INTERPRETATION AND EXECUTION OF CHORDS ON THE DOUBLE BASS FROM
SELECT MOVEMENTS OF THE BACH CELLO SUITES

Der Shiuan Chen

Dissertation Prepared for the Degree of

DOCTOR OF MUSICAL ARTS

UNIVERSITY OF NORTH TEXAS

August 2018

APPROVED:

Jeff Bradetich, Major Professor
Paul Leenhouts, Committee Member
Gudrun Raschen, Committee Member
John Holt, Chair of the Division of
Instrumental Studies
Benjamin Brand, Director of Graduate
Studies in the College of Music
John Richmond, Dean of the College of Music
Victor Prybutok, Dean of the Toulouse
Graduate School

The Bach Cello Suites have become widely transcribed and studied on the double bass. They have also become essential teaching material as most US orchestra auditions demand solo Bach for bass auditions. Transcribing the chords in Bach Cello Suites presents many difficulties on the bass because of the different tuning of our instrument (cello in 5ths; double bass in 4ths). There is no unified solution to all the problems presented in chord playing at this time. The purpose of this project, therefore is to give bass players solutions to the problems by looking at historical interpretation of chords, technical execution of the chords on cello and bass, tonal and resonance considerations and fingering solutions. The chords chosen represent the most common and most difficult to transcribe to the double bass from the Cello Suites.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CHAPTER 1. INTRODUCTION</strong></td>
<td>1</td>
</tr>
<tr>
<td>1.1 Introduction and Purpose</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Significance and State of Research</td>
<td>2</td>
</tr>
<tr>
<td><strong>CHAPTER 2. THE CHALLENGES</strong></td>
<td>4</td>
</tr>
<tr>
<td>2.1 Resonance Challenge</td>
<td>4</td>
</tr>
<tr>
<td>2.2 Fingering Challenge</td>
<td>7</td>
</tr>
<tr>
<td>2.3 Bowing Challenge</td>
<td>9</td>
</tr>
<tr>
<td><strong>CHAPTER 3. THE METHOD</strong></td>
<td>12</td>
</tr>
<tr>
<td><strong>CHAPTER 4. EXAMPLES</strong></td>
<td>14</td>
</tr>
<tr>
<td>4.1 Different Interpretations</td>
<td>15</td>
</tr>
<tr>
<td>4.2 The G major Chord</td>
<td>21</td>
</tr>
<tr>
<td>4.2.1 Chords with Melody Line</td>
<td>27</td>
</tr>
<tr>
<td>4.2.2 Chords with Bass Line</td>
<td>28</td>
</tr>
<tr>
<td><strong>CHAPTER 5. CONCLUSION</strong></td>
<td>32</td>
</tr>
<tr>
<td><strong>BIBLIOGRAPHY</strong></td>
<td>34</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

1.1 Introduction and Purpose

Since the rediscovery of the Bach Cello Suites in the early 1900s by famed cellist Pablo Casals, this music has become some of the most influential in all of string playing. It is especially so on the cello, but this music has also strongly influenced the study of the viola and double bass and can be heard by students attempting to play it on the clarinet, horn, bassoon, trombone, guitar, marimba, electric bass and electric guitar. Some of the music has become so recognizable that it is used as the sound track for movies and television commercials.

Throughout the latter third of the 20th century and especially in the 21st century the Suites have become increasingly transcribed and studied on the double bass. They have also become essential teaching material as most US orchestra auditions demand solo Bach for double bass auditions.

The Cello Suites pose many problems in being transcribed for the double bass. Especially difficult and problematic are both the interpretation and execution of the chords to the bass. The primary reason for this is that the cello is tuned in 5ths and the bass tuned in 4ths thus creating challenges for the bass player that are not inherent in the writing for the cello.

The purpose of this project, therefore, is to give double bass players solutions and my personal DSC (Der Shiuan Chen) recommendations to the problems as a performance guide by looking at the historical interpretation of how the chords are played on the cello using the
most authoritative edition by Bärenreiter*, and technical execution of how to apply those chords to the double bass (considering tonal and resonance considerations, fingering and bowing solutions), and then to test it on the double bass comparing with how it sounds on the cello.

The chords chosen represent the most common and some of the most difficult to interpret and execute on the double bass from the Bach Cello Suites. The most common chord is the Tonic G major chord, because it is asked for many times in the Suite I and Suite III (these are the two most common performed Suites on bass). One of the most difficult chords to interpret and execute is in bars 9-10 from the Sarabande of Suite III, because the melody line is in the middle of the chord and not in the more traditional location of the top or bottom note of the chord. Also very technically challenging is the wide-spread chords in bar 15 of the Sarabande of the Suite IV, putting unusual stress on the left hand of the bass player.

1.2 Significance and State of Research

The current state of research on this subject is minimal for the double bass. No doctoral dissertation has addressed it and only a few articles have investigated it. A journal article, “Bach cello suites for the bass: the state of the research”†, by Andrew Kohn from Música hodie, provides three examples and solutions to a few chords, but does not explore any other options nor does he discuss how to technically execute the chords.

* Bettina Schwemer and Douglas Woodfull-Harris, eds., J.S. Bach 6 Suites a Violoncello Solo senza Basso BWV 1007-1012 (Kassel: Bärenreiter-Verlag Karl Vötterle GmbH & KG, 2000).
Although there is very little information for the double bass on playing chords, there is a short paragraph in the text volume of the Bärenreiter edition that speaks to the execution of the chords on cello*. But as stated earlier, all the chords are composed for the cello according to their tuning, open strings and fingerings. They can play all the chords easily without technical problems and can primarily focus on musical interpretation. This is why there is not much information on the cello that can apply to the double bass. Therefore, bassists can only solve these problems by themselves, and this project will be the first major attempt to address the difficulties and problems on interpreting and executing chords from the Bach Cello Suites on the double bass.

Since more and more bass players play the Cello Suites and since there are no unified solutions to all the problems presented in chord playing, the significance of this project is that all double bass players who play the Bach Cello Suites, and who might want to play them in the future, can all benefit from the solutions given in this project. Also, this project can inspire other bass players who have interest in this similar topic to come up with ideas or solutions to expand and develop the information available about interpreting and executing these chords.

* Bettina Schwemer and Douglas Woodfull-Harris, eds., *J.S. Bach 6 Suites a Violoncello Solo senza Basso BWV 1007-1012* (Kassel: Bärenreiter-Verlag Karl Vötterle GmbH & KG, 2000), text volume: 40.
CHAPTER 2
THE CHALLENGES

As aforementioned, the Cello Suites pose many problems in being transcribed for the double bass. The problems needing to be solved in this project stem from the difficulties caused by the tuning difference when applying chords from cello to double bass. These problems affect three areas: resonance, fingerings and bowings.

2.1 Resonance Challenge

Concerning the tuning difference between cello and double bass, the four open strings on the cello are, C-G-D-A (from low to high), tuned in 5ths; and the four open strings on the double bass are, E-A-D-G (from low to high), tuned in 4ths. The bottom two open strings of the cello are a perfect fifth (C-G), and are used a lot for the chords in the Cello Suites because the use of open strings always creates the best resonance and sustain of the sound.

But on the double bass, the bottom two open strings are a perfect fourth (E-A). So it is impossible for bass players to play a perfect fifth with two open strings. We need to use closed notes or harmonics on the bass to achieve the perfect fifth and the resonance undoubtedly will not sound as open and resonant as using two open strings on the cello. Therefore, the use of closed notes creates the resonance challenge. Sometimes the resonance challenge will cause the fingering challenge. By using a more difficult fingering to get better resonance. The chord in bar 79 from Prelude of Suite III is a good example of the resonance challenge.

Originally, Prelude of Suite III is in C major for the cello. In order to use more open strings and harmonics, we transferred the key to G major for the double bass. Cello players play
the chord in bar 79 with two open strings to let it ring to create resonance. (as shown in Figure 1)

![Figure 1.]

In this whole project, for how to “see” the resonance instead of hear it, I will use solid lines and dotted lines to indicate resonance visually. The solid line indicates the note played by the bow on the string. The dotted line indicates the note which keeps ringing after the bow is off the string. (as shown in Figure 2)

![Figure 2.]

I use the solid and dotted lines to indicate the resonance of bar 79 from Prelude of Suite III on cello by using the two most popular interpretation of the chord: Rolled and Broken chord. (As shown in Figure 3)

![Figure 3.]

5
For the rolled interpretation, the cello player plays the notes one by one from the bottom to the top. The note E flat is a special root note and needs to be emphasized, so the solid line of note E flat is a little bit longer. The notes G and A use open strings and can ring longer, so the dotted lines of notes G and A are longer; For the other interpretation, the broken chord, the cello player plays the four-note chord as two intervals playing the bottom two notes together first and then playing the top two notes together. Also because of using open strings, the notes G and A still ring longer.

This is how I indicate the resonance visually. By looking at the length of the solid line and the dotted line, we can easily “see” how it sounds and can easily compared the difference between cello and bass.

As mentioned before, the same chord of bar 79 from Prelude of Suite III is played in G major on the double bass. (As shown in Figure 4)

Unfortunately, there are two problems here. First, bass players cannot play this chord with two open strings to let it ring as cello players. We can only use one note with an open string, the note D, but the second problem will cause the only open string to stop ringing. The second problem is that, on the double bass, it is not one different note per string as on the cello, so shifting is inevitable. In addition to the two problems, the interpretation also plays a very important role.
The solution to the resonance challenge of this chord for bass players is to use harmonics. (as shown in Figure 5)

![Figure 5.](image)

Although using harmonics on note D and E will stop the D open string, it creates better resonance for this chord. Although shifting is inevitable, it is the best solution to play this chord as close to the cello.

2.2 Fingering Challenge

Another fact reflected in the tuning difference between cello and bass is that the cello has a wider interval range in the same hand position, which means that cello players can play a wider range of notes in a chord without shifting. Also, for the four-note chords in the Cello Suites, Bach often uses each string for a separate note and with the left hand in low positions without shifting. This makes the execution of the chords on the cello much easier than the bass. This “naturalness” of playing also aids in creating resonance in the chords on the cello.

But on the double bass, the interval range in the same finger position is narrower and the finger distance of a half step is much wider than on the cello. Therefore, shifting is often
inevitable when playing the chords of the Cello Suites on bass. Also, shifting stops the previous
note from sounding and will reduce the resonance. Shifting on the bass, especially large shifts,
always comes with intonation problems, so looking and finding the best fingering, and its
resultant sound, is always a big challenge for double bass players.

Furthermore, all the chords for the cello in the Suites can be played in low positions
easily, but sometimes when transferring the chords to double bass, we need to use the thumb
position very often and the hand shape can be very awkward. Bar 60-61 from the Prelude of
Suite IV is a good example to see and compare the difficulty of the left hand from the cello and
the bass. (As shown in Figure 6 and 7)

Cello:

![Cello notation and images showing hand positions from Bar 60-61 of Suite IV.](image)
According to the different hand sizes, there is no best solution for the fingering challenge. The only thing we can do is to reduce the difficulty. For example, finding a smaller size, shorter string length bass or lower the string to the finger board by lowering the bridge would be very helpful.

2.3 Bowing Challenge

Concerning the bowings for the chords in the Bach Cello Suites, there are musical and technical considerations. Since the Bach Suites were written specifically for the cello and its technique, cellists will have few technical problems, compared to the bass, and they can primarily focus on the musical interpretation. As mentioned in the fingering challenge section, the chords in the Suites often use a separate different string for each note on the cello and can
be done easily in one bow. No matter down bow or up bow, both can be done by moving the bow in just one direction from lowest string to highest string.

On the double bass, however, there is a major technical problem with the bowings. Because shifting is inevitable and sometimes the left hand position of the note on the lower string is higher up on the instrument than a lower sounding note on the higher string, the bow motion for double bass players sometimes needs to move from the higher string to the lower string and then back to the higher string in order to execute the chords (as shown on the next page). Unfortunately, the shifting of the left hand and the backward bow motion of the right hand cause bass players difficulties in playing the chords as smoothly as cello players.

Bar 7 from the Sarabande of Suite III is a good example to show the bowing challenge. On the cello, it is one different note per string, so the right hand can easily and smoothly play the chord from the lowest string to the top string. (as shown in Figure 8)

Cello:

![Cello notation image]

Figure 8.
Unfortunately, for bass players, the lowest note does not start from the lowest string, so we have to start from the second lowest string to the lowest string and then cross to the upper two strings (as shown in Figure 9 in the next page). Moreover, we still have to sound as smooth and easy as cello with the difficult bowing challenge.

**Bass:**

![Bass notation](image)

Figure 9.

In some other cases, bass players need to use separate bows to sound better than using one bow. Also, using up bow or down bow can make a big difference. Thus, the bowing challenge for bass players is to find the best bowing and fingering to sound as close to how it sounds on the cello.
CHAPTER 3

THE METHOD

As mentioned in the purpose section, the purpose of this project is to conquer the problems of playing chords caused by the tuning difference of the cello and bass and its influence in three areas: resonance, fingering and bowing. There are numerous possible solutions to these problems on the bass such as tuning the bass in 5ths so that it is tuned the same as the cello one octave lower, exploring any other retuning of one or two strings, by using the mechanical extension on the low string of the bass, or by playing a five-string bass. But, in this project only the use of the standard 4ths tuning bass is considered.

The method used here is divided into three sections. The first two sections include: (A) How it sounds on the cello: Looking at the historical interpretation of how the chords are played on the cello using the most authoritative edition by Bärenreiter; and (B) How to apply to the double bass: Looking at technical execution of how to apply those chords to the double bass. In addition, section (B) includes: Change the Key, Change the Octave, or Delete a Note, which are intended to give options of different fingering, bowing and interpretation. In sections (A) and (B), all options are tested on the double bass and comparing to the cello with the charts I made. At last, in section (C) Recommendation: I give the recommendation which is the most true to the cello, or the easiest and natural on the bass, and my personal DSC-recommendation (best recommendation from Der Shiuan Chen).

Step (A): How it sounds on the cello

Step (B): How to apply to the double bass
- Change the Key*, Change the Octave, or Delete a Note
- Fingering, Bowing
- Interpretation

Step (C): Recommendation
- Most true to the cello
- Easiest and natural on the bass
- DSC (Der Shiuan Chen) recommendation

Finally, the best DSC-recommendation on how to interpret and execute those chords on the double bass from select movements of the Bach Cello Suites is stated. However, the best recommendation for playing the chords will consider the playing position of the bass (sitting or standing) and the musical context (chord alone, with melody line on the top or in the middle, importance of the bass line at the bottom).

* Through years of exploring the Bach Suites on bass, the majority of bassists have settled on certain keys that best allow the bassist to conquer the significant technical challenges of playing the notes. Although this exploration still continues, the general international consensus is Suite I in G Major (same as cello); Suite II in d minor (same as cello); Suite III in G Major (cello is originally in C Major); Suite IV in D Major (cello is originally in Eb Major); Suite V in a minor (cello is originally in c minor though they tune their top string one step lower to execute the chords); Suite VI in D Major, though some movements are literally not playable on the normal tuned bass (cello is originally in D Major and written for a cello with an additional E string, a P5 higher than the normal top A string, to make the notes playable).
CHAPTER 4

EXAMPLES

In this chapter, I follow the steps in the method chapter to find solutions for the chords from select movements of the Bach Cello Suites. I divided the chords into three different kinds: (1) Chords without melody line or bass line, (2) chords with melody line, and (3) chords with bass line. By using the examples of bar 88 from the Prelude of Suite III, bars 9-10 from the Sarabande of Suite III, and bars 13-16 from the Sarabande of Suite IV.

The interpretation will be different according to the context. When there is a melody connecting the chords, players have to bring out the melody line clearly. Most of the time the melody line is on the top of the chords, but sometimes the melody line is in the middle of the chords. When there is a bass line connecting the chords, players also have to bring out the bass line clearly, by emphasizing the dominant note or the dissonant passing note in the bass line. When there are only chords without melody or bass line, players have to bring out the harmonic changes and the energy and the direction of the music.

Before discussing the three kinds of chords. I discuss the most common interpretations of the chords. On the cello, concerning interpretation of the chord, players only need to consider the music itself and the right hand bow motion; But on the double bass, one change of the interpretation of the chord will affect not only the left hand fingering but also the right hand bow motion. So, this is the fun part and also the difficult part of this project. I will give options of fingerings (different fingerings sometimes will have different bow motions) for the most common interpretations of the chords.
4.1 Different Interpretations

Interpretation is a very important and fun part in the music performance. The same written music can have many different interpretations. As well, the same written chords in the Cello Suites can have many different ways to be interpreted. I will use bar 59-63 from the Prelude of Suite II as an example (as shown in Figure 10), to show the five most common ways to interpret the chords.

*Cello & Bass*

![Figure 10](image)

There are five common ways of interpreting these chords: 1. Rolled, 2. Root + Interval, 3. Broken chord. 4. Arpeggiated, and 5. Improvised.

The first interpretation: Rolled is a very common way to interpret the chord. I divided the Rolled interpretation into 3 different kinds: a. All separate (play each note in the chord separately without overlapping each other), b. Overlap all (overlap the ending of the previous note with the beginning of the next note to create the sounding of the interval while overlapping), and c. Overlap the last two (the combination of the a. and the b., playing each note in the chord separately and only overlapping the ending of the second from the last note and the beginning of the last note). (as shown in Figure 11.)
1. Rolled (a: All separate/ b: Overlap all/ c: Overlap last two).

The example a. below is mostly used when the importance of each note in the chord is equal and it is desired to play the chord with the feeling of strumming. Usually, players will sustain the last note of the chord to connect the chords. (As shown in Figure 11-a)

When the players want to emphasize the intervals in the chord, they can choose the b. or c. interpretation. The b. interpretation brings out every interval in the chord and also brings out the harmony. Players can sustain the chord very long by overlapping every note with this interpretation. (As shown in Figure 11-b)
The c. interpretation is the combination of a. and b.. It brings out the feeling of the strumming and also brings out the harmony of the interval of the last two notes. Most of the time, players will not only sustain the last two notes, but also will emphasize and sustain the root note. With this interpretation, players can add more energy to the chords. (As shown in Figure 11-c)

1. Rolled
c: Overlap last two

![Figure 11-c.](image)

The second interpretation: Root + Interval. This interpretation is very similar to the previous one (1. Rolled, c: overlap last two). The difference is that this one totally overlaps the last two notes and creates a stronger sense of the interval. This interpretation is often used when players want to emphasize the root note in the chord, especially when there is a bass line needing to be emphasized (as shown in Figure 12). The last bar is a little bit different. It is a four-note chord, so after the players emphasize the root note, they will roll through the second note before playing the final interval.

2. Root + Interval

![Figure 12.](image)
The third interpretation: Broken chord. This interpretation can be seen as dividing the chords into intervals called Broken chord. This interpretation is often used when the players want to add more power and energy to the chords than when only overlapping or sustaining the last two notes. (as shown in Figure 13)

3. **Broken chord**

![Figure 13](image)

There is some discussion of broken chords needed between the three-note chord and the four-note chord. The three-note broken chord is divided into two intervals by repeating or sustaining the middle note; The broken chord of the four-note chord can be divided into two intervals (the bottom two notes and the top two notes) or be divided in to three intervals (the bottom two notes, the middle two notes and the top two notes) (as shown in Figure 13-1). For dividing the four-note broken chord into two intervals, it will sound more consistent with other three-note chords and can create the feeling of ending by sustaining the intervals longer with some ritardando; For dividing the four-note broken chord into three intervals, it will get more emphasis and energy than other chords and have a stronger feeling of ending also by sustaining longer with the ritard.
The other discussion of the broken chord is about the bowing. On the cello, they usually play the five last chords as it comes starting from the down bow (down-up-down-up-down) (as shown in Figure 13-2).

On the double bass, unlike the cello, our bow is shorter, strings are thicker and the fingering is more difficult, so it is not easy to play one chord in one bow or with just the up bow. So, there are several options for double bass players (as shown in Figure 13-3). For the broken chords divided into two intervals, using up-down for every chord with a retake can avoid running out of bow and sustaining the chord with the up bow. For the broken chords divided into three intervals, using down-up-down is the best option to keep the volume and the energy, and to create a strong feeling of ending.
The fourth interpretation: Arpeggiated is a good way to turn a simple chord into a decorative sounding chord. This skill is commonly used in the Baroque style. One chord can have at least over ten ways to arpeggiate it. The purpose of arpeggiating the chords is to add motion, direction and energy to the chords making it sound complicated and interesting. I will give the example of the most common way of how cello players arpeggiate these five chords (as shown in Figure 14 on the next page). The bowing of the arpeggiated chords is another big discussion and will have a lot of different options according to what note is emphasized and what grouping of the notes is liked.

4. **Arpeggiated**

The fifth interpretation: Improvised. It can be very interesting like the cadenza style to show the virtuosity of the player, or can either be very simple to show the simplicity of the music. It is similar to jazz music to improvise according to the chords written out. There is no
limitation to the improvisation, but it is better to improvise in the Baroque style using classic music language. For example, using melodies, scales, arpeggios to connect the chords in free tempo can be the way to do the improvisation. The most fun part of improvisation is that it will never be the same every time. It will change according to the player’s emotion at the moment. The improvisation can be the expectation and surprise for the audience. After performing again and again, the best version of improvisation can be written out as a cadenza for other players to play.

After introducing the five most common ways of interpretation of the chords: 1. Rolled, 2. Root + Interval, 3. Broken chord. 4. Arpeggiated, and 5. Improvised, players can have different options in different contexts. Later in this chapter I will focus on the 1. Rolled, 2. Root + Interval, and 3. Broken chord interpretation. When transferring the interpretation from the cello to the double bass, some difficulties will come up. Each interpretation will have different left hand fingerings and right hand bow motions. I will give different options of each interpretation and give my DSC- recommendation and also the recommendation which is most true to the cello or is the easiest and natural on the bass.

4.2 The G major Chord

In this example, I use bar 88 from the Prelude of Suite III, the C chord, which is a good example of showing how to transfer a chord from cello to double bass and how to find the best solution by listing out all the options. Also, I list the three most common ways that cello players use to play this chord. (as shown in Figure 15)
**Step (A): On the cello.**

On the double bass, we transfer the key from C major to G major (as shown in Figure 16). The idea is, to keep the bottom note and the top note as note G, and then, in these two octaves, to insert note B and note B. The chart in the next page has all the options. (as shown in Figure 17).

**Step (B): On the bass ( C major → G major )**
The idea of this chart is to reorganize the four-note G major chord by keeping the lowest note G and the highest note G in two octaves (as shown at the top left of Figure 17), and then insert the note B and note G in these two octaves. There are two note B’s and two note D’s in these two octaves and there are sixteen possibilities of combinations of these four notes as shown in the chart. There are some with the same results: No. 5 as same as No. 2, No. 9 as same as No. 3, No. 10 as same as No. 7, No. 13 as same as No. 4, No. 14 as same as No. 8, and No. 15 as same as No. 12. Thus, after simplifying the chart, there are ten different possibilities. Next, I divided the ten different possibilities into four different kinds: 1. With a major third
interval at the bottom, 2. With a perfect fourth interval on the top, 3. With a note missing to constitute a G major chord (there is one exception - I will explain in the next paragraph), and the last one 4. which are the combinations none of the above and are the good ones we need.

The first kind, with a major third interval at the bottom are No. 1, No. 2, No. 3, and No. 4. The reason I do not like this is that the major third played in the low register on double bass is very unclear to hear the harmony and also loses the original feeling of the chord when it is played on cello; The second kind, with a perfect fourth interval on the top are No. 4, No. 8, No. 12, and No. 16. The reason I do not like this is that the perfect fourth is a dissonant interval. In addition, it is not hidden in the middle of the chord, but on the top of the chord. So, when the players play this chord, the last sound ringing in the environment is the dissonant perfect forth. It also loses the original feeling of the major chord played on the cello; The third kind, with a note missing are No. 1, No. 3, No. 6, No. 11, and No. 16. To be more specific, this kind can be divided into two kinds: missing the third note or missing the fifth note. No. 6 and No. 16 are missing the third note; No. 1 and No. 11 are missing the fifth note. The reason I do not like this is mainly when it is missing the third note of the major chord which means it is just sounding like a perfect fifth interval (No. 6 and No. 16). However, in many compositions, not only on the classical style but also in the jazz style, leaving the fifth note in the chord on purpose is very common. It will not destroy the structure of the chord and can even improve the harmonic sounding of the chord. So, it is an exception when it is missing the fifth note in No. 11 (No. 1 also is only missing the fifth note, but it has a major third interval at the bottom); The fourth kind is the one we need without unclear and dissonant harmonies, which is No. 7. The reason is
that the structure and the notes of No. 7 are completely the same from the cello. Thus, there are only No. 7 and No. 11 left.

I also tested all ten possibilities on the double bass with several different fingerings in the context of the music. After testing, I found No. 12 is also a good option, but the only disadvantage is that there is still a dissonant perfect fourth sound on the top while performing. So, after all the process, in the chart, I delete every option with a major third at the bottom (to avoid sounding unclear), delete every option with a perfect fourth on the top (to avoid dissonant ringing), and delete every option missing the third note (which is only a perfect fifth interval) and one option missing the fifth note (as explained in the previous paragraph). Finally, after the selection, only two options are left (No. 7 and No. 11).

Next, I list the different fingerings and interpretations of No. 7 and No. 11 on the double bass for further discussion. (as shown in Figure 18)

The main point of playing the G chord on double bass, is the note D. It can be played by the open D string or the closed note on the A string. As shown in Figure 18, the open D string
has more resonance than the closed note on the A string, so using the open D string is the better option. However, the big shift is inevitable. The string crossing from E string to D string is also a challenge for the right hand, so the other option is to delete the fifth note. This not only solves the string crossing challenge of the right hand, but also gives the left hand more time to prepare for the big shifting. Thus, the first option is the most true to the cello because the structure and the notes of the chord are completely the same. Although we do not have two open strings to use for this chord to let it ring and resonate as on the cello, the use of the open D string and the G harmonic compensate for it the most; the second option is the easiest and natural on the bass because of the adjustment for the double bass players (by deleting the fifth note) solves the latency problem from shifting and string crossing, and also with an easier fingering. Also, the second option is my DSC-Recommendation. (as shown in Figure 19)

**Step (C): Recommendations**

Most true to the cello:

![Image 1](image1)

DSC-Recommendation/ Easiest and natural on the bass:

![Image 2](image2)

Figure 19.
4.2.1 Chords with Melody Line

In this example, I use bar 9-10 from the Sarabande of Suite III. There is a melody line within the chords, but the melody line is not on the top of the chords as usual, it is in the middle of the chords. For the interpretation, players have to sustain the notes of the melody line in the middle of the chords instead of sustaining the top note of the chords, and there are three common ways of interpretation. (as shown in Figure 20)

Step (A): On the cello.

(1)  (2)  (3)

Figure 20.

For this example, we need to transfer the key from C major to G major for the double bass. In order to play the (3) interpretation like the cello, the fingering is difficult, but it is still possible. (as shown in Figure 21)

Step (B): On the bass (a minor→e minor).

Figure 21.
If you choose the (1) and (2) interpretation, the fingering is easier. (as shown in Figure 22)

![Figure 22](image)

For my DSC-Recommendation, I will combine the fingering of all three. Although playing the first and the third chord on the D and A strings will sound dull, not as bright and projecting as playing on the G and D strings, but the intonation can be helped a lot by the use of the harmonic. So instead of playing all four chords on the G and D strings, I will play the first and the third chord on the D and A strings using the harmonic and play the second and the fourth chord on the G and D strings. (as shown in Figure 23)

**Step (C): Recommendations**

**DSC-Recommendation**

![Figure 23](image)

4.2.2 Chords with Bass Line

In this example, I use bar 13-16 from the Sarabande of Suite IV. The main point is the
bass line of the four chords in bars 15 and 16. For the interpretation, the key is to emphasize the bass notes. I have listed the three most common interpretations on the cello. (as shown in Figure 24)

**Step (A):** On the cello.

On the double bass, we transpose the key from Eb major to D major. For the (1) interpretation, emphasizing the root note can easily bring out the bass line. (as shown in Figure 25)

**Step (B):** On the bass (Eb major → D major)

For the (2) interpretation, it does not only emphasize the root notes, but also brings out the top intervals. (as shown in Figure 26)
For the (3) interpretation, it emphasizes more on the chords and the intervals. In order to bring out the bass line, emphasize the root note more when playing the lower intervals. (as shown in Figure 27)

For my recommendation, the first three chords I will recommend the (2) interpretation, because it can bring out the bass line and keep the energy of the chords. But for the fourth chord, I have a (4) interpretation (as shown in Figure 28), which emphasizes the perfect fifth as
a strong ending of the bass line and leaves the top note clear and bright, ready to connect to
the ending melody line. It is my DSC-Recommendation for this example. (as shown in Figure 29)

Step (C): Recommendations

DSC-Recommendation

Figure 28.

Figure 29.
CHAPTER 5

CONCLUSION

In this project, Interpretation, Fingering and Bowing build up a triangle affecting each other. (as shown in Figure 30) A fingering only serves for a particular interpretation; an interpretation needs to use a particular bowing; or to change both fingering and bowing to achieve a particular interpretation. The main point is, always set the interpretation that is wanted first, and then find the fingering and bowing that serve the interpretation best. As a conclusion, this project can explore possibilities of the double bass, can give bass players different options on playing chords in the Bach Cello Suite, and can inspire people to come up with other solutions.

Figure 30.

In this project, I only discuss the possibilities of using the double bass tuned in fourths which is the most common. In further research, there are many other options to explore. Which are 1. Tune the double bass in fifths, 2. Use other tunings (Scordatura), 3. Using the mechanical extension, and 4. Using the five-string bass.

For the first option, tuning the double bass in fifths is like learning a totally new fingering system for bass players. It needs time to get used to. The advantage is that the tuning
is the same as the cello tuned in fifths and most of the problems will be automatically solved, but the disadvantage is that it is almost like learning a new instrument and the large space between half steps in the low hand position can also cause problems when fingerling the chords; For the second option, use other tunings: it is easier than the first option. Instead of tuning all the strings differently, it only changes the tuning of the highest or the lowest string. Although bass players do not have to learn a totally different fingering system, they still need to get used to one string tuned differently; For the third option, using the Mechanical extension is an easier way to achieve the second option on the lowest string. By opening and closing the gates to change the note of the lowest open string instead of tuning up and down which causes intonation and logistical problems; For the fourth option, using the five-string bass: It is useful for some chords but is not as convenient as using the mechanical extension. All of the above are possibilities on the double bass and can become another topic for the further research.
BIBLIOGRAPHY


Bradetich, Jeff. Double bass the ultimate challenge. Moscow: Music for All To Hear, 2009.


