to play these double stops effectively achieving the “*Andante cantabile con alcuna licenza*” marking, the section must divide the line into two parts, where each desk of the cello section divide the part into upper and lower lines so that both notes are sounded. Double stops are often avoided in orchestral playing to ensure good section intonation which is extremely difficult when playing particularly soft and sustained passages.

I have personally spent a lot of time practising Double Stops like in example 55. It is of course prudent for any string player to focus on double stops as they improve general intonation. The studies set by Feuillard and Piatti in double stops are completely unrelated to orchestral playing. Both Feuillard and Piatti wrote their exercises in examples 55 and 57 to develop solo cello playing rather than orchestral playing. Someone wishing to develop as an orchestral cellist must evidently pick and choose from these books in order to not get stuck on advanced impossibilities of virtuosic solo technique.

3. 11 Summary

Traditional study methods evidently provide some solutions for the development of techniques set in the common excerpts requested at professional audition for cello. Popper completed his *40 Studies: High School of Cello Playing* in 1901, Piatti his *Twelve Capricci for Violoncello Solo* in 1865 and Feuillard completed his *Daily Exercises for Violoncello* in 1919. All of these study methods were written at a time when it was possible to become a superstar soloist without any compromise. However, this is no longer the case as any soloist must undertake multiple different strands of professional life. It is no longer possible to simply win a competition and launch a solo career from this. It was a time when personal interpretation and artistic expression was paramount to everything else; the artist first and composer second. This is simply not the case in the twenty first

⁷⁵ Peter Ilyich Tchaikovsky, *Symphony No.5 in E minor, Op.64, Cello* (Leipzig: Breitkopf & Härtel, 1930), 6.

century, now is a time of informed playing with the utmost importance given to the markings on the page and this could not be more true than for orchestral excerpts. It is often said that one must simply play what is on the page of an orchestral excerpt however, this is evidently not easy. The traditional study methods, that the cello playing of today is still so rooted in, aspires to the greatness of solo playing such as that of Pablo Casals, Janos Starker and Mstislav Rostropovich, not to the tutti orchestral player.

Of all the traditional study methods perhaps the most challenging technically but the least useful are Piatti's *Twelve Capricci for Violoncello Solo*. They offer a partial solution to the challenge of string crossings but not so in the case of sautillé, spiccato and left hand dexterity that is required to successfully execute orchestral excerpts. Popper's *40 Studies: High School of Cello Playing* is more useful as it does not employ techniques that are so demonstrably soloistic. However, it is incredibly left hand orientated and mostly written to be performed in thumb positions but it cannot be understated how much regular practice of the forty studies can improve an individual's playing.

Leonard Rose taught a regime of Popper to develop a constant high level of technical skill. Leonard Rose was a very famous cellist and teacher who died in 1984. He was an orchestral cellist first becoming the principal of the New York Philharmonic aged only twenty-six then a world class chamber and solo musician. Leonard Rose's method of cello playing and teaching still permeates across the cello world today. His pupils are successful and range from players in the leading orchestras across the world including the New York Philharmonic and Mats Lidström who has led many cello sections across Europe. Rose also taught many of the current soloists including Yo-Yo Ma and Lynn Harrell. Rose believed that regular practice of ten of Popper's studies would enable a cellist to retain a high level of technical skill. These studies were the fourth, ninth, twelfth, thirteenth, seventeenth, eighteenth, twenty-first, twenty-ninth, thirty-third and thirty eighth from the *High School of Cello Playing*. These studies are the most advanced of the book and cover a range of techniques such as thirds, sixths, octaves and extended thumb position. I have personally tried to learn these ten studies to gain a level of technique that would enable me to become technically more advanced. However, I do not have the luxury of time that was available in the days when Leonard Rose was teaching. Now I must concentrate on becoming an orchestral musician which is not something I will achieve through practising endless hours of thirds. From my point of view in order to become a professional musician, I need to be successful at orchestral excerpts. This is not presented in the ten studies that Leonard Rose outlined as the most important to cover in daily practice.

Feuillard's *Daily Exercises for Violoncello* are perhaps the most accessible and applicable to the study of Orchestral Excerpts. They are often short, concise and have patterns that can be easily learnt. It is possible to simply dip in and out of these exercises as opposed to the lengthy caprices and studies set by Piatti and Popper respectively. Feuillard divides his *Daily Exercises for Violoncello* into five distinct sections. These sections entitled; Exercises in the neck positions, Exercises in the whole compass of the cello, Exercises in the thumb positions, Double stopping and Bowing Exercises are focussing on addressing the main areas of cello technique. Feuillard only dedicated the final section of five pages to developing bowing in his *Daily Exercises for Violoncello*. Feuillard can be used to develop the left hand strength well and it also enhances the development of left hand dexterity, agility and extensions that are tested in orchestral auditions. Feuillard however

recognised his own failure to address bowing styles and thus arranged the Ševčík violin exercises for the cello. I do not consider this a final solution for the practice of different bowing techniques on the cello. Violin and Cello technique are vastly different, easily apparent through the drastic difference in size between the two instruments. Feuillard's exercises are furthermore not developed enough to meet the demands of orchestral technique, perhaps because they were completed long before some of the current orchestral repertoire in the common excerpts were written.

There are evident limitations therefore in the traditional study methods for cello when considering the development of cello orchestral technique. This chapter focussed on the different techniques set by the excerpts and how the traditional study methods can provide some solution for them. The failures of the study methods to address orchestral techniques therefore present a problem for a cellist wishing to develop on an orchestral pathway. The development of a study system for cello based on orchestral excerpts would aim to cover all the techniques of orchestral playing. The simplistic nature of Feuillard's *Daily Exercises for Violoncello* could prove beneficial for the development of a study system designed for orchestral technique as it allows the musician to access each element easily. The practice of such a system therefore would enable each player to remain advanced in each of the orchestral techniques rather than the solo techniques which the traditional study methods seem solely to address.

3.12 Organisation

Although the successes and failures of the traditional practice system are now clear, I think it would be beneficial to organise the thoughts of this chapter into the table below. The table does not recognise which are the most applicable etudes but lists them in no particular order. The table does not list particular bars regarding excerpts, but it is possible to gain this information from previous chapters. Only etudes without extended periods of soloistic techniques such as double stops are considered for the table.

LH/RH	Technical Demand	Excerpt	Study
LH	Anticipation of Left hand	Beethoven Symph 5, 2 nd mvt Beethoven Symph 6, 2 nd mvt Berlioz Symphonie Fantastique, 2 nd mvt Bizet Carmen Act I Finale Brahms Symph 2, 1 st mvt Mendelssohn Midsummer Night's Dream Finale Mozart Don Giovanni Act I No.12 Shostakovich Symph 5, 1 st mvt Sibelius Symph 2, 3 rd mvt Strauss Till Eulenspiegel Verdi La Traviata Act I, No 2 Verdi requiem, Offertorio Verdi Rigoletto Act I, No2	Feuillard 29 Piatti 6,8 Popper 5,11,15,18, 25,27,30,32,33,35
LH	Extension Work	Beethoven Symph 5 2 nd mvt Beethoven Coriolan Overture Berlioz Romeo and Juliet 1 st mvt Brahms Symph 2, 1 st mvt Mozart Symph 40, 1 st and 4 th mvt Mendelssohn Midsummer Night Dream, Scherzo Shostakovich Symph 5, 1 st mvt Sibelius Symph 2, 3 rd mvt Strauss Don Juan Verdi La Traviata Act1 Verdi Rigoletto Act 1	Feuillard 1, 2, 3, 6, 8, 9 Piatti 7 Popper 16,30
LH	High Position Shifting	Debussy La Mer Shostakovich Symph 5, 1 st mvt and 3 rd mvt. Shostakovich Symph 15, 2 nd mvt solo Verdi Requiem, Offertorio	Feuillard 16, 21, 22 Piatti 3,6,8 Popper 21,28,38

LH	Intonation accuracy	Beethoven Symph 5, 2 nd mvt. Brahms Symph 2, 2 nd mvt. Mozart Don Giovanni Act I, No.12 Shostakovich Symph 5, 1st and 3 rd mvt. Shostakovich Symph 15, 2 nd mvt Strauss Don Juan Verdi Requiem, Offertorio Verdi Rigoletto Act I, No.2	Piatti 6, 9, 10 Popper 3,4,21,28,30,33,35 Ševčík 22, 29
LH	Left hand strength and dexterity	Berlioz Romeo and Juliet 1 st mvt Berlioz Symphonie Fantastique 2 nd mvt. Bizet Carmen Act I Finale Mendelssohn Midsummer Night's Dream Scherzo Mozart Symphony No.35 4 th mvt Mozart Symph 40 1 st and 4 th mvt. Mozart The Marriage of Figaro Overture Sibelius Symph 2, 3rd mvt Sibelius Symph 3, 1st mvt Smetana The Bartered Bride Overture Strauss Don Juan Strauss Till Eulenspiegel Tschaikovsky Symph 6, 2 nd mvt. Verdi La Traviata Act I No.2 Verdi Rigoletto Act I, No.2	Feuillard 1,2,3,4,5,8,9,15 Piatti 6, 9, 10 Popper 5,6,21, 25,27,30,33,37 Ševčík 22
LH	Shifting in and out of neck	Beethoven Symph 6, 2 nd mvt Beethoven Symph 5, 2 nd mvt Brahms Symph 2, 1 st mvt Brahms Symph No.3 3 rd mvt Debussy La Mer Mendelssohn Midsummer Night Dream Shostakovich Symph 5, 1 st mvt and 3 rd mvt. Sibelius Symph 3, 1st mvt Smetana The Bartered Bride Strauss Don Juan Strauss Till Eulenspiegel Tschaikovsky symph 6, 2 nd mvt. Verdi Requiem, Offertorio	Feuillard 5,6,7,9,16 Piatti 3, 6, 10 Popper 2,19,21,25, 26,30,35 Ševčík 22,32
LH	Vibrato variation	Brahms Symph 2 1 st and 2 nd mvt. Brahms Symph 3, 3 rd mvt Bruckner Symph 7 1 st mvt Debussy La Mer Verdi Requiem, Offertorio	

RH	Detached String Crossings	Beethoven Symph 5, 3 rd mvt Beethoven Symph 7, 1 st mvt Beethoven Symph 8, 3 rd mvt Beethoven Coriolan Overture Berlioz Romeo and Juliet 1 st mvt Mendelssohn Midsummer Night's Dream Scherzo Mozart Symphony No.35 4 th mvt Mozart Symph 40 1 st and 4 th mvt. Sibelius Symph 2, 3 rd mvt Sibelius Symph 3, 1 st mvt Strauss Till Eulenspiegel Smetana The Bartered Bride Overture	Feuillard 34,35,36 Piatti 1 Popper 6,11,18,19,25,27 Ševčík 13
RH	Dynamic Control	Beethoven Symph 5 2 nd and 3 rd mvt. Beethoven Symph 8 3 rd mvt Beethoven Coriolan Overture Brahms Symph 2 1 st mvt Bizet Carmen Act I Finale Mendelssohn Midsummer Night's Dream Scherzo and Finale Mozart Symph 35 4 th mvt Mozart Don Giovanni Act I No.12 Mozart The Marriage of Figaro Overture Sibelius Symph 2, 3 rd mvt Smetana The Bartered Bride Strauss Don Juan Strauss Till Eulenspiegel Tschaikovsky Symph 6, 2 nd mvt Verdi Requiem, Offertorio Verdi Rigoletto Act I No.2	Piatti 8,9,10 Popper 19,25, 27,30 Ševčík 3,6,14
RH	Legato String Crossings	Beethoven Symph. 6 2 nd mvt Beethoven Symph, 5 3 rd mvt Berlioz Symphonie Fantastique 2 nd mvt Bizet Carmen Act I finale Brahms Symph 2 1 st mvt. Brahms Symph 3, 3 rd mvt Mozart Don Giovanni Act I No.12 Mozart Marriage of Figaro Overture Shostakovich Symph 5, 1 st mvt Strauss Till Eulenspiegel Verdi La Traviata Act I No.2 Verdi Requiem, Offertorio	Feuillard 34,35,36 Piatti 2,6,7 Popper 2,3,4,7,21, 26,28,33,35 Ševčík 39,40

		Verdi Rigoletto Act I, No.2	
RH	Sautillé	Bizet Carmen Act I Finale Mendelssohn Midsummer Night's Dream, Scherzo and Finale Sibelius Symph 2, 3rd mvt Smetana The Bartered Bride Overture	Feuillard 33,36 Ševčík 16,17,24,27
RH	Spiccato	Beethoven Coriolon Overture, symph.8 3 rd mvt Berlioz Romeo and Juliet 1 st mvt Mendelssohn Midsummer Night's Dream Scherzo Mozart Symph. 35 4 th mvt. Mozart Symph. 40 1 st and 4 th mvt. Smetana Bartered Bride Overture	Feuillard 32,33,34,35,36 Piatti 9, 10 Popper 1, 16, 18, 19,27,38 Ševčík 2,10,13,15,34,38
RH	Up and Down Bow Spiccato	Strauss Till Eulenspiegel Tschaikovsky Symph 6, 2 nd mvt	Feuillard 33,35,36 Piatti 5, 12 Popper 14,32 Ševčík 28,30,31 ⁷⁶

⁷⁶ LH refers to left hand technique.

RH refers to right hand technique.

Symph refers to symphony.

The Popper etudes are from *40 Studies: High School of Cello Playing, Opus 73*.

The Piatti etudes are from *Twelve Capricci for Violoncello Solo*.

The Feuillard etudes are from *Daily Excercises for Violoncello*.

The Ševčík etudes are from *Violin Studies, Opus , 40 variations for Cello arr. Feuillard*.

IV. ALTERNATIVE SOLUTIONS TO USING TRADITIONAL STUDIES FOR THE PRACTICE OF ORCHESTRAL EXCERPTS

The following chapter of this thesis aims to analyse alternative suggestions for the practice of cello orchestral excerpts. The focus will be on articles, other theses and books for the suggestions of practice methods. The traditional study methods are clearly somewhat limited in their relevance for practising cello orchestral excerpts and therefore this chapter will look for solutions for this. From my personal experience, I have had many problems trying to tackle each orchestral excerpt even though I feel I have been diligent in the practice of traditional study methods. I have not previously considered looking at theses or books designed for other instruments for different methods of studying these excerpts. When previously preparing orchestral excerpts for performance, I have laboriously worked through them individually checking each detail and trying to find new solutions for each excerpt. I do not find this approach satisfactory when preparing for numerous orchestral auditions as the excerpts lists are often very long, sometimes over twenty excerpts for each audition, and they can be very different.

4.1 Possible solutions for the study of cello excerpts other than traditional study methods

The first part of this chapter will study solutions to the practice of cello orchestral excerpts given by two theses. In particular I will focus on the thesis "A Detailed Study of Selected Orchestral Excerpts for Cello"⁷⁷ by Susan Elizabeth Moyer, and "Selected Orchestral Excerpts for Cello: Analyzed and Graded"⁷⁸ by Linda Jean Shay. Each author approaches the challenges faced by orchestral excerpts in a different way. Moyer uses detailed analyses of each excerpt to guide practice methods and Shay ranks a large number of excerpts based on technical difficulty. This part of the thesis will discuss the usefulness of the solutions given by each author in the study of orchestral excerpts.

The large proportion of this thesis is given to Moyer's own practice advice for fifteen of the most common excerpts. All of the excerpts discussed are included in this thesis in the previous chapters.

⁷⁷ Moyer, *A Detailed Study of Selected Orchestral Excerpts for Cello*.

⁷⁸ Shay, *Selected Orchestral Excerpts for Cello: Analyzed and Graded*.

Example 6. Ludwig van Beethoven, *Symphony No. 5 in C minor, Op. 67*,
mvt. 2, mm. 48-58, M.M. ♩ = 76.



Primary Challenge: Lyrical playing

List of other aspects:

1. Intonation
2. Consistent bow speed
3. Smooth string crossing
4. *Dolce* tone color
5. Dynamic contrast
6. Rhythm

Example 59: Moyer *A Detailed Study of Selected Orchestral Excerpts*⁷⁹

Moyer employs a very systematic approach to the study of orchestral excerpts. Her work is incredibly logical and methodical; for each example listing one “Primary Challenge” and then “List of other aspects”⁸⁰. It is easy to understand and organised in a reader-friendly fashion. In this passage Moyer analyses the difficulties faced by the first variation of the theme from the second movement of Beethoven’s fifth symphony. I find no fault in the difficulties Moyer lists of playing this excerpt. However, she addresses more generalised terms of Intonation without specifically saying the cause of the intonation problem, which I consider to be left hand extension work in fourth position.

Moyer utilises the list she creates for the excerpt in example 59 and then discusses how to solve each difficulty in the practice for this orchestral excerpt. Moyer’s approach to each excerpt is incredibly detailed discussing the difficulties and how to solve them, in the case on intonation from the example 59 she states:

Intonation: There are many of the same issues in this excerpt as in the first, mainly in the perfect fourths, the jump of a fifth from C-F in fourth position, major thirds and shifts of a tri-tone... The first challenge in this excerpt is to choose a fingering in m. 50 which will minimize the shift to G. Every player has his preference for the cleanest shifts between half or whole steps; my recommendation is to shift down and back up on different intervals. Whether the player chooses a 4-4, 42-2, or 421-1 shift for the beginning of that measure, the decision should be based on the planned shift at the end of the measure back up to fourth position⁸¹

This approach to the practice of this excerpt is to list possible fingerings for individual shifts and the rationale behind the decisions. However, Moyer’s approach is to individually analyse each difficulty she describes then her solution. An informed decision for a particular shift in a particular bar of one excerpt is not relevant to the practice of any other excerpt.

⁷⁹ Moyer, *“A Detailed Study of Selected Orchestral Excerpts for Cello”*,28.

⁸⁰ Ibid.,28.

⁸¹ Ibid.,28-29.

Moyer continues her detailed analysis of the difficulties of the excerpts and her solutions to the technical problems in the third melodic variation of the second movement of Beethoven's fifth symphony.

Excerpt Three

Example 7. Ludwig van Beethoven, *Symphony No. 5 in C minor, Op. 67*,
mvt. 2, mm. 98-106, M.M. ♩= 76.



Primary Challenge: Lyrical Playing

List of other aspects:

1. Intonation
2. Smooth string crossing
3. Consistent bow speed
4. *Dolce* tone color
5. Dynamic contrast
6. Rhythm

Example 60: Moyer *A Detailed Study of Selected Orchestral Excerpts*⁸²

Interestingly, Moyer lists the exact same technical difficulties for example 60 as for the example 59. I have never been given each variation as an individual excerpt. It can be considered that she separated the theme and each variation because of the vast scale of detail with which she writes about each part of the excerpt. Again, the bulk of the analysis on the practice of this excerpt is solutions for problems of intonation.

Consistent intonation throughout the excerpt is crucial; especially in the change from mainly stepwise notes to the intervallic motion in m. 101. Notes are often repeated within one measure so a consistent finger angle to the string is recommended regardless of position. Practice all melodic intervals as double stops. I do not recommend an all D string fingering with thumb as the clumsiness of that fingering is often more problematic than achieving a *p dolce* sound on the A string.⁸³

It is indisputable that remaining firmly within a strong sense of key is incredibly important in this excerpt, but the same can be said for every tonal piece of music. Moyer simply states "Practice all melodic intervals as double stops"⁸⁴ in order to solve the problem of intonation. I however do not find this a conclusive solution to the problem of intonation. The difficulty of intonation in this passage is due to the hand positions that the cellist must employ and the changes between them. I find it helpful to practise in double stops but by no means does this ensure the passage to be perfectly in tune. Moyer goes to great lengths to detail each double stop that the cellist should practise in order to prepare these few bars accurately. I consider again that this practice although incredibly detailed, inapplicable to any other orchestral excerpt. Intonation is never a problem in itself and double stops are rarely the complete solution. I believe that a technical difficulty cannot simply be labelled "Intonation"⁸⁵ but must moreover state the technical difficulty which causes the consequence of bad intonation. In the example of the second movement from

⁸² Ibid. ,32.

⁸³ Ibid. ,32-33.

⁸⁴ Ibid. ,p.33.

⁸⁵ Ibid. ,p.32.

Beethoven's fifth symphony, the difficulty is left hand strength and reliability in extended low positions and the ability to change between them which often causes bad intonation.

It is further interesting to note that although Moyer separates the theme and variations from Beethoven's second movement of his fifth symphony, she lists the exact same technical difficulties for all three. This is interesting when she herself states that in reference to the second listed excerpt which she calls Example 6 that:

Rhythm in this excerpt is not an issue other than keeping the steadiness of the constant sixteenth notes throughout all the difficult string crossings and shifts. The grace note in m. 55 should not disrupt the rhythm of the sixteenth notes and should be placed as late as possible. Practice with the metronome is recommended to ensure steadiness.⁸⁶

Furthermore, in the case of Excerpt three which Moyer labels "Example 7":

Rhythm: Again the rhythm does not change throughout the excerpt; practice with a metronome to ensure the complete steadiness of the thirty-second notes and guard against any rushing mid-measure. The steadiness of the rhythm easily combines with the consistent bow speed aspect⁸⁷

It might seem obvious to ask why Moyer lists rhythm as a difficulty of the examples when she goes on to say the rhythm is "not an issue" and "does not change"⁸⁸. The answer is self-evident: because she listed it as a plausible difficulty in the theme of this excerpt. Indeed, Moyer doesn't discuss practical ways in how to improve technical difficulties of the issues that cause bad performances of these two excerpts. Instead she looks to give a teacher style recommended practice of each excerpt; particularly concentrating on Intonation.

Moyer's solutions of double stops do not simply end with the first three excerpts, she goes on to repeatedly recommend them wherever possible as the only solution for intonation problems. In reference to the Scherzo from Mendelssohn's *Midsummer Dream* she dictates to "Using the thumb on the F, practice the A flat to E, A flat-D, G-E flat, G-D, F-E flat, F-D, F-C as double stops (Example 18) and then as written."⁸⁹ This is a very difficult double stopped passage to practise and can only be at a minute fraction of actual tempo:

Example 18. Recommended practice for ten measures before Letter O,
Mendelssohn, *Scherzo from A Midsummer's Night Dream*.



Example 61: Moyer "A Detailed Study of Selected Orchestral Excerpts for Cello"

I do not consider example 61 entirely beneficial when practising this passage as I actually don't utilise the thumb on the F but instead of the E natural a semitone below as my hand

⁸⁶ Ibid. ,31.

⁸⁷ Ibid. ,35.

⁸⁸ Ibid. ,35.

⁸⁹ Ibid. ,44.

is not capable of stretching some of the double stops Moyer lists. Moyer also lists double stop practice for multiple other excerpts including the fourth movement of Mozart's 35th symphony and Strauss's Don Juan.

Moyer acknowledges her concentration on Intonation when she writes in her conclusion that "Intonation is the most obvious aspect to perfect because it is the most noticeable flaw" ⁹⁰. However despite her writing intonation solutions, I do not consider Moyer 's method a good practice to maintain high level playing of these excerpts. However, I believe that Moyer's methodical approach and teacher-like style could provide some benefit and new ideas to those wishing to develop their practice of one of the fifteen excerpts that she chose to write about. Overall, I do not consider Moyer's thesis to give a way of developing technique in order to meet the requirements of the orchestral excerpts. She approaches it far more from the final performance aspect and how to achieve finishing touches rather than the development of the techniques needed in order to successfully execute each individual excerpt.

Linda Jean Shay writes her thesis "Selected Orchestral Excerpts for Cello: Analyzed and Graded" on the subject of grading the technical difficulties of excerpts compared with Popper's *40 Studies: High School of Cello Playing*. This thesis is a feat of organisation and analysis as Shay orders excerpts from eight different Orchestral Excerpts books in their technical difficulty. Shay writes this thesis "to supplement different teaching materials and as a reference for cellists"⁹¹ acknowledging the lack of material that tackles cello orchestral excerpt practice. Shay's work is incredibly useful to any cellist wishing to order cello excerpts by their difficulty. The result of the thesis is a "master list of the 265 excerpts in the eight excerpt books" ⁹² which is developed into "tables showing the content of each book by problem and grade" ⁹³.

21. Beethoven	Symphony #3, Op. 55	E-M	D, APW	R II p. 9
			STAC	
22. Beethoven	Symphony #4, Op. 60	E	D, APW	R I p. 8
			STAC	
23. Beethoven	Symphony #5, Op. 67	E-M	APW, S \overline{D} L,	R II pp.10-11
			STAC, UK, D	
24. Beethoven	Symphony #6, Op. 68	M-H	APW, SC,	R III pp.6-8
			PM, UK, D	

Example 62: Shay, *Selected Orchestral Excerpts for Cello: Analyzed and Graded*⁹⁴

Example 62 is a section of the table which Shay writes to order all the cello excerpts by technical difficulty. Shay uses abbreviations for convenience in the table. The second column of example 62 refers to difficulty of the excerpt from E for easy to M for medium and H for hard. The third column of example 62 refers to the technical difficulty faced in the excerpt APW for awkward passage work, STAC for staccato, PM for perpetual motion, SC for string crossing, UK for uncommon key and D for dynamics. The fourth column of example 62 refers to the book from which the excerpt is taken. In this case all four

⁹⁰ Ibid. ,70-71.

⁹¹ Shay, "Selected Orchestral Excerpts for Cello: Analyzed and Graded", 1.

⁹² Ibid. ,2.

⁹³ Ibid. ,2.

⁹⁴ Ibid. ,17.

Beethoven excerpts are quotes from Leonard Rose Orchestra Excerpts books from the symphonic repertoire I, II and III. Shay develops this table to order each excerpt by book for the third part of her thesis.

Table 3 : Rose: *Orchestral Excerpts*, Vol. III.

	Easy	Easy- Medium	Medium	Medium- Hard	Hard
Awkward Passage Work (APW)	14 59	45 103 151 159 190	24 25 34 121 148 184 194 222 234 228 229 234 185	31 50 127 147 214	5 169
Perpetual Motion (PM)		72		24 188 228 214	
String Crossings (SC)	18 149 229	152	5	24	
Staccato (STAC)	18 46 72 84 110 130 171 226 229 234	45 162 184 185 262 263	25 50 55 121 147 148 159 214 224		

Example 63: Shay, *Selected orchestral Excerpts for Cello: Analyzed and Graded*⁹⁵

Example 63 organises the third book from Leonard Rose's *Orchestral Excerpts* books from the symphonic repertoire into technical demand ranked in their difficulty through five levels. The numbers denote the page of each excerpt in the book. I would suggest that this table is a great resource to anyone who is interested in the technical difficulties of orchestral excerpts for cello. Shay's writing concludes with a short section entitled "Practise Suggestions"⁹⁶. Shay first quotes from the teaching of Rudolphi (Pedagogical Principles):

Sing the notes by letter name or solfeggio without rhythm... 2) Sing the notes in rhythm.
3) Mime the left hand gestures involved as the pitches are sung in rhythm. 4) Add the appropriate bow gestures in mime 5) Take up the instrument and play the passage.⁹⁷

Shay goes further to continue her own personal methods of learning orchestral excerpts by suggesting to

Draw the fingerboard to scale of a long sheet of paper. Mark the chromatic intervals to scale for about two and a half octaves or through the problem range of a particular passage. Memorize the passage. Set the diagram directly in front of you and visualize the spatial relationships for each note" p.38-39)

I find the suggestions from Shay for practising of the orchestral techniques to be quite disjointed from the rest of her work. I consider that Shay's tables of grading and organising the excerpts to be most useful to advanced students and young professionals who are keen to develop their technique and become more confident in the execution of the excerpts most commonly asked at audition. Furthermore, her suggestions of studies to learn in order to address these techniques are advanced and enable a cellist who is quick at learning notes to refer to various orchestral techniques in the traditional study methods. Shay's writings on practice methods for the orchestral techniques however do not seem to appeal to the advanced learner that the rest of her work does. I for example

⁹⁵ Ibid. ,31.

⁹⁶ Ibid. ,38.

⁹⁷ Ibid. ,74-76.

do not have a problem of memorising music or learning notes, but I do have problems in maintaining high levels of advanced technique which allows me to execute various excerpts at a high level. I consider that Shay's solutions to right hand techniques far more advanced than normal but they seem mostly common sense practice methods.

For bowing problems: 1) practice a string crossings on the open strings. (Examples of this can be found in Zimmerman, A Contemporary concept of Bowing Technique.) 2) Work out the circular directions of the bow for awkward string crossings. ⁹⁸

I think that although these methods are far more practical and traditional than Shay's practice techniques for the left hand, they are again very basic. I think there are far more developed bowing techniques than the ones Shay describes but her table of organised excerpts for cello is by far the most advanced one of its kind. I am thoroughly impressed by Shay's work in her thesis and I consider that the study of it would benefit the creation of a cello study system for orchestral excerpt techniques. I also think it is particularly useful as Shay uses a different set of studies to the ones I have used in the previous chapter organised to the technical difficulties. This is most likely caused by Shay's background being strongly in America and therefore she utilises American teaching methods whereas mine is in Europe and thus I have used mostly European study systems. I think Shay highlights the lack of literature and study methods for cello on the subject of practising orchestral excerpt cello technique. This is particularly relevant to my thesis as I have found the same problem of lack of relevant repertoire.

4.2 Study systems on orchestral excerpts designed for other instruments

The following section of this chapter will focus on studies that have been written for other instruments on orchestral excerpts. I believe that through the research of what solutions there are for other instruments, it will provide a valuable insight into the necessity of creating such a study system for the cello. Furthermore, it will highlight why there is a lack of existing material for cello on this subject.

Tim Olt wrote "Preparatory Studies for Orchestral Excerpts" ⁹⁹for the tuba as a solution to the study of orchestral excerpts. In this book Olt displays a common excerpt for the tuba at the top of the page and then writes about the difficulties it presents for the individual to execute. Olt then creates an exercise based on the difficulties of the excerpt that can be practised on a daily basis out of context.

⁹⁸ Ibid. ,39.

⁹⁹ Tim Olt, *Preparatory Studies for Orchestral Excerpts, Vol.1: for Tuba* (Connecticut: Cimarron Music Press, 2014).



When approaching the Introduction to Act III of Wagner's *Lohengrin*, there are two major aspects that the player must address: range and rhythm. Above is the standard excerpt in the original form. At the end of the following exercises you will find a "plus" version of the excerpt with the four measures that are omitted in the tuba part replaced. As many modern players can easily handle the tessitura of the omitted part, it is not uncommon for a conductor to ask the player to perform the part. Thus, the following studies also take the performer to that extent of the range.

The first exercise is designed to help prepare for the range and intervals needed. Be willing to start slowly, making sure to hear each pitch before playing. It is also advisable to sing through the exercise to strengthen the overall oral skills involved. If you have a tuner that will play a standing pitch, work through the exercises with the tuner placed on each pitch of the extended arpeggio of the excerpt (D-F#-A-C-E-G in the original key of the excerpt, but use the first measure for each exercise to determine). Compare all the pitches of the exercise to the standing pitch you have selected. As you get more confident and comfortable with the pitches, speed up. The eventual goal is half at 84, but go beyond that for added ease in the excerpt.

Exercise 1.1



Example 64: Tim Olt, *Preparatory studies for Orchestral Excerpts, Vol 1*¹⁰⁰

I think the layout of example 64 is perfect for anyone who wanted to take the technical difficulties from an individual orchestral excerpt and turn them into a study to practise instead of repeating the excerpt itself. The benefits of the practice of example 64 are numerous as they minimise all the other difficulties such as musical interpretation or dynamics to just focus on technique. However, it is only really possible for this kind of practice on a limited number of excerpts, which is very beneficial to a tuba player rather than a cellist. This is because the tuba plays less actual notes than the cello in symphonic repertoire and doesn't have as much repertoire to play in; thus there are far fewer possible excerpts. Although I think example 64 is an excellent book for the tuba and is clear and easy to understand, I don't think this could be instantly applied for the cello. Practice techniques for the cello would be aimed at covering numerous excerpts in one study rather than the in depth study of example 64.

I believe that a study book like example 64 which prepares the player for the final study of excerpts before audition exists for the tuba player as it is primarily an orchestral instrument. However, the solo cello is such a popular instrument for composers and audiences alike that the focus of each cellists' development is primarily to fill this unlike in example 64.

¹⁰⁰ Olt, *Preparatory Studies for Orchestral Excerpts, Vol.1: for Tuba*, p.4.

There are many books written on the subject of the development of double bass technique, far more than the cello. This is because the double bass has far less performance repertoire and thus the focus of any development is based around technique. There are infinitely more excerpts books and studies written on this subject for the double bass. Some of the books such as Francesco Petracchi's *Simplified Higher Technique*¹⁰¹ focus on the basics of technique that are required in orchestral playing without listing each individual excerpt as Olt did for the tuba.

I think the separation of orchestral and soloistic technique is valuable in reasoning behind a daily study system for cello. This can be seen clearly with a group of technique books written by the famous bass player and teacher Franz Simandl. In his *Method for the Double Bass*¹⁰² there are two parts; the first *Initiation in Orchestral-Playing*¹⁰³ and the second *Initiation in Solo-Playing*.¹⁰⁴ The first part has five chapters of studies for orchestral playing: "The Positions, Minor scales and Intervals, Bowing and manner of playing, Embellishments and Notation and Examples of Recitatives".¹⁰⁵ These are all fundamental techniques which must be addressed in detail for the orchestral musician. However, in the second part of this set of studies Simandl has far more advanced soloistic sections of "Introduction and use of the thumb and ten short studies with Pianoforte-Accompaniment, Nine long studies with Pianoforte-Accompaniment, Studies of scales and arpeggios and Harmonics, Arpeggios, Double stopping and 2 Solo studies with Piano forte Accompaniment".¹⁰⁶ It is interesting to note these titles as they can be easily applied to cello technique. It is similarly rare for a double bass or cello to perform double stops in orchestral playing. Furthermore, the advanced techniques that Simandl reserves for the Solo playing part of his method is featured in the most common study book for cello in the Popper *40 Studies: High School of Cello Playing*.

I believe there is much to learn from the double bass division of technique into strict solo and orchestral categories. This is something completely lacking in any cello study method. Existing cello study material suggests that the cellist must execute complicated advanced soloistic techniques to prepare for orchestral playing. However, many of the cello excerpts are taken from Mozart and Beethoven's orchestral repertoire. This is interesting to note as in this music, the cello and bass play from the same part with although some divisi differences the vast majority of the passages are unison for both cello and bass. It could be presumed that the divisi passages would provide the orchestral excerpts but this is not the case such as in the final movement of Mozart's Symphony No.40 which is often used as orchestral excerpt:

¹⁰¹ Franco Petracchi, *Simplified Higher Technique*, foreword by Wolfgang Sawallisch, introduction by Rodney Slatford (London: Yorke Edition, 1982).

¹⁰² Franz Simandl, *Kontrabass-Schule Method for the Double Bass* (Germany: C. F. Schmidt Heilbronn aN. CEFES edition, 1855).

¹⁰³ Franz Simandl, *Kontrabass-Schule Method for the Double Bass Initiation in Solo – playing* (Germany: C. F. Schmidt Heilbronn aN. CEFES edition, 1855).

¹⁰⁴ Franz Simandl, *Kontrabass-Schule Method for the Double Bass Initiation in Orchestral-playing* (Germany: C. F. Schmidt Heilbronn aN. CEFES edition, 1855).

¹⁰⁵ Simandl, *Kontrabass-Schule Method for the Double Bass Initiation in Orchestral- playing* (Germany: C. F. Schmidt Heilbronn aN. CEFES edition, 1855), 1.

¹⁰⁶ Simandl, *Kontrabass-Schule Method for the Double Bass Initiation in Solo – playing* (Germany: C. F. Schmidt Heilbronn aN. CEFES edition, 1855), 1.



Example 65: Mozart *Symphony No.40*, fourth movement ¹⁰⁷

Example 65 presents difficulties for both the left hand and bow and these are both therefore applicable to the cello and bass which is why example 65 is an orchestral excerpt for both instruments. The same can be noted for many excerpts such as Strauss's "Ein Heldenleben" in example 34 and Beethoven's fifth symphony in example 36.

The differences in approach to the development of technique are obvious and numerous, the excerpts for cello and double bass can be identical and therefore present identical technical difficulties. The only reasoning to the incredible differences in study material available is due to the difference in nature of the instrument, again the double bass is mainly an orchestral instrument whereas the cello is both solo and orchestral in nature. This is not relevant when considering the study of orchestral excerpts.

4.3 Modern study systems and their use in preparation for cello orchestral playing

There are many different books on the subject of string orchestral excerpts which have not realised much success. An example of such a work is Susan C. Brown's "String Player's Guide to the Orchestra". ¹⁰⁸ In this set of books Brown writes studies on different orchestral repertoire. However, she does not recognise a difference between instruments and uses the same repertoire and exercises for all instruments. Although I have never seen Beethoven's first symphony as a cello excerpt, Brown lists it as the first study in her book



Example 66: Susan Brown *String Players Guide to the Orchestra* ¹⁰⁹

¹⁰⁷ Mozart, *Symphony No. 40 in G minor, K.550* (Leipzig: C.F. Peters, 1920), 7.

¹⁰⁸ Susan C Brown, *String Player's Guide to the Orchestra Cello* (U.S: Alfred Music, 2008).

¹⁰⁹ Brown, *String Player's Guide to the Orchestra Cello*, 3.

I do not consider example 66 a difficult excerpt and it is confusing to consider why Brown would think it necessary to practise. Furthermore, I cannot understand why Brown would use identical excerpts across all string instruments even though they aren't used for all instruments in orchestral auditions. Perhaps Brown has taken the similarities in repertoire highlighted through examples 34, 36 and 65 too far. Overall I cannot consider this a useful book in the development of a cellist's preparation for professional orchestral audition.

Mats Lidström's "*The Essential Warm-Up Routine for Cellists*"¹¹⁰ is a new daily exercise programme for the cello. In this book Lidström provides an alternative to the common approach from Feuillard's *Daily Exercises for Violoncello*. Lidström's book is far more balanced than Feuillard's as it gives studies for both left and right hand and I think Lidström's book is unique in providing bowing exercises genuinely written for the cello rather than Ševčík's Forty exercises which were then converted by Feuillard for the Cello. Although Lidström is an orchestral cellist himself, I don't consider his book directly relevant for maintaining the orchestral techniques. I think some of the exercises are incredibly useful such as those on sautillé which is a technique not properly tackled by other traditional study methods. In his warm-up book Lidström slowly builds through the steps of achieving sautillé bowing



Example 67: Mats Lidström *The Essential Warm-Up Routine for Cellists*¹¹¹

Example 67 shows a simple yet developing pattern which when practised develop into sautillé. The practice of example 67 every day would inarguably benefit a cellist in maintaining a high level of orchestral cello technique in preparation for the study of orchestral excerpts at professional level.

Lidström's warm-up routine is aimed at all cellists thus he develops through some techniques which aren't relevant to the execution of orchestral excerpts or orchestral playing in general. This can be seen in his routine of double stop practice:

¹¹⁰ Mats Lidström, *The Essential Warm-Up Routine for Cellists* (United Kingdom: Spartan Press, 2011).

¹¹¹ Ibid., 34.



Example 68: Mats Lidström *The Essential Warm-Up Routine for Cellists*¹¹²

Example 68 one of the shorter double stop warm up routines that Lidström writes but it is incredibly advanced and require a great deal of practice to initially learn. This is part of a fourteen stage process which is to be at least partially covered on a daily basis to enable “your technique on stand-by until tomorrow”¹¹³. I have spent many hours of my life practising octaves on the cello under instruction for my teachers like this book suggests. However, there is not a single passage in orchestral repertoire which would require a cellist to play a passage in octaves.

At the end of the first chapter of this thesis it was evident there are no etudes for cello to practise vibrato. However, in Mats Lidström’s *The Essential Warm-up Routine for Cellists*, he dedicates a whole chapter to the practice of vibrato.

¹¹² Ibid. ,43.

¹¹³ Ibid. ,3.

(dynamic markings relating to left hand pressure, not volume (loud or soft))

A

1st finger

$\text{♩} = 56$

2nd finger

3rd finger

4th finger

Example 69: Mats Lidström *The Essential Warm-Up Routine for Cellists* vibrato exercise A bars 1-16¹¹⁴

In Example 69 the player alternates between full pressure to play a normal sounding note and harmonic pressure which is much lighter. The idea of this is to develop left hand balance and strength which in turn would develop vibrato. Any exercise in vibrato is useful when considering the practice of orchestral excerpts as it was clear from the previous chapters that many of the excerpts are set to examine vibrato. In every audition

¹¹⁴ Ibid., 10.

I have attended, there was always at least one excerpt such as a slow movement from a Brahms symphony that was examined to test vibrato.



Example 70: Brahms *Symphony No.2* second movement cello part from the beginning until letter A¹¹⁵

In example 70 it is clear that the player must endeavour to have a good well-rounded vibrato throughout the phrasing. However, Example 69 is more centred around the idea of left hand pressure. This is far more generalised left hand technique than vibrato however Mats Lidström writes this exercise with vibrato in mind.

I believe Example 69 is aimed at an idea of Minimum Viable Pressure for the left hand. This is a technique discussed by Nathan Cole in his video entitled “Violin left hand finger pressure – how to find your MVP”¹¹⁶ In this video Cole discusses the minimum viable pressure to play with the left hand and how this can be useful for ridding tension in playing. Nathan Cole is the Associate Concertmaster of LA Philharmonic Orchestra and his advice is relevant to all string playing. Cole identifies varying levels of pressure and labels them with numbers. The aim of this is to find the smallest number possible with which to play fast passages. This is clearly a much more advanced version of Example 69 in which Lidström identifies only two different levels of left hand pressure to practise. However, Cole’s video is for left hand dexterity rather than vibrato. I believe that Lidström’s exercise is much more beneficial to someone wanting to release tension in left hand for fast passages rather than vibrato and therefore the practice of this exercise would be limited in preparation for Example 70.

Mats Lidström however is the only person I have found with a usable daily practice system which directly addresses this. There are obvious advantages and limitations to any cello study system that is aimed at general playing when considering specifically orchestral cello technique. In the case of Lidström’s *The Essential Warm-Up Routine for Cellists* it could be considered more concerned with warming up than advancing technique.

¹¹⁵ Beker and Mandalka, *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire*, 16.

¹¹⁶ “Youtube, Violin left-hand finger pressure: how to find your MVP” Accessed April 20th 2017 <https://www.youtube.com/watch?v=SC4o09l8P-8>.

4.4 Summary

There is evidently much to be learned from the alternate solutions to the study of excerpts. The existing material for other instruments like Tim Olt's *Preparatory Studies for the Tuba* and Simandl's *Method for the Double Bass* show there is a necessity for these studies in separation to solo technique. If a compromise of both approaches could be made into something which although initially focused on orchestral techniques like Olt suggested, they could then develop into general studies similar to Simandl. I strongly believe that if the material exists for other instruments as an aid to studying excerpts, it should exist for the cello.

Moyer and Shay's essays on the subject of the study of orchestral excerpts although opposite in approach provide some considered study upon the subject. Moyer has an incredibly detailed approach on a very small number of excerpts detailing her recommended practice. This includes what she considers technical difficulties and her solutions to each excerpt. This guide to excerpt learning could prove useful if studying a small amount excerpts over a long amount of time. However, I am more concerned with the techniques highlighted by the excerpts and how to practise those separately from the excerpts to remain at a high level of technical facility. Shay's essay is an incredible feat of organisation of cello excerpts into techniques through a system of coding. I believe it could be a great guide for someone who wanted to look for an overview at what traditional studies could be used for in the development of some of the techniques. However, Shay fails to acknowledge how the studies are more often far more complicated and difficult to execute at high standard than the excerpts themselves. At the end of her essay Shay tacks on snippets of advice of how to practise orchestral excerpts whereby rather undermining her previous work or organising the excerpts by technique then linking this to various etudes. However, the tables that Shay creates are invaluable to anyone interested in the organisation of cello excerpts by technique.

There are many books on cello orchestral playing which are unsuccessful due to lack of detail or specific information. One of these is Susan C Brown's *String Player's Guide to the Orchestra* cello edition. I would not consider study of her guide useful in preparation for professional audition. Mats Lidström's book *The Essential Warm-Up Routine for Cellists* is a modern alternative to Feuillard's *Daily Exercises for Violoncello*. This is a well-balanced book and does provide solutions to the study of sautillé bowing which I have not found in the traditional study methods. The section on vibrato is unique to this book and is infinitely useful for any cellist wishing to develop a balanced well rounded vibrato. However, the Lidström Daily system has the same failings as the traditional ones as it goes on to focus on techniques which are not entirely relevant to orchestral playing or the study of orchestral excerpts.

V. Conclusion

There is evidently an incredible mass of material available on technical development for the cello. Additionally, there are many different techniques tested at orchestral audition. There is no one study system designed for cello to practise these different techniques and so it is important to discover which studies are the most relevant. The traditional study methods provide some solutions for the preparation of orchestral excerpts but they are mostly undermined by their nature. Traditional study methods are designed to create the most technically advanced cellist which is of course the solo cellist rather than the orchestral player. In order to use the traditional study methods effectively for orchestral technique, it would seem that one must pick and choose very carefully.

I have never felt comfortable in my own technique on the cello. I have always endeavoured to master etudes set by different traditional study methods and yet I was always flummoxed by the challenges presented in orchestral excerpts. I began the work on this thesis to try and find a solution to this problem. However, the more I investigated different practice methods the more I began to understand the severe lack of available material for the cello. Everyone I have met who has a genuine desire to master the techniques of orchestral excerpts has created their own personal practice system to prepare for the different techniques. I have met many people who practise vibrato with the metronome in order to completely control how many turns are happening each note to create an even sound. I have met other people who have created their own string crossing study to practise the technique required for excerpts which are combining string crossings and sautille bowing. Aspiring Orchestral musicians are constantly having to create their own studies for the techniques because there is not enough material available on this subject.

There are study systems that effectively practise excerpts written for other instruments. It is clear that these are written because the instrument's primary focus is orchestral playing. This cannot be said for the cello which is used so much in solo and chamber repertoire. Unlike instruments such as the Tuba, Double Bass and Oboe there is a genuine career path for a cellist to become a solo and chamber musician. There are therefore a lot of technical exercises written with this career in mind. There are no technical exercises written for the cello to directly tackle the technical challenges of orchestral excerpts.

I believe it is possible to write a study system for the cello which would limit the amount of preparation time for excerpts by practising the techniques faced in orchestral excerpts. There is an infinite amount of possible excerpts to be requested at a cello audition but there is a definite amount of techniques that can be requested. Therefore, to practise the technique is far better than to try and cover individual excerpts between audition preparation times. Most aspiring orchestral string players go through incredible dips in their practice regime between orchestral auditions because they do not know what to practise. I believe there is a genuine need for a study system to be created for cello which is solely based on Orchestral technique to be practised during the times which normally are void of concentrated practice.

I do not consider my work on this subject complete. I would like to explore the possibility of writing my own study system for cello based on the orchestral techniques investigated in this thesis. Unfortunately, I have not been able to manage to do this in this thesis due to the time constraints of a Master's degree. I have already found great benefit in my own

playing from the investigation of the technical difficulties set by orchestral excerpts. I feel more confident than ever in my own technique as a cellist. I believe this thesis has been valuable not just as an academic exercise and investigation but for my personal artistic development as an aspiring orchestral cellist.

Bibliography

Books

Beker, Rolf., and Mandalka Rudolf. *Orchester-Probespiel Violoncello: excerpts from the Operatic and Concert Repertoire*. Mainz: Schott Music GmbH & Co. KG, 1993.

Brown, Susan C. *String Player's Guide to the Orchestra Cello*. U.S: Alfred Music, 2008.

Feuillard, Louis R. *Daily Exercises for Violoncello*. Mainz: Schott Music International GmbH & Co. KG, 1919.

Lidström, Mats. *The Essential Warm-Up Routine for Cellists*. United Kingdom: Spartan Press, 2011.

Olt, Tim. *Preparatory Studies for Orchestral Excerpts, Vol.1: for Tuba*. Connecticut: Cimarron Music Press, 2014.

Petracchi, Franco. *Simplified Higher Technique, foreword by Wolfgang Sawallisch, introduction by Rodney Slatford*. London: Yorke Edition, 1982.

Piatti, Alfredo. *Twelve Capricci for Violoncello Solo, Op.25*. Munich: G. Henle Verlag, 2003.

Popper, David. *40 Studies: High School of Cello Playing, Opus 73*. New York: International Music Company, 1982.

Rose, Leonard. *Orchestral Excerpts from the Symphonic Repertoire for cello, volume 1,2 and 3*. New York: International Music Company, 1953.

Ševčík, Otakar. *Violin Studies, Opus , 40 variations for Cello arr. Feuillard*. Leipzig: Bosworth & Co,1905.

Simandl, Franz. *Kontrabass-Schule Method for the Double Bass Initiation in Solo – playing*. Germany: C. F. Schmidt Heilbronn aN. CEFES edition, 1855.

Simandl, Franz. *Kontrabass-Schule Method for the Double Bass Initiation in Orchestral-playing*. Germany: C. F. Schmidt Heilbronn aN. CEFES edition, 1855.

Theses

Moyers, Susan "A detailed study of selected orchestral excerpts for cello" (PhD diss., University of Miami, 2009)

Shay, Linda Jean "Selected Orchestral Excerpts for Cello: Analysed and Graded" (PhD diss., The Ohio State University, 1977)

Videos

Youtube, Violin left-hand finger pressure: how to find your MVP” Accessed April 20th 2017 <https://www.youtube.com/watch?v=SC4oO9l8P-8>

Websites

”Orchestra Excerpts, Cello: Shostakovich: Symphony No5, Mvt.I (Reh.32-39)”<http://orchestraexcerpts.com/shostakovich-symphony-5-mvt-i-cello-excerpt/>

Oxford Music Online, The Oxford Dictionary of Music, Spiccato” Accessed April 20th, 2017.http://www.oxfordmusiconline.com/subscriber/article/opr/t237/e9691?q=spiccato&search=quick&pos=3&_start=1#firsthit

Oxford Music Online, The Oxford Dictionary of Music, Sautille” Accessed April 20th, 2017. http://www.oxfordmusiconline.com/subscriber/article/grove/music/24643?q=sautille&search=quick&pos=1&_start=1#firsthit

Scores

Brahms, Johannes. *Symphony No. 3 in F major*. Leipzig: Breitkopf & Härtel, 1927.

Dvorak, Antonin. *Cello Concerto in B minor, Op.104 Cello solo*. Berlin: N.Simrock, 1896.

Elgar, Edward. *Cello Concerto Op.85 Cello solo part*. London: Novello & Co., 2010.

Haydn, Joseph. *Cello Concerto No.2 in D major, Hob.VIIb:2*. Munich: G. Henle Verlag, 1990.

Mahler, Gustav. *Symphony No.9 in D major cello part*. Vienna: Universal Edition, 1912.

Mendelssohn, Felix. *A Midsummer Night’s Dream Overture and incidental music, Op.61*. Leipzig: Breitkopf & Härtel, 1880.

Mozart, Wolfgang Amadeus. *Symphony No. 40 in G minor, K.550*. Leipzig: C.F. Peters, 1920.

Rossini, Gioacchino. *Guillaume Tell*. Leipzig, Breitkopf & Härtel, 1933.

Smetana, Bedrich. *The Bartered Bride, JB 1:100*. New York: Edim F. Kalmus, n.d. 1933-1970.

Strauss, Richard. *Der Rosenkavalier, Op.59 cello part*. Miami: Edwin F. Kalmus, 1986.

Strauss, Richard. *Ein Heldenleben Op.40 cello part*. New York: Edwin F. Kalmus: 1956.

Strauss, Richard. *Till Eulenspiegel lustige Streiche, Op.28 cello part*. Munich: Edwin F Kalmus, 1953.

Tschaikovsky, Pjotr. *Symphony Number 6 Op.74 cello part*. Leipzig: Breitkopf & Härtel, 1990.

Tschaikovsky, Pyotr. *Pezzo Capriccioso, Op.62 cello part*. New York: International Music Company, 2016.

Zimmerman, Frederick. *A Contemporary Concept of Bowing Technique for the Double Bass*. New York: Leeds music company, 1955.

Excerpt booklets

Högskolan för scen och musik vid Göteborgs universitet "Mock Symphonic Booklet No.3"

Högskolan för scen och musik vid Göteborgs universitet "Mock Symphonic Booklet No.1"

Högskolan för scen och musik vid Göteborgs universitet "Mock Symphonic Booklet No.5"

Högskolan för scen och musik vid Göteborgs universitet "Mock Symphonic Booklet No.4"

Högskolan för scen och musik vid Göteborgs universitet "Mock Opera Booklet No.3"

Högskolan för scen och musik vid Göteborgs universitet "Mock Opera Booklet No.5"

Högskolan för scen och musik vid Göteborgs universitet "Mock Opera Booklet No.2"

Oslo Philharmonic Orchestra "Cello Substitute audition" (January 23rd 2017)

Gavle Symphony Orchestra "Audition, Cello, Tutti" (March 13th 2017)

Malmö Symphony Orchestra "Cello tutti audition" (January 20th 2017)

Norrköping Symphony Orchestra "Audition, Cello Tutti" (April 9th 2017)

Sønderjyllands Symphony Orchestra "Cello tutti Konkurrence 2017" (March 20th 2017)

Gothenburg Symphony Orchestra "Cello Tutti Audition" (January 4th 2017)

Gothenburg Opera Orchestra "Orchestral Excerpts at audition for Co Principal Cello" (5th June 2017)

Recordings

Video 1 – comparison of Popper, David. *40 Studies: High School of Cello Playing, Opus 73* study 11 to Beethoven symphony No. 8 3rd movement trio section excerpt

Video 2 – comparison of Feuillard, Louis R. *Daily Exercises for Violoncello* to Beethoven symphony No. 5 second movement excerpt.