

Extreme Scoring

*Principles, Best Practices
and Techniques: Symphony Orchestra to
Chamber Orchestra*

Part of his Ph.D. Dissertation

Restructuring Classical Music

by

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Website: <https://restructuringclassicalmusic.com/chamber-orchestra/>

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1 Acknowledgements

Thanks go to my wife Suzy for proofreading these documents and for her faith and encouragement.

Thanks, in particular, go to my advisors at Leiden University and for the time that they have invested in me:

- Professor Dr. Marcel Cobussen, Professor of Auditory Culture
- Assistant Professor Dr. Anna Scott, Pianist-Researcher
- Dr. Jed A. Wentz, University Lecturer Musical performance practice before 1900, Historical acting and declamation.

Dr. Henri Bok, who gave me the idea to do this endeavor and introduced me to Dr. Cobussen.

Thanks for help on the percussion parts go out to Chuck Berkinshaw of the San Fernando Valley Symphony Orchestra and Vadim Karpinos of the Chicago Symphony Orchestra. Further thanks go to Grace Paradise, Broadway show harpist, for annotating the harp part.

Finally, thanks go to Leiden University for taking in this wayward clarinet player that likes to write music and has visions of what Classical Music can be.

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2 Overview

This document, comprising a part of Michael Drapkin’s (the “Rescorer”) Ph.D. dissertation, defines Extreme Scoring, and the techniques that he developed by rescoring several full symphony orchestra works for chamber orchestra for this dissertation. Included are the following measurable outcomes:

- It relates the Rescorer’s journey from being a pure performer to rescoring complex works based on full symphony orchestra scores and the steps that took place to arrive there, describing a career transformation from performer to writer and eventually becoming a rescorer of major symphony orchestra pieces for chamber orchestra.
- It defines the term “Extreme Rescoring.”
- It goes into an in-depth examination of Extreme Rescoring, including the identification of candidate works and criteria, enumeration and discussion of the various techniques, principles, and best practices that the Rescorer developed and identified based on the pieces that were rescored for this dissertation.
- The techniques and methodologies in this document were derived from rescoring four scores of major symphony orchestra works for chamber orchestra:
 - Mozart Symphony No. 40 – III. Menuetto
 - Rimsky-Korsakov: Capriccio Espagnol
 - Berlioz: Symphonie Fantastique
 - Strauss: Salome’s Dance of the Seven Veils
- Finally, it draws conclusions, lessons learned and measurable outcomes from the research completed.

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3 Foreword – The Rescorer’s Journey

I left my filial home in Los Angeles, California, USA in 1975 and travelled to Rochester, New York, USA at the end of high school to pursue my undergraduate degree in music performance¹ at the Eastman School of Music² and study the clarinet with D. Stanley Hasty.³ Mr. Hasty was considered one of the three top clarinet teachers⁴ in the United States, and at the time his students were members of the clarinet sections of many if not most of the professional symphony orchestras in the United States. My goal in attending Eastman and studying with Mr. Hasty was to pursue a career as a performing clarinetist with the eventual outcome of landing some sort of job playing in a professional orchestra. At the time, I had no interest in composition, music theory or even music history for that matter. I just wanted to play the clarinet!

During the summer of ’75, right before I started my salad days at Eastman, I attended the Aspen Music Festival in Aspen, Colorado, USA as a student participant. Aspen is also known as a premiere ski resort⁵ for the rich and famous, with roots as a silver mining town.⁶ My Los Angeles high school clarinet teacher Gary Gray⁷ was on the faculty at Aspen, and invited me to a summer of performance, study, and fun in Colorado before I went out East.

3.1 Trios

At Aspen, I discovered that a lot of the students played in restaurants during the summer for free meals and tips. I put a trio together with two clarinets and bassoon (including my lifelong friend Tom Hoczyk), and spent the summer playing arrangements of Mozart Divertimenti⁸ in a nice Mexican restaurant. I liked the way that the three voices combined, which had a surprisingly full timbre. But the literature available for trio was limited.

¹ Bachelor of Music in Applied Music: Clarinet. Abbreviated as B.M., A.Mu.: Clarinet.

² “About” on the Eastman School of Music website: <https://www.esm.rochester.edu/about/>

³ Stanley Hasty biography at the Eastman School of Music: <https://www.esm.rochester.edu/about/portraits/hasty/>

⁴ The other two being Leon Russianoff who taught clarinet at the Juilliard School in New York City, New York, USA (<https://www.dansr.com/vandoren/resources/three-20th-century-juilliard-clarinet-masters>), and Robert Marcellus, the former Principal Clarinetist of the Cleveland Orchestra and taught clarinet at Northwestern University in Evanston, Illinois, USA (https://en.wikipedia.org/wiki/Robert_Marcellus)

⁵ Aspen Skiing Company website: <https://www.aspensnowmass.com/we-are-different/about-us> One time we skied Aspen Mountain, there is no “easy” way down.

⁶ Aspen, Colorado on Wikipedia: https://en.wikipedia.org/wiki/Aspen%2C_Colorado. There are still many boarded up mine entrances around the town, including one right behind the Aspen Music School practice rooms. The original name for it was “Ute City,” named after the indigenous people of the Ute tribe and culture. The state of Utah is also named after the Ute Native American tribe.

⁷ Gary Gray biography: <http://garygrayclarinet.com/biography.html>

⁸ Originally for three basset horns: Fünf Divertimenti für drei Bassetthörner KV 439b (1783 - 1788)

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While at Aspen, I discovered that their bassoon faculty member Ryohei Nakagawa⁹ also wrote whimsical arrangements for two clarinets and bassoons that combined diverse material – classical, American folk tunes, etc. It gave me the idea that it was possible to expand the repertoire. See Figure 1.

Oh, My Favorite!!

R. Nakagawa

Moderato

Clarinet 1 in Bb

Clarinet 2 in Bb

Bass Clarinet in Bb

Figure 1: An example of one of Nakagawa's arrangements for trio: A combination of Stephen Foster folk songs and classical quotations. This can be heard at: <https://ccome.org/Nakagawa%20Oh%20My%20Favorite.mp3> At the very end can be heard excerpts from the Mozart Clarinet Quintet Op. 581, and several bassoon concerti.

3.2 Eastman Days

When I went off to Eastman, I put a trio together, and was engaged to play at a wedding in the Rochester area. The couple requested Bach's *Jesu Joy of Man's Desiring* for the ceremony, so I found an arrangement of it in three voices in Eastman's extensive Sibley Library.¹⁰ I hired a student to copy them into three parts for me (two clarinets and bassoon) which became my very first arrangement. Since I was paid by the wedding couple to do this, I instantly became a professional arranger. See Figure 2.

⁹ Ryohei Nakagawa bio and arrangements: <http://pipers.co.jp/e/nakagawa/index.html>

¹⁰ Eastman's Sibley Library is considered to be the third largest music collection in the United States; after the Library of Congress and the New York Metropolitan Library.

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Full Score

Jesu Joy of Man's Desiring

Cantata "Herz und Mund und Tat und Leben," BWV 147 (1716 -1723)

Johann Sebastian Bach (1685-1750)

Arranged by Michael Drapkin

Moderato (♩ = 78)

Clarinet 1 in Bb
Clarinet 2 in Bb
Bassoon

mp

Figure 2: My first arrangement: Jesu Joy of Man's Desiring for Two Clarinets and Bassoon. The full arrangement can be heard (for two clarinets and bass clarinet) at <https://ccome.org/mp3/bachjesu.mp3>.

It started me thinking about the idea of repurposing existing musical material for my own use. I did several more arrangements based on other material including a Haydn string quartet movement for three clarinets and bass clarinet, and I found an arrangement of Beethoven's Seventh symphony arranged for violin, cello and piano. I transposed the cello part onto bass clarinet.

Finally, during the winter break of my senior year when I was home in Los Angeles, I tried something extremely ambitious: I found a version of Richard Strauss's *Ein Heldenleben* Op. 40 in the Eastman Sibley Library arranged for solo piano and turned the Prelude into an arrangement for three bass clarinets and contrabass. When I returned for my final semester at Eastman, I got a group together to perform it in the Main Hall¹¹ (See Figure 4) of the Eastman School. It elicited two reactions: one of the clarinet teachers, William Osseck,¹² came up afterward and told me that my arrangement was terrific and that I should think about publishing it. On the other hand, the Director of the Concert Office inexplicably banned me from future Main Hall performances. See Figure 3.

In fact, I eventually fulfilled Mr. Osseck's suggestion, and it is published as a free download on my [bassclarinet.net](http://www.bassclarinet.net) website at <https://www.bassclarinet.net/product/ein-heldenleben-prelude-four-clarinets-and-bass-clarinet/>. It has been downloaded dozens of times by people around the world.

¹¹ Renamed Lowry Hall after late dean Douglas Lowry.

¹² University of Rochester obituary for William Osseck:
<https://www.rochester.edu/currents/V25/V25N16/story7.html>

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Ein Heldenleben - Prelude

Richard Strauss Op. 40
Arranged by Michael Drapkin

Lebhaft bewegt. (♩ = 116)

Clarinet 1 in Bb
Clarinet 2 in Bb
Clarinet 3 in Bb
Clarinet 4 in Bb
Bass Clarinet in Bb

Figure 3: Richard Strauss *Ein Heldenleben* opening bars scored here for four clarinets and bass clarinet but can be played without modification for four Bb bass clarinets and Bb contrabass clarinet, or four Eb Clarinets and Eb Alto Clarinet. You can see/hear a video of this performed by five players scattered around the world during the COVID pandemic and stitched together at <https://youtu.be/Yxbrl6CyqCU>.

3.3 New York City and Later

After I graduated from Eastman in 1979, I moved to New York City to seek my fame and fortune and play freelance music until I could land a full-time professional symphony orchestra job. During that period, from 1979 until I won a position with the Honolulu Symphony in 1982, I played with a variety of orchestras and opera companies. I became fascinated with the idea of rescoring pieces for that trio configuration, and most of the time I did my trio arrangements during down periods or after I did a performance of a piece that I particularly liked and wanted to keep playing, as it is much easier to get a trio together than a full symphony orchestra or opera company.

For example, when I would temporarily stay in Norfolk, Virginia, USA during opera productions with Virginia Opera, who frequently hired me, I had nothing to do between the rehearsals and performances and was quite bored – I didn't have a car, so I was stuck and isolated in one place.

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During one engagement with them I took it upon myself to do an arrangement of Magic Fire Music – the closing section from Richard Wagner’s massive opera *Die Walküre*. I used as my source a piano score. This was quite tedious, especially with Wagner’s expansive orchestration and chromaticism. But the result came out well. See Figure 5.



Figure 4: Saxophone ensemble performing in the Main Hall of the Eastman School of Music. This is where we premiered my arrangement of the opening of Strauss: *Ein Heldenleben* for four bass clarinets and contrabass clarinet. I was subsequently strangely banned from Main Hall performances. Photo copyright: Matthew Yeoman - Yeoman Photography.

During that period, I was engaged to play Principal Clarinet with the New York City Opera Touring Company, and we toured the US South performing a production of Giuseppe Verdi’s Opera *La Traviata*, which I performed many times. After I returned to New York City, I created arrangements of two of my favorite arias, *Parigi o Cara* and *Un di Felice, Eterea*, again using a piano score as a source. These were eventually published,¹³ along with an arrangement I made of the famous aria *La Donna e Mobile* from Verdi’s opera *Rigoletto*. See Figure 6.

As I shifted into using the Sibelius music notation program around 2001, getting digital versions of the pieces that I wanted to arrange took on more importance. The problem with using existing

¹³ Northeastern Music Publications. <https://www.bassclarinet.net/product/verdi-trios/>

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piano reductions in sheet music form was that I needed a way to get them into Sibelius so that I could perform the arrangement, and I didn't want to have to enter them manually, which is very time consuming. I used scanning programs, which aren't always accurate, and found rich libraries of existing files in MIDI format, which I could import into Sibelius. Finally, I decided to bite the bullet and make my arrangements from the original score.

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Magic Fire Music
from the opera *Die Walküre* (1870)
Richard Wagner (1813-1883)
Arranged by Michael Drapkin

Langsam (♩=72)

Clarinet 1 in Bb
Clarinet 2 in Bb
Bassoon

Figure 5: Magic Fire Music from Richard Wagner's opera *Die Walküre*, arranged for two clarinets and bassoon. A version for two clarinets and bass clarinet can be heard at: <https://ccome.org/mp3/Magic%20Fire%20Music.mp3>

La Donna e Mobile
Act III, Rigoletto (1851)
Giuseppe Verdi (1813-1901)
Arranged by Michael Drapkin

Allegretto (♩ = 138)

Clarinet 1 in Bb
Clarinet 2 in Bb
Bass Clarinet in Bb

Figure 6: Aria arranged for two clarinets and bassoon. This version uses bass clarinet and can be heard at <https://ccome.org/Verdi%20La%20Donna%20e%20Mobile.mp3>.

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3.4 Working from a Full Score

The first arrangement that I did directly out of a score was the March to the Gallows, the fourth movement from Berlioz's *Symphonie Fantastique*.¹⁴ I bought a copy of the score and worked through the rescore to try doing it directly out of the score. It was a new experience, but it worked, and the arrangement came out well. See Figure 8.

Ouverture
The Nutcracker Ballet

Pyotr Ilyich Tchaikovsky Op. 71 (1892)
Arranged by Michael Drapkin

Allegro giusto (♩ = 104)

Clarinet 1 in Bb
Clarinet 2 in Bb
Bass Clarinet in Bb

Figure 7: Recent arrangement for trio. This was written in 2018 and performed at the end of the year. This can be heard at <https://ccome.org/Nutcracker%20Ballet%20-%20Ouverture.mp3>.

¹⁴ Of course, this is one of the major works that I rescored for chamber orchestra. More on that later.

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March to the Gallows

from *Symphonie Fantastique*, Op. 14 (1830)

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Hector Berlioz (1803-1869)
Arranged by Michael Drapkin

1 **Allegretto non troppo** (♩ = 72)

Clarinet 1 in Bb

Clarinet 2 in Bb

Bass Clarinet in Bb

p

6 6

6 6

Figure 8: First trio arrangement made directly out of a full orchestral score. This can be heard at <https://ccome.org/mp3/March%20to%20the%20Gallows.mp3>.

I enjoyed the exercise of delving into the composer's score and the challenge of deconstructing their composition into a cohesive trio format, especially given how few instruments there are in a trio. My original arrangements were for two clarinets and bassoon, but later I started writing them with bass clarinet instead, and through the miracle of modern technology (Sibelius), I started creating versions for both bassoon and bass clarinet. Over the years I have found that the versions with bass clarinet are much more popular.

This was essentially a labor of love that I accumulated over a 40-year period, some of which were written relatively recently (see Figure 7). My trios come from symphony orchestra, concert band, opera, marches, and a few other musical literature sources, and they all have one unifying characteristic: I like the underlying piece. I ended up publishing two volumes of trio arrangements totaling 56 pieces, but did write many more as the published trios were all based on material that is in the public domain.

Most are easily playable, except probably for my arrangement of the entirety of Richard Strauss's tone poem *Till Eulenspiegel*. See Figure 9. Sometimes there are breathing and endurance challenges because of the difficulty of whittling down massive compositions into three voices. But they are all fun.

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Till Eulenspiegel's Lustige Streiche (Op.28 - 1895)

Richard Strauss, Op. 28 (1864-1949)

Arranged by Michael Drapkin

Gemächlich.

Clarinet 1 in Bb

Clarinet 2 in Bb

Bass Clarinet in Bb

p

pp

p

Figure 9: Till arrangement. I'm not sure it is playable, but as the joke goes, "it sounded good on the computer!" This can be heard at: <http://ccome.org/mp3/Till%20Eulenspiegel.mp3>

3.5 Writing for Strings

In 2002, I was engaged to play clarinet with string quartet at the cocktail hour for a wedding at Chelsea Piers¹⁵ on the Hudson River in New York City. The fee included a significant sum of money to arrange two pieces for clarinet and string quartet: *In the Light* by Led Zeppelin and *The Last Waltz* by the band. I had never scored for strings before and this was a big challenge for me being a wind player, plus these were both rock tunes.

This was kind of ridiculous – people talk and socialize during the wedding cocktail hour, which meant that nobody was going to be listening to these two tunes. But that is what the groom wanted and for which he paid me extra, and in retrospect he came by when we were playing and was very happy.

Getting complete scores to these two pieces was impossible – the only printed matter was piano reductions in song format. But I did find a MIDI file and that worked quite well. See Figure 10.

¹⁵ Chelsea Piers website: <https://www.chelseapiers.com/>

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In The Light
by Led Zeppelin

John Paul Jones/Jimmy Page/Robert Plant
Arranged for Clarinet & String Quartet
by Michael Drapkin

$\text{♩} = 100$

Clarinet in A

Violin 1

Violin 2

Viola

Violoncello

p *senza vibrato*

f [just make sure to be behind Violin 1...like an echo]

Figure 10: In the Light by Led Zeppelin, scored for Clarinet in A and String Quartet. A live performance of this piece by chamber group Music Amici can be heard at: http://www.ccome.org/In_The_Light.mp3.

Since then, I have written quite a bit for clarinet and string quartet and completed an entire series of all the major public domain clarinet concerti rescored for clarinet and string quartet. Three have been published and three will be published.

3.6 Writing for Full Concert Band

In 2003 I started a significant undertaking. I decided that I wanted to start writing for full concert band and began with my own Suite from Richard Strauss's opera *Der Rosenkavalier*. I didn't have any electronic version, and I composed the introduction right from the full opera score. It was exceedingly difficult, but it got me writing for large ensemble. See Figure 11.

This was to be recorded by the Wind Ensemble at Carnegie Mellon University in Pittsburgh, Pennsylvania, USA, conducted by former Pittsburgh Symphony Principal Trumpet George Vosburgh, but the COVID pandemic stopped that from happening.

Just like how Richard Wagner completed his *Ring of the Nibelungen* opera cycle over a 20-year period, something similar happened with me. While I composed the first section in 2003, fully intending on completing it later, it wasn't until 2017 that I finished the entire composition. In retrospect that was fortuitous, because in the intervening years I wrote many pieces for concert band. When I returned to finish this Suite, I was much more experienced at writing for full concert band, so the writing went much faster with better orchestration. The completed Suite will be

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premiered with the Wind Ensemble at Carnegie Mellon University with Vosburgh conducting when the pandemic is over, and things have returned to normal.

Der Rosenkavalier Suite for Band

Dedicated to the Carnegie Mellon Wind Ensemble - George Vosburgh, Director

Richard Strauss. Op. 59
Written for Concert Band by Michael Drapkin

I. Introduction

Con moto agitato $\text{♩} = 108$

1. Allegro ($\text{♩} = 132$)

Der Rosenkavalier Suite for Band, written between 2003 and 2017. The entire suite can be heard at: <https://www.drapkin.net/compositions/#band> (scroll down), as well as my other compositions for concert band.

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3.7 A March...

A couple years after that I “accidently” wrote an original piece of music – a march! At the time, my day job was working for a telecommunications company in New Jersey.

The Rabbi Chaplain's March
Dedicated to Chaplain Colonel Brett Carlton Oxman
Michael Drapkin

March Tempo ($\text{♩} = 120$)

The musical score is for a march in 2/4 time, marked 'March Tempo (♩ = 120)'. It is dedicated to Chaplain Colonel Brett Carlton Oxman. The score is written for a large band, including Flute 1, 2; Oboe 1, 2; Clarinet in B♭ 1; Clarinet in B♭ 2, 3; Bass Clarinet; Bassoon; Alto Saxophone 1, 2; Tenor Saxophone; Baritone Saxophone; Trumpet in B♭ 1; Trumpet in B♭ 2, 3; Horn in F 1, 2; Horn in F 3, 4; Trombone 1, 2; Bass Trombone; Euphonium; Tuba; Cymbals; Snare Drum; and Bass Drum. The key signature has one flat (B♭ major or D minor). The score features a variety of musical notations, including eighth and sixteenth notes, rests, and dynamic markings such as *ff* (fortissimo). There are also triplets indicated by a '3' over a group of notes. The percussion parts include cymbals, snare drum, and bass drum, with the snare and bass drum parts featuring a consistent rhythmic pattern.

Figure 12: My march, eventually named "The Rabbi Chaplain's March." Hear it at:
<https://ccome.org/mp3/The%20Rabbi%20Chaplain%27s%20March.mp3>

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I was standing with some colleagues at work that were musicians, and on the spot, I made a little ditty with the words, “Hurray, for IDT! They fill your life with so much misery!” That got me thinking about writing an IDT march with that as the opening theme. When previously I did some work for IBM Corporation, I found out that they had their own march, and I thought, “why not one for IDT?”

However, IDT was an Orthodox Jewish company, and I asked the CEO – Mordechai Lichtenstein – if he knew what a march was. He said no. I picked the wrong audience! When we moved to Austin, Texas, USA, I joined the Austin Symphonic Band, and I renamed the march “Hurray for ASB” in the hopes that they would adopt and perform it. That didn’t happen either. But I had a dear family friend that was a Rabbi and a chaplain in the US Air Force. When he was retiring as a full Colonel in 2014, I got the Navy Band of the West to perform it at his retirement ceremony. It then became, “The Rabbi Chaplain’s March” and finally got performed! See Figure 12.

Blue Shades

Frank Ticheli
Arranged by Michael Drapkin

With energy ($\text{♩} = 160 - 168$)

Flute

Oboe

Clarinet in Bb

Horn in F

Bassoon

Figure 13: Frank Ticheli's iconic concert band piece arranged for woodwind quintet. You can hear a studio recording at: <http://www.ccome.org/mp3/BlueShades.mp3>

3.8 Woodwind Quintet

As was the case with the pieces I was commissioned to write for the wedding at Chelsea Piers, a lot of my composition activities were “targets of opportunity,” meaning that I had an opportunity arise that I took advantage of to try something new. This was the case when I was living in Austin, Texas, USA. I co-founded a woodwind quintet called “Anime Winds” and I started writing for

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that group. I got us an invitation to perform at the South by Southwest¹⁶ music festival – one of the largest in the United States – for “emerging bands.” In addition to other pieces that I wrote for the group (see <https://www.drapkin.net/compositions/#ww5>), I transcribed Frank Ticheli’s¹⁷ highly popular concert band piece “Blue Shades.”¹⁸ This was extremely challenging. It came out great and composer Ticheli was very pleased with it. See Figure 13.

Free in Tempo
“Yahav Harut Eshav”
A Klezmer Set
Michael Drapkin

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Figure 14: A Klezmer Set, written for chamber orchestra. This can be seen and heard at: <https://youtu.be/fpYHJ3Bzc60>. Composer is playing the clarinet solo.

¹⁶ South by Southwest website: <https://www.sxsw.com/festivals/music/>

¹⁷ Frank Ticheli bio on Wikipedia: https://en.wikipedia.org/wiki/Frank_Ticheli

¹⁸ Blue Shades on the publisher website: https://www.manhattanbeachmusic.com/html/blue_shades.html

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3.9 Chamber Orchestra

In 2019, I was asked by a colleague to help organize a professional chamber orchestra in the Houston, Texas, USA area which was ultimately named the Texas Chamber Symphony.¹⁹ For our first concert, we wanted to premiere a new piece to mark the occasion, so I took the last three movements of my Suite of Old Yiddish Melodies,²⁰ which was written for concert band, and rescored it for chamber orchestra with the title “A Klezmer Set.” I knew that using these movements would work well, as the previous summer I was a guest with the Denver Concert Band, and we performed those last three movements. In this case, I was cannibalizing my own music. See Figure 14.

I had previously been asked by Peter Bay, conductor of the Austin Symphony in Texas, USA if I would be interested in rescoring my Suite of Old Yiddish Melodies for full symphony orchestra, but I never pursued it. But I did give some thought about how I would rescore it with the addition of an orchestra string section, so when I went to rewrite the last three movements for chamber orchestra, I already had these in mind.

All of this lead up to my thoughts about the potential future role of the chamber orchestra in the classical music world, as well as to the techniques that I ultimately developed for Extreme Scoring.

¹⁹ Texas Chamber Symphony website: <https://www.texaschambersymphony.org>

²⁰ Suite of Old Yiddish Melodies, as premiered by the Wind Ensemble at the University of North Carolina School of the Arts with James Kalyn conducting: <http://www.ccome.org/mp3/yiddishmelodies.mp3>

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4 Extreme Scoring Techniques

4.1 What is “Extreme Scoring?”

The term “Extreme Scoring is taken from another industry – technology – which uses the term “Extreme Programming.” Extreme Programming is defined as follows (from Wikipedia²¹):

“Extreme programming (XP) is a software development methodology which is intended to improve software quality and responsiveness to changing customer requirements. As a type of agile software development, it advocates frequent "releases" in short development cycles, which is intended to improve productivity and introduce checkpoints at which new customer requirements can be adopted.”

Computer programming (or software development, as it is also called) has been both an interest of mine and a previous profession, so methodologies like Extreme Programming are of interest to me. Indeed, I also published a programming book with major US publishing giant Van Nostrand Reinhold.²²

What struck me about the name Extreme Programming is that it evokes the term “Extreme sport”²³ which denotes a high degree of risk in sports. It was applied to technology, and a process – software development – which is the opposite of athletics: it is done sitting in front of a computer, and due to the iterative nature of software development, it closely follows the Deming Cycle or PDCA²⁴ (Plan, Do, Check, Act). Therefore, if there is a problem, you merely fix it and try it again, as opposed to Extreme sport mountain climbing, for example, whereas if you fall off a mountain, you’re done.

Like with software development, if you make an error when rescoring a piece of symphony orchestra music, you can correct it. If one really decided to follow the XP and Agile²⁵ model, one could rescore a section or movement of a piece, get an orchestra to test it, and correct and retest and move on. But given the cost and logistical issues associated with getting an orchestra together, that is largely impractical.

²¹ Extreme Programming on Wikipedia: https://en.wikipedia.org/wiki/Extreme_programming

²² *OS/2 Warp Presentation Manager Mentor: Foundations of PM Programming*: Michael Drapkin, Van Nostrand Reinhold (now Wiley), 1995.

²³ Extreme sport on Wikipedia: https://en.wikipedia.org/wiki/Extreme_sport

²⁴ PDCA on Wikipedia: <https://en.wikipedia.org/wiki/PDCA>

²⁵ Agile is an iterative product development model developed in 2001 that is usually associated with software development. See it defined on the Capterra website at: <https://blog.capterra.com/definition-of-agile-project-management/>

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In concert with the term “Extreme Scoring” throughout these dissertation documents, the term “rescoring” is used instead of “arranging.”

When coming up with an aggregate name for my rescoring techniques, I thought of the name “Extreme Scoring,” even though there is nothing extreme about it, but it is catchy and a good future book title.

4.2 Selecting Symphonic Works for Rescore

This section deals with the issue of the criteria used for picking a candidate symphony orchestra piece and rescoring it for chamber orchestra, as well as practical aspects.

4.2.1 What is a Chamber Orchestra?

Any discussion of rescoring for chamber orchestra needs to start with a definition of what a chamber orchestra is:

- According to Grove Music Online,²⁶ a chamber orchestra is “A small orchestra of a few strings on each part and selected woodwind and brass.”
- According to Dictionary.com,²⁷ a chamber orchestra is “a small orchestra, commonly of about 25 players.” This aligns with the chamber orchestra sizes I have selected in my rescorings in this dissertation.
- According to the Oxford English Dictionary,²⁸ a chamber orchestra is “a small orchestra, typically comprising fewer than forty musicians.”
- The Cambridge Dictionary²⁹ merely defines a chamber orchestra as a “small orchestra.”

A full orchestra usually goes by the name “Symphony Orchestra” or “Philharmonic.” A chamber orchestra usually goes by the name “Chamber Symphony” or “Chamber Orchestra.” Just to make it ambiguous though, both may go by the name “Symphony.”

²⁶ Definition of Chamber Orchestra at Grove Music Online:
<https://doi.org/10.1093/gmo/9781561592630.article.05381> This service is by subscription only.

²⁷ Definition of Chamber Orchestra at Dictionary.com: <https://www.dictionary.com/browse/chamber-orchestra?s=t>

²⁸ Definition of Chamber Orchestra at the Oxford English Dictionary: <https://www-oed-com.ezproxy.leidenuniv.nl/view/Entry/30330?redirectedFrom=chamber+orchestra#eid137091677> This service is by subscription only.

²⁹ Definition of Chamber Orchestra at the Cambridge Dictionary:
<https://dictionary.cambridge.org/us/dictionary/english/chamber-orchestra>

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However, the common differentiator between a symphony orchestra and a chamber orchestra is the word “small.” One can go further and aver that the difference between chamber music and chamber orchestra is that a chamber orchestra uses a conductor, and chamber music does not.³⁰

4.2.2 Size Determination

The size of the chamber orchestra may vary depending on a number of factors:

- A composer may specifically identify the instrumentation to be used in a piece, in particular with the winds, brass and percussion. Strings tend to stay the same, but sometimes the composer will specify the quantity in each section. This will often determine the number of players required in an orchestra (or any ensemble, for that matter). When I compose a piece, I arbitrarily specifying the instruments I want available, such as bass clarinet. Other pieces may not have bass clarinet. For an example, see Figure 15.

Orchestra

3 Flauti (3^e anche piccolo)
3 Oboi (3^e anche corne inglese)
3 Clarinetti in La, Si b, Do, Re e Mi b
Clarinetto basso (anche corno di bassetto)
3 Fagotti (3^e anche contrafagotto)
4 Corni
3 Trombe
3 Tromboni
Tuba bassa
Timpani
Gran Cassa, Piatti, Triangolo, Tamburino,
Glockenspiel, Tamburo rullante, Tamburo militare,
Campanelle, Castagnetti
Celesta
2 Arpe
†16 Violini I
†16 Violini II
†12 Viole
†10 Violoncelli
†8 Contrabassi

Bühnenmusik (3. Akt). Off stage (3rd Act)
Derrière la scène (3 Acte).

2 Flauti	2 Corni	2 Violini*
1 Oboe	1 Tromba	Viole
1 Clarinetto in Do	1 Tamburo piccolo	Violoncelli
2 Clarinetti in Si b	1 Harmonium	Contrabassi
2 Fagotti	1 Pianoforte	

* Fünf sehr gute Solisten mit klangvollen Instrumenten oder in reichlicher Verdoppelung (nur nicht je zwei).
Either five very good soloists with good instruments or sufficiently doubled, but never two each.
Cinq solistes avec des instruments sonores ou suffisamment doublés, mais jamais deux.

† Es ist den Ermessen des Dirigenten überlassen, an Stellen, wo die vorgeschriebene Streicherbesetzung die Deutlichkeit des auf der Bühne gesprochenen Wortes beeinträchtigt, die Anzahl der spielenden Pult zu ermässigen.
The Conductor will reduce the number of strings in passages where the audibility of the words requires it.
Afin d'assurer la clarté des paroles dans certains passages, le chef d'orchestre réduira le nombre des cordes.

Figure 15: Original fourth page of the score to Richard Strauss's Opera *Der Rosenkavalier*, Op. 59. Here he specifies the specific instruments in the orchestra, as well as the number of strings, resulting in an exceptionally large pit orchestra. But he graciously mentions in a note at the bottom that the conductor can reduce the number of strings playing in passages where they are covering up the singers.

³⁰ One exception to the conductor rule is the Kaleidoscope Orchestra of Los Angeles. They perform large symphonic works, like those of Gustave Mahler, without conductor. <https://www.kco.la/>

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While the orchestration that a composer decides to use determines who will play in the orchestra, full time professional orchestras generally retain a group of players on salary. That roster is independent of any one piece, meaning the players for a particular work are drawn from the pool of musicians employed in the orchestra. If a piece calls for types or quantities of certain instruments that are not present in the roster of regular full-time players, then the orchestra either must pay to hire substitute players, or they may skip performing that piece due to financial constraints. Arnold Schoenberg's cantata *Gurre-Lieder*³¹, for example, calls for approximately 150 instrumentalists and 200 singers, which means production costs are highly prohibitive. Therefore, it is rare to see this massive piece appear on programs except with high budget arts organizations or in colleges, where most of the participants are not paid.

- The artistic director (conductor) may unilaterally decide to change the size of the string section and make it smaller or larger according to their taste and concerns about balancing the relatively small number of strings against the wind and percussion section.
- Financial constraints may also determine the size of the chamber orchestra. Resources may limit the number of players. When I was involved in founding the Texas Chamber Symphony, we spent some time analyzing what was the smallest chamber orchestra size that we could efficiently and effectively use, and this partly determined the orchestration that I used when rescoring symphony orchestra scores for chamber orchestra. Each additional player cost us more money, and this was extremely critical in a nascent emerging arts organization operating on a shoestring budget.

4.2.3 Practicality/Potential for Rescore

Before attempting to rescore a symphonic work for chamber orchestra, the practicality of doing so needs careful assessment, and there are several factors to be considered:

- Is the piece just too big to be rescored? Perhaps the piece is just too massive to rescore, like the Schoenberg: *Gurre-Lieder* mentioned earlier, or Richard Strauss's *Symphonia Domestica*, which calls for 108 musicians. My initial thought was that Berlioz's *Symphonie Fantastique* was going to be too big, but upon close examination, the orchestration was relatively simple due to the fact that it was written in 1830, which made it Early Romantic – much more transparent than the Late Romantics like Richard Strauss which called for massive orchestras using a large variety of wind instruments.
- Does it call for instruments that are critical to the piece that are not included in your chamber orchestra instrumental configuration? When I rescored Rimsky-Korsakov: *Capriccio Espagnol*, I initially tried to score it without harp as it wasn't part of what I considered a basic chamber orchestra instrumentation, but I ultimately felt that I needed to include the harp to retain what I believed to be the essential timbre of the work. Same thing

³¹ Schoenberg's *Gurre-Lieder* on Wikipedia: <https://en.wikipedia.org/wiki/Gurre-Lieder>

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when I rescored Strauss: *Salome's Dance of the Seven Veils*. I realized that including celeste was required to rescore it and retain the magical quality of Strauss's orchestration.

- Can the piece be rescored while maintaining the underlying orchestrational timbre that the composer originally intended? Some compositions require too many of certain instruments to be successfully rescored, such as Richard Strauss's tone poem *Ein Heldenleben* Op. 40, which has 8 horn parts. Another example is in Béla Bartók's orchestral showpiece *Concerto for Orchestra*.³² His orchestration makes great use of soli sections featuring harmonized instruments, such as is shown in Figure 16.



Figure 16: Trumpet soli in Bar 38 of the first movement (Introduzione) of Bartók's *Concerto for Orchestra*.

It would be exceedingly difficult to replace one or more of the trumpet parts with other instruments without losing the tone of the work. This would become insurmountable in his second movement, *II. Giuoco Delle Coppie* (a Game of Pairs) that literally features soli pairs of bassoons, oboes, clarinets, flutes, and trumpets. By the time additional players were added to create these pairs, the rescore would be too big to qualify as a chamber orchestra. These are but a few examples from that piece. Therefore, I personally would not attempt to rescore *Concerto for Orchestra* for chamber orchestra even though it is a terrific symphonic work that is great fun to perform.

- Another issue that could potentially impact the selection of a symphonic work for rescore for chamber orchestra is the amount of complex polyphony. I mention this because I tried to rescore the Allegretto (2nd) movement of Beethoven's 7th Symphony for trio and ran into too much polyphony. Later I successfully rescored it for woodwind quintet, probably just to prove to myself that I could rescore it. This can probably be overcome in an ensemble the size of a Chamber Orchestra, but it could still prove to be a problem. See Figure 17.

³² Bartók *Concerto for Orchestra* at Wikipedia:
[https://en.wikipedia.org/wiki/Concerto_for_Orchestra_\(Bart%C3%B3k\)](https://en.wikipedia.org/wiki/Concerto_for_Orchestra_(Bart%C3%B3k))

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Allegretto

Allegretto $\text{♩} = 76$ Symphony No. 7 in A Minor, Op. 92 L. Van Beethoven
Arranged by Michael Drapkin



Figure 17: Beethoven 7th Symphony Allegretto (2nd Movement), rescored for woodwind quintet. Beethoven's polyphony was a challenge. This can be heard at: <http://www.ccome.org/mp3/Beethoven%207th%20nd%20movement%20-%20%20quintet.mp3>

4.3 Sourcing Digital Scores

Unless you really *like* to write scores by hand into manuscript paper using a pen, or are a technology Luddite,³³ you will want to use one of the two market leaders in music notation software: *Sibelius* and *Finale*. Both are the modern music calligraphical equivalents of word processors like Microsoft Word, with a lot of music-specific functions built in, such as knowing how to transpose from one instrument to another through drag and drop, warnings about exceeding instrument ranges (note heads turn red), and the ability to audibly render what you see on the screen, as well as export it. While both provide digitally sampled sounds with their products, some of the third-party sound libraries and systems create truly remarkable renderings.

But that is the easy part. The difficult part is getting a score into your notation program so that you can focus on rescoring. That means finding scores already in digital format, importing them from other formats or creating them yourself. The examples I give below use *Sibelius* in the discussion, but these apply to *Finale* as well.

³³ *Luddite*, as defined on Wikipedia: <https://en.wikipedia.org/wiki/Luddite> See the section at the end under Modern usage.

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4.3.1 Import Formats

In order to pull scores into your notation program, the original score needs to be in one of these formats:

- **Printed Score:** This is the traditional source but the least useful when it comes to moving scores into a notation program. It will need to be manually copied into the computer, or it will have to be scanned. More on that below. When creating the sample symphony orchestra pieces used in this document, I had to both scan (Berlioz: *Symphonie Fantastique*) and copy scores into the computer (Strauss: *Salome's Dance of the Seven Veils*). Both were highly time intensive.
- **Hire a copyist.** Pay someone that knows Sibelius or Finale to enter scores for you. I paid someone that I found online to enter most of my Strauss: *Salome's Dance* score into Sibelius. Information on how to find copyists is in the next section.
- **PDF – Adobe's Portable Document Format.** A lot of scores are available in this format because people scanned them and created PDF files. The good part of this is that PDF files are, well, portable! They can be stored on computers, retrieved, transferred, and emailed. The problem with PDF is that they may be digital, but that format is not *usable* directly by notation programs. Something needs to convert them from the PDF vector-based format into Sibelius format.
- **OCR – Optical Character Recognition.** There are programs that let you either scan physical scores using the flatbed scanners that are part of common all-in-one printer/copier/scanners, or they will also scan directly from PDF files. This is discussed in greater detail in Section 4.4.3.4 Getting the Score into Sibelius
- **MIDI - stands for Musical Instrument Digital Interface.** This is a digital format that allows music to transfer between musical instruments, like digital keyboards, to devices like digital modules and samplers and output the music as audio. It is also a standard plug and cable format for connecting these devices electronically. The music can be stored in MIDI format in computer files, which allow them to be transferred from one place to another. I created my arrangement of *In the Light*, by Led Zeppelin by finding a MIDI file that someone created of the original song. Sibelius knows how to interpret MIDI data and pull it into a score where it can be edited. Given that MIDI files are created by people of various skills, the quality of the MIDI files may vary.
- **MusicXML:** This is an open standard format for exchanging digital sheet music.³⁴ Sibelius and Finale both support importing and exporting music by creating files in MusicXML format, but in practice they work only okay. Neither firm wants to make it easy for you to have music created in their program to work on another program, so they don't do it well. But sometimes it is better than nothing.

³⁴ MusicXML website: <https://www.musicxml.com/>

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- Native Sibelius or Finale Files. This is the absolute best solution but the most difficult to find. These files are in the notation program's internal data format, so they can be opened without modification. In the case of the Berlioz, this is discussed in greater detail in Section 4.4.3.4 Getting the Score into Sibelius

4.3.2 Sources

While there are various digital formats of scores that have varying challenges for getting them into your computer notation program, there are a variety of sources in which to find these files.

- The best place to find PDF files of scores is at IMSLP.org. Since the scores are all free to download, they are mostly in the public domain, or at least in the public domain on the IMSLP server in the country where they are stored.³⁵ Remember that the US and Europe have different rules for what constitutes public domain music.

For example, as of the time of writing this, in the US anything that was written before 1924 is considered public domain. In Europe, it is based on the death of the composer plus 70 years. When I wanted to publish my arrangement of Strauss: *Till Eulenspiegel* for two clarinets and bass clarinet, which was written in 1894-95, it was okay in the US because it was public domain here. But since Strauss died in 1949, it wasn't until 2019 that it became public domain in Europe. But the opposite is true with Strauss's Four Last Songs. It was written in 1948, so it went into the public domain in Europe in 2019. But it is still copyright in the United States, so if I want to rescore it for chamber orchestra in the US, I need permission from publisher Boosey & Hawkes and then permission from the Strauss estate.³⁶ This is confusing, and the point here is that just because you can obtain a PDF of a score, you can't necessarily legally use it or publish it.

But a PDF cannot be loaded directly into a notation program. A PDF needs to be transformed into the program's digital format, and that will likely require OCR. Also remember that a PDF is only as good as the quality of the scan and/or score inside it. They may be of great quality or they may be barely legible. IMSLP allows community ratings on individual scores, so it gives you an idea of what you may be getting.

- MuseScore (<https://musescore.com>) has a library/community where people upload and download scores of all kinds in a variety of digital formats, including for Sibelius and Finale. For this site to be useful, a paid subscription is required. This is the place where I found Sibelius versions of the Mozart: *Symphony No. 40*, and for Rimsky-Korsakov: *Capriccio Espagnol*, which was a huge timesaver.

³⁵ IMSLP maintains servers in various parts of the world to avoid copyright liability.

³⁶ In fact, I got the idea of rescoring Strauss's Four Last Songs (Vier Letzte Lieder, Op. posth. for chamber orchestra and obtained permission from publisher Boosey & Hawkes, but they told me that the final rescored version would need to be approved from the Strauss estate by submitting a completed score.

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- Classical Archives (<https://www.classicalarchives.com>) claims to be “The Largest Classical Music Site in the World.” They have been a good source for MIDI files in the past. A subscription is very inexpensive. They may not be likely to have the full orchestral score that is needed.
- Google. I usually end up here when I have exhausted other resources but am not ready to hire someone or manually enter the score myself. By carefully or cleverly setting your search terms, you may find the file you are looking for, or uncover another repository of the types listed above.
- If you need to get a score into your notation program and cannot find one online or have been unsuccessful at scanning a PDF of a score, you can always hire a music copyist to enter the score for you. They can also proofread your score before you start to rescore it, so that you don’t carry errors into your chamber orchestra version. The costs are usually calculated per page as well as density of the music on the page and vary wildly in cost.

The most expensive copyists are the ones you find online using Google searching. They may be professionals, but the costs have always been prohibitive and will likely cost thousands of dollars (or whatever currency you use) to enter a single score.

You can also try word of mouth (such as posting a requirement on Facebook if you have a good-sized network) or posting on job boards at music schools.

Other resources that I found particularly useful for sourcing copyists are websites like Guru.com that provide exchanges between freelancers of all types and people looking to hire freelancers. I posted a listing looking for someone to “Transcribe score into Sibelius” and got a surprising number of responses with a wide variety of prices and respondents located everywhere from Africa (a choir director/organist in Kenya) to people in the US and Europe.

I ended up selecting a copyist that lives in rural Nebraska (so I can assume his rent is low) that is a pianist and has done rather good work for me. I hired him to finish entering my score to Strauss: *Salome’s Dance of the Seven Veils*, to proofread my Berlioz: *Symphony Fantastique* score, as well as to proofread other projects of mine – four jobs altogether now, and I will probably use him again. It cost me \$300 to finish entering my Strauss score and \$296 to proofread my Berlioz score. Both represent significant amounts of tedious work, and it was money well spent. There are probably other exchanges like this on the internet where copyists can be found. *Caveat emptor*, but in my case the copyist from Guru.com sent me the first two pages of the Strauss score. I had to pay him, but it was credited to the rest of the job.

- Enter it yourself. For me, this is the last resort, and it is what I did with my Strauss: *Salome’s Dance of the Seven Veils* score until the tedium overcame me and I ended up finding my rural Nebraska copyist on Guru.com and hiring him to finish the job. Even if

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you bite the bullet and enter it yourself, for quality assurances you should have another pair of eyes inspect what you have done to keep mistakes at a minimum.

4.3.3 Quality Control

Once you have a score in Sibelius or Finale, how do you know if it is correct? The notation programs do provide some help by highlighting when a note is out of range for a particular instrument or collisions between objects on the page, but they aren't going to tell you if you have wrong notes. There are essentially two ways to perform your own quality control (I do both):

1. Make additional passes through the score comparing the original score with what you have in Sibelius or Finale. The challenge here is that it is difficult to maintain concentration over a long period of time while proofreading, and it is quite easy to miss something.
2. *Listen* to your score by having your notation program play it for you while you watch the score on the screen. For me, this is probably the *most* effective way of finding mistakes. Most of the time I *feel* rather than hear a problem and immediately stop the playback so that I can uncover the error. Then it is a matter of narrowing down where the problem is. It can then also be validated against the original score.

Since I have two large monitors on my desktop computer, I usually have the notation program on one monitor and the original score on the other.

Another important principle of quality assurance is to have someone else proofread your score for you, and as mentioned before it is important to do this before you rescore the work, otherwise you will be propagating errors into your rescored work. While most of the engagements in which I hired the copyist from Guru.com were to do proofreading for me, sometimes you can get friends to help.

For example, when I rescored Carl Nielsen's *Clarinet Concerto* Op. 57 from solo clarinet and full orchestra to solo clarinet, string quartet, contrabass and snare drum, I sent the clarinet part out to several friends that are professional clarinetists. They immediately found some minor errors, as they know the part literally from memory. But don't expect to find friends to proofread entire scores – that is asking a lot. Better to ask them to do something small and be grateful for the help you get. Proofreading is like moving to a new home: it takes a really dedicated friend (or conscripted family member) to help you with either one.

4.4 The Rescored Symphonic Works

The following are the symphonic works that were rescored in conjunction with this dissertation, and from which the Extreme Scoring techniques were derived. They were selected because they represent a cross-section of orchestral writing from the Classical Period to the Late Romantic, and

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composers that are Austrian, Russian, French, and German. More detail can be had regarding selection in the discussion of each work.

4.4.1 Mozart Symphony No. 40 in G minor, K.550 (1788)

4.4.1.1 YouTube Link

YouTube: <https://youtu.be/iuJTPaNUpps>

4.4.1.2 Why Did I Pick This Piece?

I rescored this piece as a quick “warm-up” to get a feel for the rescoring process before tackling the bigger symphony orchestra pieces included in this dissertation. Additionally, when I rescored this, it was going to be performed as a stand-alone movement with the Texas Chamber Symphony in Houston, Texas, USA in a concert in early 2020, but the COVID pandemic prevented that, plus I eventually withdrew from the organization.

This was an easy movement to rescore, and it only took me one evening to do the entire thing. Indeed, it only meant eliminating a couple of the winds. In general, symphonies from the Classical Period (Haydn, Mozart, etc.) don’t need much - if any - rescoring to be performed by chamber orchestra, and many orchestras are using these types of pieces during the pandemic so that they can maintain social distancing on stage with a minimum number of players – and hire less musicians. They are often paired with conducted chamber ensemble pieces like the Stravinsky Octet, Dvorak Serenade, etc.

The Mozart G Minor Symphony was on one of my first orchestra concerts,³⁷ and I particularly like this movement with its driving hemiola opening theme in minor and use of counterpoint, balanced by excursions into major by the woodwinds in a sort of question-and-answer format. It is in the traditional minuet/trio structure in g minor.

Many of my editing comments below refer to formatting and issues specific to my Sibelius notation program. Much of this was done while deciding how I wanted to address formatting and are not included in my later restructuring works as they became standardized.³⁸ See Section 4.6.3 Editing and Notational Practices.

4.4.1.3 Instrumentation - 16 Players

³⁷ With the Santa Monica (California) Youth Symphony in 1974. Other pieces included Wagner’s Overture to Die Meistersinger and the Saint-Saëns Cello Concerto No. 1 with Los Angeles cellist Jeffrey Solow. It also was the first time I performed using a Clarinet in A, which precipitated my purchasing one.

³⁸ I use Evernote for aggregating notes – I have a note with a list of items that I need to do when I format scores and parts as well as other similar notes. <https://evernote.com/>

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1. Flute
2. Oboe
3. Clarinet 1 & 2 in B \flat
4. Bassoon
5. Horn 1 & 2 in F
6. 4 Violins (Violin 1, 2)
7. 2 Violas
8. 2 Celli
9. Contrabass.

4.4.1.4 Other Comments

- The original orchestration calls for flute, 2 oboes, 2 clarinets, 2 bassoons, 2 horns, violin 1, violin 2, viola, cello, bass. This exists in two different versions: one with two clarinets and one without. The clarinets were probably added in a later version.³⁹ The orchestration that I used is the one that includes the clarinets and more closely matches my target chamber orchestra instrumental configuration.
- This meant eliminating one of the oboes and one of the bassoons.
- Performance time is approximately 5 minutes.

4.4.2 Rimsky-Korsakov Capriccio Espagnol Op.34 (1887)

4.4.2.1 YouTube Link

YouTube: <https://youtu.be/aqi82VszShg>

4.4.2.2 Why Did I Pick This Piece?

This is a great piece from the Russian/European Romantic Period, a classic and an orchestral showpiece for full symphony orchestra and fun for the audience. It also has some *terrific* clarinet solos that every clarinet player studies in college and often comes up on orchestra auditions. I took on a huge challenge with this piece - rescoring a showpiece written for full symphony orchestra and pulling it off with chamber orchestra. Since it was written in 1887 it is in the public domain.

³⁹ Zaslaw, Neal (1983). *Introductory notes to a recording of the 31st and 40th Symphonies made by Christopher Hogwood and the Academy of Ancient Music, Oiseau-Lyre 410-197-2*

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It is such a pleasure to perform! I have only performed this once,⁴⁰ but would love to perform this again, and getting a chamber orchestra together would be much easier than assembling a full symphony orchestra.

4.4.2.3 Instrumentation (note some of the doubles) – 23 Players

1. Flute/Piccolo
2. Oboe/English Horn
3. Clarinet 1 & 2 in A and B \flat
4. Bassoon
5. Horn 1 & 2 in F
6. Trumpet in C
7. Trombone 1 & 2
8. Tuba
9. Timpani/triangle
10. Percussion (1 player) on snare, cymbals, castanets, bass drum, tambourine, triangle
11. Harp
12. 4 Violins (Violin 1, 2)
13. 2 Violas
14. 2 Celli
15. Contrabass.

4.4.2.4 Other Comments

- The original orchestra calls for piccolo, 2 flutes, 2 oboes (one doubling on English Horn), 2 clarinets in A & B \flat , 2 bassoons, 4 horns in F, 2 trumpets in A & B \flat , 2 tenor trombones & bass trombone, tuba, timpani, tambourine, triangle, bass drum/cymbals, tambourine/castanets (5 separate percussion parts), violin 1, violin 2, viola, cello, bass.
- This meant eliminating 2 flutes (one player to double flute and piccolo), 1 bassoon, 2 horns, 1 trumpet, 1 trombone, 4 percussion (assuming that 5 players would play the separate percussion parts in the original).
- I originally thought that I could eliminate the harp and keep the number of players in the chamber orchestra at 22 players, but in retrospect I needed to have it to retain the aesthetics of the orchestration, especially the harp cadenza.
- The performance time is approximately 14 minutes.

⁴⁰ I performed this once with the Honolulu Symphony in 1983 on one of our inter-island community concerts. The Principal Clarinetist could not perform at one of the concerts, so as the Assistant Principal Clarinetist, I was tapped to play the 1st clarinet part – with no rehearsal.

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4.4.3 Berlioz: Symphonie Fantastique Op. 14 (1830)

4.4.3.1 YouTube Link

YouTube: <https://youtu.be/UdR1b8nFJ4c>

4.4.3.2 Why Did I Pick This Piece?

This is one of the great orchestral showpieces for full symphony orchestra from French composer Hector Berlioz from the early romantic period. It is fun to play, great to listen to and (to no surprise) has some great clarinet solos⁴¹ that every orchestra clarinetist studies. While it is a huge piece with great orchestration, it is also a bit easier to rescore than the later romantic composers that tended to include large numbers of instruments and enormous numbers of players in their orchestration. Since it was published in 1830, it is also in the public domain. Even though it was written over 190 years ago, the subject matter of the programmatic aspects of the work are still contemporary – a young man struggling with drug abuse and his infatuation with a woman.

4.4.3.3 Instrumentation (note some of the doubles) – 23 Players

1. Flute/Piccolo
2. Oboe
3. Clarinet 1 & 2 in A and Bb, Clarinet 1 in Eb (last movement)
4. Bassoon
5. Horn 1 & 2 in F
6. Trumpet in C
7. Trombone 1 & 2 (often covering Horn 3,4)
8. Tuba
9. Timpani/triangle
10. Percussion playing timpani 2 in the 3rd movement
11. Harp
12. Violins (Violin 1, 2)
13. 2 Violas
14. 2 Celli
15. Contrabass

4.4.3.4 Getting the Score into Sibelius

This piece took many months to enter into the computer and rescore. Unlike with the Mozart and Rimsky-Korsakov reductions I had already completed, I had trouble finding a version of this piece that was already in Sibelius⁴² digital format. I needed a copy of the original score in Sibelius file format, and that was exceedingly difficult.

⁴¹ You can hear my rendition of the clarinet solo in the slow movement at [Drapkin Berlioz Slow Movement Solo](#). This was a guest Principal Clarinet performance with the Norwalk Symphony in Connecticut, USA.

⁴² Sibelius – along with Finale, one of the two major music notation programs. <https://www.avid.com/sibelius>

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I did finally locate a version of the score in Sibelius format at the Association Nationale Hector Berlioz in France, but they refused to share it with me, even though I was polite to the French and even said “please”. What I ended up doing instead was to scan a PDF of the score⁴³ using the PhotoScore Ultimate software,⁴⁴ which will scan music into digital form, either from a flatbed scanner or from a PDF file. The challenge with all OCR⁴⁵ programs – whether it is text or sheet music – is that they are only as good as the quality of the document being scanned. The lower the quality and sharpness, the more error artifacts are introduced. In the case of sheet music, it can sometimes have amusing consequences.⁴⁶ There is a point where the amount of artifact correction exceeds the time it would take to enter something by hand.

In this case, it was kind of a mixed bag. The number of artifacts in the PhotoScore Ultimate scan of the Berlioz score was not bad, but the software had difficulty figuring out which instrument went into which staff, so most of my editing was spent moving music into the right instrument. It took me three months to get it into Sibelius, especially since the original Berlioz score is 160 pages long. That having been said, I did also hire someone to proofread the score before I started rescoring it as a final step in quality control.

4.4.3.5 Changes Made to the Berlioz Score Prior to Rescoring

While I was cleaning up the original score, I also went ahead and made changes to some areas that would have created a lot of extra work that I already knew were going to change. These included:

- Combining the two harp parts together.
- Combining the two tuba (ophicleide) parts together.
- Moving the English horn solo in the third movement into bassoon. We have only one player doubling oboe/English horn, and that solo alternates between the two instruments, so I had to find another player in the orchestra. After significant experimentation and consultation with professional colleagues, bassoon was the best solution. English Horn players will revile me for eternity for taking away their solo.
- I converted all the horn parts to horn in F, and the trumpet and cornet parts to trumpet in C.
- There were a few other places I did something similar.

The “original” score that I created in Sibelius isn’t strictly the same as the original, but it suited my purposes for rescoring.

⁴³ A PDF of the score to Berlioz: *Symphonie Fantastique* is readily available for free from IMSLP at [https://imslp.org/wiki/Symphonie_fantastique,_H_48_\(Berlioz,_Hector\)](https://imslp.org/wiki/Symphonie_fantastique,_H_48_(Berlioz,_Hector))

⁴⁴ PhotoScore Ultimate: <https://www.neuratron.com/photoscore.htm>

⁴⁵ OCR: Optical Character Recognition. https://en.wikipedia.org/wiki/Optical_character_recognition

⁴⁶ Here are the first 3 minutes of the original untouched PhotoScore scan into Sibelius format, and audio rendered by Sibelius. It sounds vaguely familiar, but instead sounds kind of like a version for piano, orchestra and chorus as nightmarishly rendered by Webern or Stockhausen: <https://ccome.org/Symphonie%20Fantastique%20-%20nightmare%20audio%20sequence.mp3> PhotoScore didn’t always know what instrument to use, which resulted in a lot of editing. This was a somewhat hilarious rendering by algorithms instead of humans.

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4.4.3.6 Berlioz Orchestration

Another interesting observation I made while entering this score into Sibelius was that, by and large, Berlioz uses a fixed orchestration for each movement, therefore a lot of instruments are tacet throughout entire movements. For example, harp only appears in the second movement (A Ball), and tuba (ophicleide⁴⁷) only appears in the last two movements. Here is how the instrumentation changes in each movement:

First Movement – I. Rêveries - Passions

Video/Audio 00:00: <https://youtu.be/UdR1b8nFJ4c?t=001>

The first movement's instrumentation:

1. Flute/Piccolo
2. Oboe
3. Clarinet 1,2 in B \flat
4. Bassoon
5. Horn 1, 2 in F
6. Trumpet in C
7. Horn 2, 3 played by Trombones
8. Timpani 1
9. Strings

Second Movement – II. Un Bal

Video/Audio 12:55: <https://youtu.be/UdR1b8nFJ4c?t=775>

Second Movement Original Instrumentation:

1. Flute/Piccolo
2. Oboe
3. Clarinet 1,2 in A
4. Horn 1,2 in F
5. Horn 3,4 played by Trombones
6. Harp (both parts combined into one player)
7. Strings

The 2nd Movement – *A Ball* – has lighter orchestration. Here Berlioz uses four woodwinds (the clarinets are playing on A clarinets, which put them in the key signature of C instead of B \flat clarinets in the key of B), no bassoon, four brass (horns), no timpani but the addition of harp. The score

⁴⁷ Ophicleide: <https://en.wikipedia.org/wiki/Ophicleide>

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calls for two harps, but there is only one harp available in the rescored Chamber Orchestra orchestration, so the parts were combined.

Third Movement – III. Scène aux champs

Video/Audio 18:50: <https://youtu.be/UdR1b8nFJ4c?t=1130>

Third Movement Original Instrumentation:

1. Flute
2. Oboe
3. Clarinet 1,2 in B \flat
4. Bassoon
5. Horn 1,2 in F
6. Horn 3,4 (rescored into the trombones)
7. Timpani 1
8. Timpani 2
9. Strings

The instrumentation changes again in the slow third movement. There is no piccolo, the clarinets are back to B \flat instruments, the bassoon is back, horns are the only brass instruments (with ersatz Horns 3 & 4 again filled in by the trombones), no harp, and two timpani for the thunder effects at the end of the movement (Bar 1072). Normally timpani are played by 4 players – one on a drum – but I combined them since we only have two percussion players in my reduced orchestration. So, each one will play two timpani. See Figure 18.

The image shows a musical score for two timpani parts, labeled 'Timpani 1' and 'Timpani 2'. The notation is in bass clef. Timpani 1 has a series of notes with dynamic markings: *pp*, *<sf>*, *p*, *pp*, *ppp*, *f*, and *pp*. Timpani 2 has a similar pattern, with a note in parentheses indicating '(baguettes d'éponge)' for the first three notes. The dynamics for Timpani 2 are *p*, *<sf>*, *p*, *ppp*, *f*, and *pp*. The score is written for two players, each playing two drums.

Figure 18: Four timpani drums played by two players.

Fourth Movement – IV. Marche au Supplice (March to the Gallows)

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This is a movement that I very much looked forward to rescoring. When I was 14 years old, I entered high school and got involved in marching band. I joined both my high school band⁴⁸ as well as a local youth band. Southern California, USA, had several highly active marching music circuits that included marching bands and drum and bugle corps, which consist of brass, percussion, and flag groups (no woodwinds). One such group was the Kingsmen Drum and Bugle Corp. of Anaheim, California, USA.⁴⁹ The Kingsmen won the first Drum Corps International⁵⁰ World Championship in 1972 held in Whitewater, Wisconsin, USA. Their 1974 field show featured Berlioz: *Symphonie Fantastique*, including the March to the Gallows,⁵¹ and portions of the last movement.

Why is marching band being discussed in the middle of a dissertation analysis? Thanks to the Anaheim Kingsmen and the enormous enthusiasm I had for them, Berlioz *Symphonie Fantastique* became one of the first classical pieces I really learned on my own, plus it represented several other “firsts” for me:

1. March to the Gallows was the first arrangement I did for two clarinets and bassoon that I rescored by working out of a full score.⁵² Before that I found easier media, like piano arrangements.
2. It was the first concert that I played as a Tanglewood Fellow – the summer home of the Boston Symphony – where I performed it under Seiji Ozawa.

Therefore, I have a lot of emotional attachment to this piece, and to this movement in particular, so I beg your indulgence for including drum and bugle corps in my dissertation. It is a great lifetime honor to rescore this piece.

⁴⁸ The Agoura High School Chargers Marching Band, Agoura, California, USA.

⁴⁹ Kingsmen Drum and Bugle Corps: <http://kingsmendrumcorps.org/>

⁵⁰ Drum Corps International: <https://www.dci.org/>

⁵¹ Video of Kingsmen 1974 show starting at March to the Gallows. I was actually in the audience at this performance as a teenager: <https://youtu.be/TZEhlyFZY0?t=176>

⁵² Rescore of March to the Gallows for two clarinets and bass clarinet by Michael Drapkin: <http://ccome.org/mp3/March%20to%20the%20Gallows.mp3>

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As I mentioned near the beginning of this section regarding *Berlioz Orchestration*, Berlioz makes a lot of use of choruses in this movement: choruses of winds, brass, and strings. One favorite example is 5 bars after Letter H (Bar 1176), where he rapidly shifts back and forth in his orchestration. As you can see, he quickly shifts from brass, woodwinds, string (pizz then arco), woodwinds, brass, string pizz, percussion, strings and then woodwinds again. See Figure 19.

The musical score for Figure 19, starting at measure 82, illustrates a rapid shift in orchestration. The instruments and their parts are as follows:

- Flute:** Measures 82-85, playing a melodic line with a *p* (piano) dynamic.
- Oboe:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Clarinet 1 in Bb:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Clarinet 2 in Bb:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Bassoon:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Horn 1 in F:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Horn 2 in F:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Trumpet in C:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Trombone 1:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Trombone 2:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Tuba:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Timpani 1:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Timpani 2:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Susp. Cymbals:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Bass Drum:** Measures 82-85, playing a melodic line with a *p* dynamic.
- Violin 1:** Measures 82-85, playing a melodic line with a *pizz.* (pizzicato) and *f* (forte) dynamic.
- Violin 2:** Measures 82-85, playing a melodic line with a *pizz.* and *f* dynamic.
- Viola:** Measures 82-85, playing a melodic line with a *pizz.* and *f* dynamic.
- Violoncello:** Measures 82-85, playing a melodic line with a *pizz.* and *f* dynamic.
- Contrabass:** Measures 82-85, playing a melodic line with a *pizz.* and *f* dynamic.

The score shows a rapid shift in orchestration, with the instruments playing in a variety of dynamics and articulations, including *pizz.* (pizzicato) and *arco* (arco).

Figure 19: Shifting rapidly from one chorus to another. View/hear at <https://youtu.be/UdR1b8nFJ4c?t=2143>

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Another example takes place later in the movement where it is “winds vs. strings (+ timpani).” It gets progressively shorter until everyone merges in a massive *ff* tutti. See Figure 20.

The musical score for Figure 20, titled "Battle of the Winds vs. the Strings," depicts a dramatic confrontation between the wind and string sections. The score is organized into measures, with each instrument part showing its contribution to the overall texture. The wind section (Flute, Oboe, Clarinets, Bassoon, Horns, Trumpets, Trombones, and Tuba) begins with a powerful *f* (forte) attack, which then gradually diminishes (*dim.*) before re-emerging with a softer *p* (piano) or *pp* (pianissimo) dynamic. The string section (Violins, Viola, Violoncello, and Contrabass) also starts with a strong *f* attack, mirroring the winds' intensity. The Timpani part, which includes the instruction "(Montez le Sib en Sib)," provides a rhythmic foundation, starting with a *f* attack and then playing a series of chords. The score concludes with a massive *ff* (fortissimo) tutti, where all instruments merge into a single, powerful sound. The dynamic markings and articulation marks throughout the score indicate the progression of the battle, from the initial attack to the final, overwhelming tutti.

Figure 20: Battle of the Winds vs. the Strings. The Timpani lend the Strings a hand. See <https://youtu.be/UdR1b8nFJ4c?t=2263>

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No discussion of this movement would be complete without pointing out one of his most famous (and amusing) programmatic orchestrations at 2 bars before Letter S (Bar 1263): The guillotine blade suddenly slams down at the end of the plaintive clarinet solo and the head goes bouncing down (SLAM, bounce, bounce, bounce) through the string section with the bouncing provided by the string pizzicati. This is an execution, after all! See Figure 21.

Figure 21 is a musical score excerpt from a film score, specifically the 'Decapitation' scene. It shows measures 1261 through 1265. The score is for a full orchestra, including woodwinds, brass, strings, and percussion. The key signature is B-flat major (two flats). The time signature is 4/4. The score is marked with a large 'S' at the beginning of measure 1263, indicating a 'SLAM' or 'bounce' effect. The dynamics are marked as *ff* (fortissimo) and *mf* (mezzo-forte). The string section (Violin 1, Violin 2, Viola, Violoncello, Contrabass) plays a rhythmic pattern of eighth notes, marked 'pizz.' (pizzicato) and 'mf'. The Percussion section (Snare Drum) plays a rhythmic pattern of eighth notes, marked 'ff'. The woodwind section (Clarinet 1 in Bb, Horn 1 in F, Trumpet in C, Trombone 1, Tuba) plays a rhythmic pattern of eighth notes, marked 'ff'. The score is marked with a large 'S' at the beginning of measure 1263, indicating a 'SLAM' or 'bounce' effect. The dynamics are marked as *ff* (fortissimo) and *mf* (mezzo-forte). The string section (Violin 1, Violin 2, Viola, Violoncello, Contrabass) plays a rhythmic pattern of eighth notes, marked 'pizz.' (pizzicato) and 'mf'. The Percussion section (Snare Drum) plays a rhythmic pattern of eighth notes, marked 'ff'.

Figure 21: Decapitation, complete with head bounce. See/hear at <https://youtu.be/UdR1b8nFJ4c?t=2285>

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Fourth Movement Instrumentation:

1. Flute
2. Oboe
3. Clarinets in C
4. Bassoon
5. Horns 1,2
6. Horns 3,4 generally played by Trombones
7. 2 x Cornets
8. 2 x Trumpets
9. 3 x Trombones
10. 2x Ophicleides (played by tubas)
11. Timpani 1,2
12. Snare drum, Cymbals, Bass Drum
13. Strings

As much as I looked forward to rescoring this movement, I also saw it as a significant challenge. The score calls for 13 brass, but our chamber orchestra orchestration consists of six brass: two horns, one trumpet, two trombones, and tuba. However, if one used the 13 brass in the original score, the chamber orchestra would be overpowered. The rescored orchestration meant *one* trumpet available instead of the two trumpets and two cornets in the original score, so this was invariably less “brassy” but that also left the solitary trumpet carrying the soprano brass voice.

Fifth Movement – V. Songe d'une Nuit du Sabbat

Movement V: Dream of a Witches' Sabbath. Berlioz's orchestration changes here with Clarinet 1 moving to Eb Clarinet and the addition of Chimes and Tuba for the Dies Irae section.

See/hear 38:26: <https://youtu.be/UdR1b8nFJ4c?t=2305>

Fifth Movement Instrumentation

1. Flute/Piccolo (two players)
2. 2 x Oboes
3. Clarinet 1 in Eb
4. Clarinet 2 in C (transposed to Bb for convenience in my version)
5. 4 x Bassoons
6. 4 x Horns
7. Trumpets
8. 3 x Trombones
9. 2 x Tuba (Ophicleide)
10. 2 x Timpani

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11. Bass Drum

12. Chimes (for the Dies Irae)

13. Strings

I couldn't go through this piece without mentioning one of Berlioz's most interesting sections in this movement: he starts a very foreboding fugato at letter EE which builds up to a huge climax at Letter II (shown below) of syncopated quarters that runs for four bars. Then he has brass barrel in offset by an eighth note (with tuba going up and down a diminished arpeggio) to create the aural impression of total pandemonium. See/hear it at: <https://youtu.be/UdR1b8nFJ4c?t=2717> See Figure 22.

The image displays a musical score for a brass section, specifically measures 395 to 400. The section is marked with a large 'II' and a measure number '395'. The instruments listed on the left are Piccolo, Oboe, Clarinet in Eb, Clarinet 2 in Bb, Bassoon, Horn 1 in F, Horn 2 in F, Trumpet in C, Trombone 1, Trombone 2, and Tuba. The Piccolo, Oboe, Clarinet in Eb, Clarinet 2 in Bb, and Bassoon parts are marked with 'ff' (fortissimo) and play a syncopated eighth-note pattern. The Horn 1 in F, Horn 2 in F, and Trumpet in C parts also play a syncopated eighth-note pattern, but they are offset by an eighth note from the rest of the ensemble. The Trombone 1, Trombone 2, and Tuba parts are marked with 'ff' and play a diminished arpeggio pattern. The score is written in 2/4 time and features a variety of musical notations, including eighth notes, quarter notes, and rests.

Figure 22: Brass playing an eighth note offset from everyone else. See/hear at: <https://youtu.be/UdR1b8nFJ4c?t=2764>

4.4.3.7 Other Comments

- I set the metrics of my Sibelius file (page size, staff size, margins, etc.) the same as those in my Capriccio Espagnol rescore. I also developed a new rescoring technique: I decided

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to create new instrument staves for all my new destination parts (e.g., Current Clarinet, New Clarinet) with an “X” at the end of the name so that I can see that they are the target staves. I then had double the number of instrument staves at the beginning (e.g., “Old Clarinet” and “New Clarinet”, etc.). This made it much easier to cut and paste from the original to the rescored staves. I deleted the contents of the old staff when the new staves were complete and “hid” the empty staves. Eventually, there was nothing left of the original score, and I was done rescoring.

- At the very beginning, I already began using some of the Extreme Scoring techniques that I have used in my other reductions. I substituted woodwind parts – mostly eliminating unisons or octaves to accommodate limited numbers of woodwinds, and when I needed four horns (I only have two available), then I used trombone in place of Horn 3 and Horn 4 where needed, making sure that horn is always on top to retain the original timbre and Horn 2 playing any solos that would otherwise show up in the trombone part.
- The original orchestration calls for two flutes (2nd doubling on piccolo), two oboes (2nd doubling on English Horn), Clarinet 1 in B♭, A, C & Eb, Clarinet 2 in B♭, A & C, four bassoons, Horn 1 & 2 (Eb, E, F, low B♭), Horn 3 & 4 (C, Eb), Trumpet 1 & 2 (C, B♭, Eb), Cornets 1 & 2 in B♭, Cornet obbligato (B♭, “Un Bal”), three trombones, two ophicleides⁵³, Percussion (Bells, Cymbals, Bass Drum, Snare Drum), Timpani, two harps, Violin 1, Violin 2, Viola, Celli, Basses.
- The performance time is approximately 50 minutes.

4.4.4 Strauss: *Salome’s Dance of the Seven Veils* Op.54 (1905)

4.4.4.1 YouTube Link

YouTube: <https://youtu.be/yCADmA6bkUY>

4.4.4.2 Why Did I Pick This Piece?

Aside from the fact that Richard Strauss is my favorite composer, this is a great standalone orchestral showpiece from his massive and extraordinarily successful⁵⁴ opera *Salome*. *Salome’s Dance*, and the later scene when *Salome* kisses the decapitated⁵⁵ head of John the Baptist, were considered scandalous and an early example of the advertising axiom “sex sells.” When Strauss was working as the conductor of the Berlin State Opera, his employer, Kaiser Wilhelm II, said to

⁵³ The parts are played by tuba in modern orchestras.

⁵⁴ Chris Walton, *The Musical Times*, Vol. 146, No. 1893 (Winter, 2005), pp 5: “The world premiere of *Salome* in Dresden 100 years ago, on 9 December 1905, was a triumph. Richard Strauss’s reputation had hitherto rested on his symphonic poems and songs, but *Salome* now confirmed him as both a leading music dramatist and the foremost modernist in music. Within two years it had received 50 different productions, and its success at the box office has never waned since.”

⁵⁵ I note that this is the second work that I rescored where decapitation occurs. I am not sure why this is.

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him: “This *Salome* will do you no good.” Strauss later wrote in his diary: “The ‘no good’ enabled me to build my house in Garmisch.”

Strauss was the master of rich romantic orchestration, and this work is no exception – it has no less than 48 separate instrumental parts in the orchestra. Rescoring this work for chamber orchestra was for me the “Holy Grail” of orchestrations for my dissertation. I chose this piece because it isn’t too long - 10 minutes/349 bars as opposed to 48 minutes/1796 bars for Berlioz’s *Symphonie Fantastique*. However, this is a late Romantic Period German composition, and Strauss was the master of that genre, so this rescore was the ultimate challenge.

Therefore, his scoring is far thicker than anything else I have arranged before. Listening to it, I was certain that I could rescore it successfully, although I decided that I needed to retain the celeste for the rich exotic color that it adds, and that I could easily shed instruments like heckelphone, contrabassoon as well as a bevy of various flavors of trumpets, and as much as it pained me to do so – the bass clarinet. To be totally fair, unlike the earlier Berlioz and Rimsky-Korsakov pieces that I rescored, this one does not have big clarinet solos. I just like the piece!

One item of importance: I was originally going to stick with my arbitrary 23 player limit. This meant eliminating the celeste and trying to substitute that part mostly on the harp. Thinking about it over time, I realized that I couldn’t do that – I needed both harp and celeste to give the piece its magical fantasy feeling, especially with the big flute solo at Bar 72 (Letter I). See Figure 23.

The image displays a musical score for three instruments: Flute, Harp, and Celeste. The score is set in 5/4 time and begins at bar 71. A box labeled 'I' is positioned above the flute staff at bar 72, indicating the start of a solo. The flute part features a complex, melodic line with many sixteenth and thirty-second notes, marked with a 'p' (piano) dynamic. The harp part provides a harmonic accompaniment with chords and single notes. The celeste part also has a melodic line, often in parallel motion with the flute, marked with a 'p' dynamic. The score includes various musical notations such as slurs, ties, and fingering numbers (e.g., 5).

Figure 23: Flute solo at Bar 72 (Letter I), with Harp and Celeste. View/hear: <https://youtu.be/yCADmA6bkUY?t=131>

4.4.4.3 Instrumentation (note some of the doubles) – 24 Players

1. Flute/Piccolo

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2. Oboe
3. Clarinet 1 & 2 in B \flat
4. Bassoon
5. Horn 1 & 2 in F
6. Trumpet in C
7. Trombone 1 & 2 (often covering Horn 3,4)
8. Tuba
9. Timpani/bass drum/xylophone
10. Percussion: Snare, Cymbals, Bass Drum, Tambourine, Triangle, Castanets, Tam-tam
11. Harp
12. Celeste
13. 4 Violins (Violin 1, 2)
14. 2 Violas
15. 2 Celli
16. Contrabass

4.4.4.4 Score Challenges

Like with the Berlioz, I could not find a digital version of the original score in Sibelius format, so my initial work with this piece was entering it into my Sibelius notation system. I entered about half of it by hand, and then engaged a music copyist to enter the other half and to proofread the entire score.

4.4.4.5 Strauss Orchestration

A lot of instruments and doubling can be either discarded or combined. In general, the original orchestration is very thick, and I found myself slowly wading through it one page at a time. There is an enormous amount of doubling in the score, and the challenge was balancing polyphony and harmony – specifically, making sure that the polyphonic structure of the piece of music was maintained within the context of my reduced orchestration, while making sure that the harmonic structure beneath it was maintained. Therefore, a lot of instruments and doubling can be either discarded or combined to no ill effect.

4.4.4.6 Other Comments

- The original orchestration calls for piccolo, three flutes, 2 oboes, English horn, heckelphone, Eb clarinet, 2 B \flat clarinets, 2 A clarinets, bass clarinet, 3 bassoons, contrabassoon, 6 horns in F, 4 trumpets, 4 trombones, tuba, percussion (8-9 players): 5 timpani, snare drum, bass drum, cymbals, triangle, tam-tam, tambourine, castanets, glockenspiel, xylophone, celeste, 2 harps, 16 violin I, 16 violin II, 10-12 violas, 10 violoncellos, 8 double basses.
- This meant eliminating 82 players.
- The performance time is approximately 10 minutes.

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4.5 Balance

This discussion of orchestral balance applies to all three of the large orchestral works that I rescored for chamber orchestra: Rimsky-Korsakov: Capriccio Espagnol, Berlioz: Symphonie Fantastique and Strauss: Salome's Dance of the Seven Veils. The issues are identical in each piece.

The original limitation of 22 players was somewhat arbitrary and arose out of budgetary constraints and small stage sizes. When I was involved founding the Texas Chamber Symphony, we felt that the maximum number of players that we could realistically budget for and fit on stage was 22 (later 24) players. Our first concert on December 21st in Pearland, Texas USA used that complement of players.⁵⁶

In all three pieces, the winds and percussion heavily outnumber the strings: 9 strings vs. 14 winds, harp, and percussion in the Rimsky-Korsakov and Berlioz pieces, and 9 strings vs. 15 winds, harp, and percussion (+ celeste) in the Strauss. This will need to be addressed at the outset, or the strings will be drowned out. Here I propose three solutions:

1. Increase the number of string players. This will be the most likely solution for most chamber orchestras. Instead of 4 violins, 2 violas, 2 celli and bass, increase it to 6 violins, 3 violas, 3 celli and bass, or 8 violins, 4 violas, 4 celli and 2 basses or some variation thereof⁵⁷. But this will significantly increase the size of the orchestra as well as the labor cost.
2. Have the conductor keep the volume down in the winds and percussion to achieve balance. This might be a challenge, although it would make for more impactful tutti/fortissimo sections.
3. Amplify the strings. This certainly can work for performances and recordings, but it adds complexity and cost, and requires solid mixing skills on the part of the recording engineer, which does not always happen.

This issue doesn't apply to the rescore of the Third Movement Menuetto of Mozart's 40th/G minor Symphony, as that piece only uses 7 winds and no percussion out of the 16 players that I indicate in the score, so balance will not be as much of a challenge, nor need to be addressed in the same way that it is in these three orchestral works.

⁵⁶ Concert December 21st, 2019 by the Pearland Chamber Orchestra later renamed as the Texas Chamber Symphony. The concert featured the premiere of my chamber orchestra piece "A Klezmer Set." <https://youtu.be/fpYHJ3Bzc6Q>

⁵⁷ The St. Paul Chamber Orchestra, in Minnesota, USA, is one of the best-known professional chamber orchestras in the United States. Their roster lists 6 violins, 2 violas, 4 celli and 1 bass. See <https://content.thespco.org/people/orchestra-musicians/> They also expand or contract the number of players based on the instrumental requirements in each score that they perform.

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4.6 Principles, Best Practices and Techniques

This section enumerates the best practices, principles and techniques that were derived from rescoring the four symphony orchestra pieces described in Section 3.4 *The Rescored Symphonic Works*. Some of these analyses could indeed appear in more than one of these sections.

The issues of Instrument Elimination and Instrument Substitution are certainly paramount when rescoring an orchestral work from full symphony orchestra to chamber orchestra. Thus, there are many examples of each one in those sections – far more than any of the other sections. They were, in general, the most challenging issues to address when performing Extreme Scoring.

Note that in this document and the individual rescore analysis documents (see Chapter 6 Appendix), every attempt is made to keep the descriptive text and “before and after” figures together on one page. This is to eliminate the need to page back and forth when comparing them and allows the reader to see them in one glance. But that periodically means additional white space in the document as pagination is inserted for this purpose, such as can be seen at the bottom of this page.

These are Extreme Scoring principles that should apply to any rescoring activities.

4.6.1 String Section

In general, the writing in the string section across all four compositions remains largely intact and unmodified, with two noteworthy exceptions:

1. Some of the orchestrations for strings contain divisi parts. Division of the divisi parts are in practice left up to the players or their section leaders (e.g., Concertmaster). The exception is when the number of chordal members in a divisi note exceeds the number of players. For example, if the First Violin part has a divisi with three or more notes in it, and you only have two players, then a decision needs to be made as to which notes will be played, or it may be for that piece the number of strings needs to be increased. (see Section 4.5 Balance).

The alternative is for the Rescorer to make the decision about divisi notes and cut down the number of notes as they see fit.

2. There is an alternate staff for a solo part or multiple parts within a particular section of the string section, such as violas.

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In the Strauss, at the very beginning, there were two cello parts – one for the first desk and one for everyone else.⁵⁸ In that case, the split was retained so that they are played by two players – this way the sforzando in the lower staff could be retained. If they were combined, the sforzando would be lost. See Figure 24.

Sehr schnell und heftig (♩ = 144)

arco pizz. arco pizz. arco pizz. arco

Violoncello

(First Desk) pizz. arco pizz. arco pizz. arco pizz. arco

(Rest) f sfz sfz sfz sfz

Figure 24: First Desk Celli and "The Rest" of the Celli.

4.6.2 Harmony and Voicing

One of the important aspects of orchestration, rescoring or arranging is to maintain the harmonic and orchestrational structure of the original piece. That breaks down into several areas:

- Whatever instrument is playing the highest notes generally determines the overall timbre of the ensemble, and that is what the audience will hear. It is both a challenge and an opportunity. The challenge is that you may have limited resources of the instrument that is playing on top. The opportunity is that instruments can very often be substituted with what is available if the original instrument is on top. There are several examples of this in Section 4.6.5 Instrument Substitution.
- The bottom generally determines the bass line and harmony of the ensemble. That means that vital bass lines need to be carefully examined before removing them.
- What is the chord, and what are the vital chordal members, such as root and third? Are they represented and balanced across the ensemble?

When rescoring using an extremely limited configuration, like two clarinets and bass clarinet, I will generally pay close attention to the melody or top line, the bass line and then use the inner voice to fill in harmonic identification or counterpoint. One of my favorite “tricks” is when a piece ends in a major chord. With three instruments, I configure root/third/octave, dropping the fifth, which ends up sounding surprisingly full, even with three instruments. Going further, in a dominant chord the root and the seventh/octave secundal relationship is more important than the third or the fifth, so they may be dropped as well. One other technique worth mentioning is the role that writing lines in octaves and how they can add depth or emphasis. These show up often

⁵⁸ In the original score, Strauss refers to the non-First Desk players as “The Rest.”

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in compositions and should be examined carefully during the rescore process as to the role that they are fulfilling and how they should be maintained.

4.6.2.1 Mozart

In paring down woodwinds in the Mozart, care was made to maintain the harmony and voicing. Opportunities were sought to cut the winds down into my orchestrational resources. Also sought were opportunities in doublings, such as between the second clarinet and second oboe. In places, the lower oboe 2 divisi part was also moved into the first clarinet. This was also done by moving the upper bassoon divisi to the second clarinet part.

In Bar 42, the chordal 5th in bassoon 1 was dropped on the 1st beat, and on the 2nd and 3rd beat dropped the chordal 3rd - doubled in clarinet 2 right above. This maintained the harmony while using 3 voices instead of 4. See Figure 25 & Figure 26.

In Bar 43, the chordal 5th in the upper divisi bassoon 1 is dropped from the from the D⁷ chord. See Figure 25 & Figure 26.

Figure 25: Original score with Clarinets and Bassoons.

Figure 26: Revised version eliminating a bassoon voice by dropping the 5th in a dominant chord.

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In bassoon bars 31-35, both parts are doubled, so only one of the two voices could be picked. The top was selected, and it sounded two octaves below 1st violin, oboes, and clarinets. See Figure 27: Original Score excerpt starting at Bar 31. Figure 27 & Figure 28.

At bars 36-37, the chord progression required analyzation. Notes were dropped in the bassoon part bearing in mind voice leading and the bass line. See Figure 27 & Figure 28.

This musical score excerpt begins at bar 31. It features four staves: Oboi (treble clef), Fagotti (bass clef), Violino I (treble clef), and Violino II (treble clef). The key signature has two flats (B-flat and E-flat). The Oboi and Fagotti parts are heavily ornamented with grace notes and slurs. The Violino I and II parts provide a harmonic foundation with sustained notes and moving lines. A dynamic marking of *p* (piano) appears at the end of the excerpt.

Figure 27: Original Score excerpt starting at Bar 31.

This musical score excerpt begins at bar 31, showing a rescored version of the original. It features four staves: Oboe (treble clef), Bassoon (bass clef), Violin 1 (treble clef), and Violin 2 (treble clef). The key signature remains two flats. The Oboe and Bassoon parts are now more clearly defined, with the Bassoon line being doubled in the Oboe. The Violin 1 and 2 parts are also present. Dynamic markings of *p* (piano) are visible at the end of the excerpt.

Figure 28: Rescored using the top bassoon line, doubled in Oboe, Clarinets and Violin 1.

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Eliminating the Second Bassoon part created opportunities for removing doublings (*a due* - "a2") by examining the cello line. For example, in Bar 8 when the bassoons go into harmony, the lower part in Second Bassoon is doubled with the cello, so it can be eliminated. See Figure 29 & Figure 30.

Figure 29 shows the original musical score for the beginning of the Menuetto. It features three staves: Fagotti (Bassoon), Violoncello (Cello), and Contrabass. The key signature is B-flat major (two flats). The time signature is 4/4. Bar 8 is marked with a '8' above the first staff. The Fagotti part has a 'zu. 2' marking above the second measure. The Violoncello and Contrabass parts are in harmony with the Fagotti part in Bar 8.

Figure 29: Original score - beginning of the Menuetto.

Figure 30 shows the rescored musical score, eliminating the 2nd Bassoon. It features three staves: Bassoon, Cello, and Contrabass. The key signature is B-flat major (two flats). The time signature is 4/4. Bar 8 is marked with a '8' above the first staff. The Bassoon part has a 'zu. 2' marking above the second measure. The Cello and Contrabass parts are in harmony with the Bassoon part in Bar 8.

Figure 30: Rescored, eliminating the 2nd Bassoon.

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4.6.2.2 Rimsky-Korsakov

In the Rimsky-Korsakov last movement, the piccolo was added back (the flute player doubles on piccolo) in the very beginning to facilitate a high A trill (see Figure 31), and in the ending section for impact (see Figure 32).



Figure 31: Flute doubles on Piccolo and starts the piece on Piccolo.

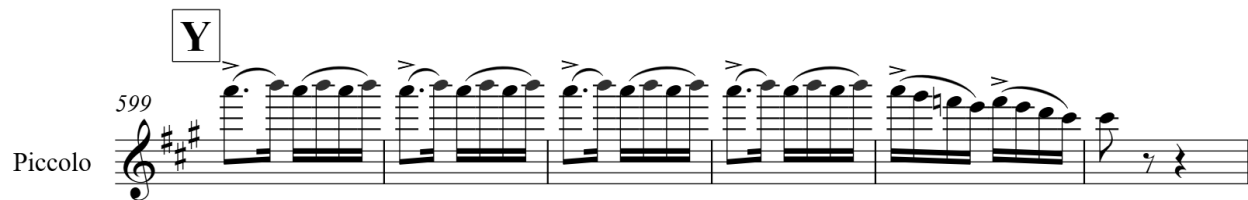


Figure 32: Flute switches back to Piccolo near the end. Piccolo sounds up an octave from what is written, so this is quite high.

In the Rimsky-Korsakov (Movement III): Bar 241 (Letter J) the upper bassoon was moved to Trombone 1 for harmony and counterpoint. See Figure 33 & Figure 34.

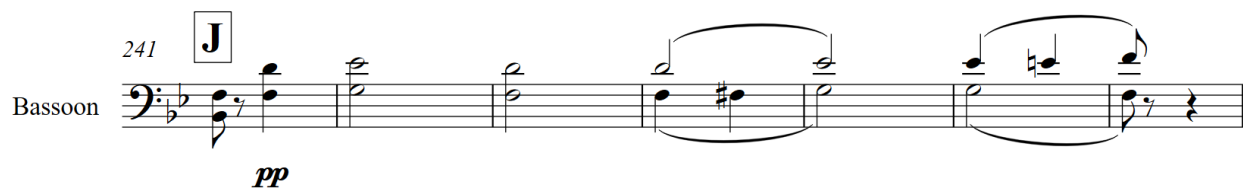


Figure 33: Original part for two Bassoons.



Figure 34: Same thing, split between the Bassoon and Trombone.

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Another issue was right at the start of the Rimsky-Korsakov. In Bar 1, the flute was started on the piccolo to retain that timbre at the top of the orchestra just like in the last movement.

4.6.2.3 Strauss

At Bar 159 in the Strauss, the flute player was switched to their piccolo double to retain the playful quality of this C# major intermezzo. In the original score, piccolo has the highest pitch at the beginning (along with the top violins), changing the overall timbre of the ensemble. The piccolo was switched back to flute before the emergence of the glorious melody in the strings at Letter T/Bar 177.

At Letter HH (Bar 300), Strauss lets loose the entire ensemble. This was a bit of a challenge as it is a massive F⁷ dominant chord, but all chordal members were covered. He slams the F-A-F motive in the bass instruments, which has plenty of coverage in the bassoon, trombones, tuba, timpani, and string bass.

4.6.3 Editing and Notational Practices

The act of rescoring a piece of music implies that a major outcome will be the creation of a physical set consisting of a score and parts. Therefore, editing and notational practices become paramount in any examination of the rescoring process and applying them is a highly time-consuming and painstaking process. The rescored work is useless if it does not end up in a form where it can go onto a music stand and be usable for rehearsal and performance by the conductor and musicians. This section covers a wide variety of topics; therefore, I have broken the processes that were taken by piece.

These became my editing and notational best practices.

4.6.3.1 Mozart

- Instrument names were standardized, and attention was paid to make sure there was a short form name listed.
- The string bass clef was standardized so that they sounded an octave below the cello and were written in the same range as cello. The original score sometimes combines celli and bass, which should sound an octave apart.

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The Horn parts were normalized from Horn in G to conventional Horn in F. This was trivial to do in Sibelius: one creates the instrument in the desired key, copy, and paste. See **Error! Reference source not found.** & **Error! Reference source not found.**



Figure 35: Original French Horn part – in G.



Figure 36: Horns transposed into F and moved to separate staves.

- Instrument short names were added to the 2nd through Nth systems.
- Separate divisi parts were created, such as with clarinet, into separate parts so that they will be extracted as separate parts for each player. Same with the horns.
- Extraneous gaps were removed between systems (detritus).
- Braces were added to winds and to strings at the beginning of the score staves in order to group related systems together.
- The text "Full Score" was unhid at the beginning of the score and in the middle top of each page in the score.
- The clarinet parts were split into two staves to make it easier to move lines from the oboe and bassoon without dealing with multiple voices in the same staff.
- The horn parts were split into separate staves. See **Error! Reference source not found.**
- The title and subtitle were fixed.
- The score layout was cleaned up and the stave justification percentage was adjusted to determine when the score page would get justified vertically across the page.

4.6.3.2 Rimsky-Korsakov

- The staff size was increased on the score so that the staves weren't so tiny. The format was unlocked for the entire score and then re-optimized it so that multipage systems stopped overlapping.
- The score was cleaned up. Most of the text sizes on tempo markings were extremely big.
- Title, Subtitle and Composer were added and in the initial tempo marking, the font sizes were fixed.

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- As was the case in all four pieces, I worked one page at a time cleaning up the formatting and rescoring the orchestration.
- Again, as was the case in all four pieces, staves with instruments that are not used until later in the piece were hidden, such as harp, solo violin and cello, English horn, B \flat clarinet, etc.
- All the trumpet parts in B \flat were transposed to Trumpet in C. This was the case throughout all four pieces, as suggested by my colleague George Vosburgh.⁵⁹

The clarinets were separated into two parts from one...this was a bit challenging to extract at the Tempo I bar 161. See Figure 37 & Figure 38.

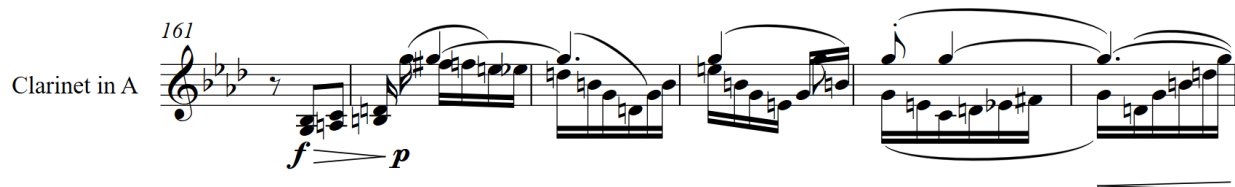


Figure 37: Original Clarinet part.

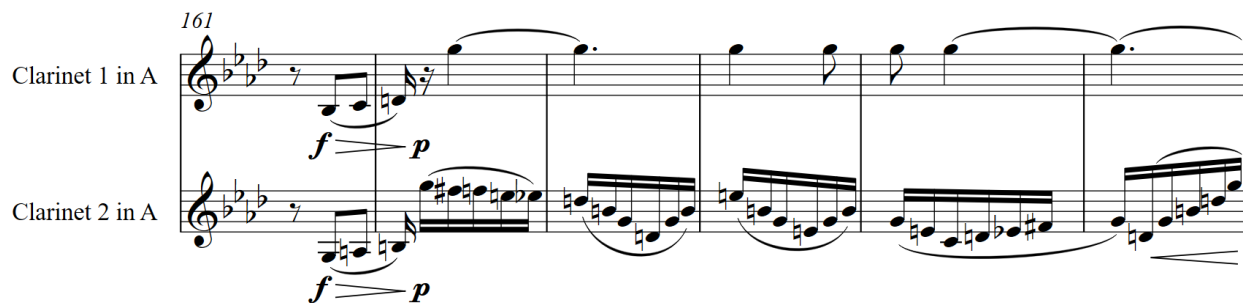


Figure 38: Clarinet parts separated out.

- In Movement IV, the tutti sections after the cadenzas required a lot of cleanup work but were relatively easy to rescore.
- The final movement (Movement V) is quite long in terms of the number of score pages. While it is only one of five movements, it represents about a third of the entire score volume, especially with much of it involving larger combinations of orchestral instruments and the mostly allegro tempi.

⁵⁹ George Vosburgh is the Retired Principal Trumpet of the Pittsburgh Symphony in Pennsylvania, USA. A bio can be found at: https://www.cmu.edu/cfa/music/people/Bios/vosburgh_george.html

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4.6.3.3 Berlioz

Bar 1178 in the fourth movement posed a notational challenge. In this movement, Timpani 2 is played by Percussion, and needed to switch briefly at the 7th bar of H to cymbals and bass drum for just one bar, and then back to Timpani 2. I added an extra staff below that part as well as instrument changes for both cymbals and bass drum, and then instrument change back to timpani. I changed the text from Cymbals to Suspended Cymbals so that both instruments could be played by one player, and then have two measures to go back to timpani and pick up timpani mallets. See Figure 39 & Figure 40.

Figure 39: Original score with four Percussion parts.

Figure 40: Percussion 2 switching from Timpani 2 to Percussion and Back.

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4.6.3.4 Strauss

Like with the works that were rescored previously, (Mozart, Rimsky-Korsakov, Berlioz), the metrics of my Sibelius file (page size, staff size, margins, etc.) were set to be the same as those in the Capriccio Espagnol rescore. As was done when rescoring Berlioz: *Symphonie Fantastique*, new instrument staves were created for all the new wind, harp, and percussion parts with an “X” at the end so that they can be seen as the destination staves. That system again worked quite well here as well, especially with the massive *Salome* score.

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Letter X/Bar 216 introduced some metric complications. The previous meter is 3/4 and at Letter X Strauss introduces some of the bars in 2/4 time in the flute, oboe, clarinet, and bassoon where dotted half = half. However, from experiences performing this piece, there is an accelerando 10 bars before that (Bar 206) into Bar 209 – *Allmahlich bewegter* which normally gets conducted in one⁶⁰ (one bar per beat).

Although flute and oboe are effectively playing two against three, it is still in the context of conducting in 1, so there won't be a three pattern in the conductor. It is less confusing than it first seems. This is a bit of a challenge from a notational standpoint because I am notating 2/4 when it is technically still in the 3/4-time signature. The 2/4-time signature is entered as text. See Figure 41.

Figure 41 shows musical notation for four instruments: Flute, Oboe, Clarinet I, and Bassoon. The notation is divided into two systems. The first system (Bars 215-219) shows the instruments playing in 2/4 time, with the flute and oboe playing a dotted half note followed by a quarter note, and the clarinet and bassoon playing a dotted half note followed by a quarter note. The second system (Bars 220-224) shows the instruments playing in 3/4 time, with the flute and oboe playing a dotted half note followed by a quarter note, and the clarinet and bassoon playing a dotted half note followed by a quarter note. The score includes dynamic markings (f, mf, p, dim.), articulation (accents), and phrasing (breath marks, slurs).

Figure 41: Strauss introducing bars that are two against three and vice-versa.

⁶⁰ One ictus (downbeat) by the conductor per bar.

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There are six percussion instruments specified by Strauss in the score: snare, cymbals, bass drum, tambourine, triangle, and castanets. Each one was assigned to their own staff, ensuring that the order that the instruments appear always remain the same, even though staves with no notes on them are hidden, as is a common practice in score notation. This proved to be highly effective and made the percussion part a lot clearer. See Figure 42.

Salome's Dance of the Seven Veils (1905)

From the opera *Salome*, Op. 54

Richard Strauss (1864 - 1949)
Rescored for Chamber Orchestra by Michael Drapkin

Sehr schnell und heftig (♩ = 144)

Figure 42 shows six separate percussion staves at the beginning of the piece. The staves are labeled: Snare Drum, Cymbals, Bass Drum, Tambourine, Triangle, and Castanets. The Snare Drum staff has a 2/4 time signature and a forte (f) dynamic marking. The Tambourine staff has a 2/4 time signature and a forte (f) dynamic marking. The other staves (Cymbals, Bass Drum, Triangle, and Castanets) are empty. The music is written in 2/4 time and consists of a series of eighth and sixteenth notes.

Figure 42: Six separate Percussion staves at the beginning of the piece.

4.6.4 Instrument Elimination

One of the biggest processes involved in taking music that is written for a full symphony orchestra staffed by 80 – 110 musicians is to rescore it for a chamber orchestra with 22 – 35 players. This necessarily means cutting down a lot of instruments, and this is done in two ways:

1. Cutting down the number of players in the strings. This means going from 32 violins in a Richard Strauss-sized orchestra to 4 violins in a chamber orchestra. But that is just a matter of filling less seats with string players, although this can lead to balance issues (see Section 4.5 Balance).
2. Reducing the number of parts in the winds, brass, and percussion. This is where the challenge lies – cutting them down while retaining the identity and timbre of the piece according to what the rescorer believes was the composer's original intentions and without blasting the strings off the stage (again that issue of balance).

The processes below outline specific issues in the rescoring of the large pieces (Rimsky-Korsakov, Berlioz, Strauss) and how they were addressed. Again, these are divided by the piece.

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4.6.4.1 Rimsky-Korsakov

At the beginning, a decision needed to be made as to what instruments to eliminate. The likely candidates were harp,⁶¹ which meant eliminating the harp cadenza and bass drum, which is probably not needed in a chamber orchestra, and piccolo, although I considered making piccolo a double with flute.⁶²

In Bar 1, Oboe 2 was eliminated (see Figure 43 & Figure 44), and in Bar 6 the oboe played the Flute 2 part to retain the 16th notes. See Figure 44.

Again, at the beginning at Bar 1, Horn 3 and 4 is doubled in the celli and trombones, so they can be eliminated. See Figure 43 & Figure 44.

In Movement III, the lower octave of the trumpet is not needed as it is doubled in the horns.

In Movement III at Bar 214 (Letter H) - the violin solo is accompanied by harp, but when I decided to put the harp back in, this problem went away.

In Movement III, the flute went back to playing the piccolo.

In Movement III, Horn 3 and 4 can be eliminated as they are already doubled in the trombones.

Finally, in Movement III, the tuba lower divisi is used as it reinforces the bottom bass of the orchestra. Both divisi parts in the tuba lines are doubled in the trombones.

In Movement IV, which is the cadenza movement, by restoring the harp, the cadenzas all stayed intact. This also meant increasing the number of players in the chamber orchestra by one to 23 players, which was not my original plan.

⁶¹ Ultimately, I decided that I could not eliminate the harp, especially since there was a big harp cadenza. It was a good decision, as I needed harp in Berlioz: Symphony Fantastique and Strauss: Salome's Dance. This meant increasing the size of my "standard" chamber orchestra to 23 players. In Salome's Dance I had the same decision point with celeste, which I also concluded could not be eliminated from the rescored orchestration.

⁶² I did end up having the flute player double on piccolo.

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Piccolo

Flute 1,2

Oboe 1,2

Horn 1,2 in F

Horn 3,4 in F

Trombone 1,2

Violoncello

ff

Figure 43: Original score.

Piccolo

Oboe

ff

Figure 44: Rescored. Eliminated Oboe 2 and put Flute 2 in the Oboe and Flute 1 in the Piccolo down an octave.

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At Letter B, the 2nd oboe part was moved into the 2nd clarinet. See Figure 45 & Figure 46.

Figure 45 shows a musical score for measures 27 through 32. The score is for two staves: Oboe and Clarinet in A. A box labeled 'B' is placed above measure 27. The Oboe part consists of a series of chords and single notes. The Clarinet in A part starts with a *ff* dynamic, followed by a trill (*tr*) in measure 27, and then continues with a series of notes and rests. The Clarinet in A part also features a trill (*tr*) in measure 29.

Figure 45: Original score with two Oboes.

Figure 46 shows a musical score for measures 27 through 32. The score is for three staves: Oboe, Clarinet 1 in A, and Clarinet 2 in A. A box labeled 'B' is placed above measure 27. The Oboe part consists of a series of notes and rests. The Clarinet 1 in A part starts with a *ff* dynamic, followed by a trill (*tr*) in measure 27, and then continues with a series of notes and rests. The Clarinet 2 in A part starts with a *ff* dynamic, followed by a trill (*tr*) in measure 27, and then continues with a series of notes and rests. The Clarinet 2 in A part also features a trill (*tr*) in measure 29.

Figure 46: 2nd Oboe is moved to 2nd Clarinet, which was doubled with the 1st Clarinet anyway.

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In the woodwind background texture at the 2nd bar of Letter D, the 2nd flute is taken out as it is doubled in the 2nd clarinet an octave below. See Figure 47 & Figure 48.

Figure 47 shows a musical score for measures 94 to 100. The score is for two parts: Flute and Clarinet in A. A box labeled 'D' is placed above measure 94. The Flute part begins in measure 95 with a half note G4, followed by quarter notes A4, Bb4, and A4. The Clarinet in A part begins in measure 95 with a half note G3, followed by quarter notes A3, Bb3, and A3. Both parts play in a harmonic texture. The Flute part is marked with a *p* (piano) dynamic in measure 95. The Clarinet in A part is marked with a *p* (piano) dynamic in measure 95. The Flute part has a whole rest in measure 96, and the Clarinet in A part has a whole rest in measure 96. The Flute part has a whole rest in measure 97, and the Clarinet in A part has a whole rest in measure 97. The Flute part has a whole rest in measure 98, and the Clarinet in A part has a whole rest in measure 98. The Flute part has a whole rest in measure 99, and the Clarinet in A part has a whole rest in measure 99. The Flute part has a whole rest in measure 100, and the Clarinet in A part has a whole rest in measure 100.

Figure 47: Original score with harmony in Flutes and Clarinets.

Figure 48 shows a musical score for measures 94 to 100. The score is for three parts: Flute, Clarinet 1 in A, and Clarinet 2 in A. A box labeled 'D' is placed above measure 94. The Flute part begins in measure 95 with a half note G4, followed by quarter notes A4, Bb4, and A4. The Clarinet 1 in A part begins in measure 95 with a half note G3, followed by quarter notes A3, Bb3, and A3. The Clarinet 2 in A part begins in measure 95 with a half note G3, followed by quarter notes A3, Bb3, and A3. Both Clarinet parts play in a harmonic texture. The Flute part is marked with a *p* (piano) dynamic in measure 95. The Clarinet 1 in A part is marked with a *p* (piano) dynamic in measure 95. The Clarinet 2 in A part is marked with a *p* (piano) dynamic in measure 95. The Flute part has a whole rest in measure 96, and the Clarinet 1 in A part has a whole rest in measure 96. The Flute part has a whole rest in measure 97, and the Clarinet 1 in A part has a whole rest in measure 97. The Flute part has a whole rest in measure 98, and the Clarinet 1 in A part has a whole rest in measure 98. The Flute part has a whole rest in measure 99, and the Clarinet 1 in A part has a whole rest in measure 99. The Flute part has a whole rest in measure 100, and the Clarinet 1 in A part has a whole rest in measure 100.

Figure 48: 2nd Flute doubled in 2nd Clarinet.

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At Bar 141, and elsewhere in the movement, there is two-part harmony in the flutes and oboes. The lower flute and upper oboe voices were eliminated to maintain harmony and separation; these sections are tutti with the orchestra and worked quite well. See Figure 49 & Figure 50.

Figure 49 shows the original musical score for Flute and Oboe starting at bar 141. The Flute part is written in treble clef with a key signature of one flat (B-flat). It begins with a forte (*f*) dynamic and features a melodic line with eighth and sixteenth notes, including a triplet of eighth notes in the fifth measure. The Oboe part is written in treble clef with a key signature of one flat. It also begins with a forte (*f*) dynamic and provides harmonic support with chords and single notes, mirroring the melodic structure of the flute. Both parts end with a rest in the sixth measure.

Figure 49: Original harmony in the Flutes and Oboes.

Figure 50 shows the musical score for Flute and Oboe, pared down to one part each, starting at bar 141. The notation is identical to Figure 49, but it represents a simplified version of the original two-part harmony. The Flute part remains in treble clef with a key signature of one flat, and the Oboe part remains in treble clef with a key signature of one flat. Both parts maintain their respective melodic and harmonic roles as described in Figure 49, with the Flute playing the primary melody and the Oboe providing harmonic support.

Figure 50: Pared down to one Flute and one Oboe.

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In Movement V, the piccolo is doubled in the violins, but also disappears after the first four bars, so it is not needed. See Figure 51 & Figure 52.

Figure 51 shows a musical score for measures 414 to 417. The score is for three instruments: Piccolo, Flute, and Violin 1. The key signature is two sharps (F# and C#) and the time signature is 3/4. Measures 414-417 show the Piccolo and Violin 1 playing a rapid sixteenth-note pattern in unison, marked *ff*. The Flute plays a similar pattern, also marked *ff*. In measure 418, the Piccolo and Violin 1 parts drop out, leaving the Flute part, which is now marked *mf*.

Figure 51: Original score, showing the Piccolo and Violin 1 in unison. Remember that Piccolo sounds an octave higher than written.

Figure 52 shows a musical score for measures 416 to 417. The score is for a single instrument: Flute. The key signature is two sharps (F# and C#) and the time signature is 3/4. Measures 416-417 show the Flute playing a rapid sixteenth-note pattern, marked *ff*. In measure 418, the Flute part continues, now marked *mf*.

Figure 52: Piccolo removed. The Flute part remains the same as the original, but piccolo is dropped.

Since the previous movement transitions *attacca* into this one, Rimsky-Korsakov is clearly making a big splash so that the audience knows that there is a new section starting, again for the first four bars, and then he backs off on the orchestrational thickness and concentrates on the melody.

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Much of Movement V uses harmonized woodwinds – piccolo and two flutes, two oboes, two clarinets and two bassoons, such as can be seen in Bar 577 (Letter W) (Figure 53). Much of it involves doubles that can be consolidated, so in various places where there are two flutes in harmony and two oboes in harmony, these were condensed to one flute and one oboe in harmony while maintaining the overall orchestration and harmonic structure. Same with using Clarinet 1 with oboe (or flute) and Clarinet 2 with bassoon. See Figure 53 & Figure 54.

Figure 53 shows a musical score for four woodwind parts: Piccolo, Flute, Oboe, and Clarinet in A. The score begins at bar 577, marked with a 'W' in a box. Each part features a trill (tr) at the start of the first measure. The music is written in treble clef with a key signature of three sharps (F#, C#, G#). The Piccolo part has a 'W' in a box above the first measure. The Flute, Oboe, and Clarinet in A parts show complex harmonized patterns with many beamed notes and trills.

Figure 53: Lots of woodwind pairs in the original score.

Figure 54 shows a musical score for four woodwind parts: Flute, Oboe, Clarinet 1 in A, and Clarinet 2 in A. The score begins at bar 579. Each part features a trill (tr) at the start of the first measure. The music is written in treble clef with a key signature of three sharps (F#, C#, G#). The Flute and Oboe parts show complex harmonized patterns with many beamed notes and trills. The Clarinet 1 and 2 parts show simpler patterns with fewer beamed notes.

Figure 54: Pared down from seven to four players from eight while maintaining orchestration and harmonic structure.

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4.6.4.2 Berlioz

At Letter F (Bar 49), the triplet texture is only in the flutes and clarinets – four voices, and the root of the D \flat major chord is doubled. Flute 2 could be replaced with oboe, but orchestratorially it would change the flavor of the sound, so it was better to drop Flute 2 -which was playing the root of the chord - and leave the root only in the clarinet. A bit thinner, but better orchestratorially, and nobody can really hear the difference. See Figure 55 & Figure 56.

Figure 55 shows a musical score for measures 49-51. The score is for Flute 1,2 and Clarinet 1,2 in B \flat . The key signature is two flats (B \flat major/D \flat minor). The tempo/mood is marked 'F sans ralentir' and 'soli'. The dynamics are 'pp' (pianissimo). The texture consists of triplet eighth notes in the flutes and clarinets. In measure 49, the flutes and clarinets play a triplet of eighth notes. In measure 50, the flutes and clarinets play a triplet of eighth notes. In measure 51, the flutes and clarinets play a triplet of eighth notes. The root of the D \flat major chord is doubled in the flutes and clarinets.

Figure 55: Original score with two pairs of winds.

Figure 56 shows a musical score for measures 49-51. The score is for Flute, Clarinet 1 in B \flat , and Clarinet 2 in B \flat . The key signature is two flats (B \flat major/D \flat minor). The tempo/mood is marked 'F Sans ralentir' and 'soli'. The dynamics are 'pp' (pianissimo). The texture consists of triplet eighth notes in the flutes and clarinets. In measure 49, the flute and clarinet 1 play a triplet of eighth notes. In measure 50, the flute and clarinet 1 play a triplet of eighth notes. In measure 51, the flute and clarinet 1 play a triplet of eighth notes. The root of the D \flat major chord is dropped in the flute and covered by Clarinet 2 an octave lower.

Figure 56: Root dropped in Flute 2. Covered by Clarinet 2 an octave lower.

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At Letter EE (Bar 360), the oboe solo comes in with texture going on in Violin 1 (quarter note triplets) and clarinet/bassoon texture underneath (syncopated halves and quarters). The texture is written with two clarinets and two bassoons. We only had two clarinets and one bassoon available according to the proscribed instrumental layout, so the octave above the bassoon was removed. The top and bottom notes remain the same and the third moves into Clarinet 2.

This looked to be a bit sparser without the octave, but it sounded fine. It is a texture, and the focus is on the oboe solo with countermelody in the violas and cello underneath. This could have been done either with the triad remaining on root/third/octave (or passing tones) and could have used another instrument to fill in the fourth voice, but it was better to retain the clarinet/bassoon sonority, so a voice was dropped. See Figure 57 & Figure 58.

Figure 57 shows a musical score starting at measure 360, marked 'EE Tempo Primo' and 'I solo espressivo'. The Oboe part features a melodic line with a dynamic marking of *p*. Below the Oboe, there are staves for Clarinet 1,2 in Bb and Bassoon 1,2. The Clarinet part has a dynamic marking of *p* and the Bassoon part has a dynamic marking of *p*. The texture consists of syncopated halves and quarters.

Figure 57: Original score with texture in the Clarinets and Bassoons below the Oboe melody.

Figure 58 shows a reduced version of the musical score from Figure 57. It starts at measure 360, marked 'EE Tempo Primo' and 'solo espressivo'. The Oboe part remains the same with a dynamic marking of *p*. Below the Oboe, there are staves for Clarinet 1 in Bb, Clarinet 2 in Bb, and Bassoon. The Clarinet 1 part has a dynamic marking of *p* and the Bassoon part has a dynamic marking of *p*. The texture is reduced to two Clarinets and one Bassoon.

Figure 58: Reduced texture with two Clarinets and one Bassoon.

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Movement III at Measure 928 (Letter CC) is a rescoring dilemma that comes up often. The melody in the flute and violins is harmonized, but there is only one flute available in our chamber orchestra rescore. The second flute harmony joins the first flute, which was playing alone with the violins. See Figure 59.

927 CC

Flute 1,2

Violin 1

Violin 2

dim.

dim. arco

pp

p

p

<sf

<sf

<sf

Figure 59: Original score with two Flutes unison with the Violins.

The first thought was to replace the Second Flute with the Second Clarinet, but then two further thoughts came to mind. 1) It will change the orchestration from flutes and violins to flute, clarinet, and violins, which is a much different sonority. 2) The Second Flute part is doubled in the Second Violin. Therefore, it was important to keep the flute sound on top of the First Violin, but the Second Flute isn't needed since it is already doubled in the Second Violin, so the Second Flute harmony could be left off without adversely affecting the orchestral timbre in that section. See Figure 60.

Flute

Violin 1

Violin 2

dim.

dim. arco

pp

p

p

<sf

<sf

<sf

Figure 60: Flutes reduced to one Flute.

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Sometimes the harmony in the two flutes is also doubled in the oboes, so the one flute could safely play the First Flute part and have the oboe play the Second Flute part, as is the case in Figure 62 below. That way the harmony and the color could be retained...perhaps not as strong as the original, but this is chamber orchestra – not full symphony orchestra, so it can be lighter. The goal is not to exactly replicate a symphony but to play this piece in the *context* of a chamber orchestra. Therefore, the arbitrarily limited instrumentation of the chamber orchestra becomes an asset, as the audience becomes accustomed to hearing the piece relative to the size of the chamber orchestra in front of them and not be thinking that “this isn’t a full symphony.” They will instead hear Berlioz *Symphonie Fantastique* in all its glory performed in a chamber orchestra. It can be listened to on an iPhone speaker as well as on a massive home theater system, and they both still sound like the same piece.

In Movement III at bar 1035, the two-flute harmony is doubled in the oboes, so the upper is put in the flute and the lower in the oboe, which works and sounds fine, especially in a chamber orchestra. Plus, it is doubled in the clarinets. This situation arises frequently. See Figure 61 & Figure 62.

1035

Flute 1,2

Oboe

sf *p*

sf *p*

Figure 61: Original with two Flutes and two Oboes.

140

Flute

Oboe

sf *p*

sf *p*

Figure 62: Rescored, retaining Flute 1 and Oboe 2 parts.

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4.6.4.3 Strauss

Letter F in the Strauss marks the appearance of both harp parts. They were combined bearing in mind what is practical for a single player, plus a colleague that plays the harp⁶³ looked it over. A large goal was to retain the bass clef line in Harp 2 in Bar 62, as it adds to the lushness in the violin cadence in Bar 64. See Figure 63 & Figure 64.



Figure 63: Original score with two Harps.



Figure 64: Harp consolidated to one player.

⁶³ Harpist Grace Paradise. Grace is a regular performer on Broadway in New York City and has performed with the Metropolitan Opera Orchestra, the New York Philharmonic and was a staff member at the New York Playboy Club. <https://www.playbill.com/person/grace-paradise-vault-0000009831>

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At Bar 70 (Letter H), the piccolo was eliminated as it is doubled in the violins, celeste, and the harp, and we needed the flute player on flute for the big solo at Letter I (Bar 72). See Figure 65.

Figure 65 shows a musical score for four instruments: Piccolo, Celeste, Harp 1, and Violin 1. The score is in 3/4 time and features a key signature of one flat. Bar 70 is marked with a box containing the letter 'H'. The Piccolo staff has a dynamic of *p sfz*. The Celeste staff has dynamics of *p*, *sfz*, and *dim.*. The Harp 1 staff has a dynamic of *sfz*. The Violin 1 staff has dynamics of *p*, *sfz*, and *dim.*. The score shows complex rhythmic patterns and melodic lines for each instrument.

Figure 65: Original score with Piccolo, which is eliminated in the rescoring.

At Bar 121, the glockenspiel makes an appearance for a single solitary note that is covered by the celeste, even though it is one octave higher than the top celeste note.

4.6.5 Instrument Substitution

Substituting one instrument for another is another major arrow in the rescorer's quiver of orchestrational tools. But it is not without its challenges and risks. On one hand, it is paramount to maintain the harmonic structure and polyphony of a piece by using substituted instruments to replace missing chordal members, but on the other hand one runs the risk of changing or even ruining the timbre that was the original composer's intention.

Therefore, this is an immensely useful methodology, and even necessary as you move something large into something small (symphony orchestra to chamber orchestra). There is a fine line to be balanced between harmonic structure, polyphony, and orchestration. This section lists places that span all four pieces (Mozart, Rimsky-Korsakov, Berlioz, and Strauss) where substitution was made and examined.

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4.6.5.1 Mozart

In the Mozart in Bar 51, the Second Oboe was taken from the oboe duo and put into First and Second Clarinet. It sounds more woodwind quintet-like with a soli now taking place between the flute, oboe, clarinet, and bassoon. See Figure 66 & Figure 67. Note that the original score notates Clarinet in C, while throughout the rescore Clarinet in B \flat is used. This is done for expediency, since very few clarinetists use or even own a Clarinet in C and are taught C transposition as part of their professional training.

Figure 66: Original score with oboes doubled.

Figure 67: Second Oboe moved to the Clarinet parts.

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4.6.5.2 Rimsky-Korsakov

In the Rimsky-Korsakov at Movement II, the four horn soli in the beginning is the first major orchestration challenge reached during the rescoring of these four orchestral pieces. There are only two horns to use but two trombones are available, so Horn 3, 4 were put in the two trombones. This worked well and became a configuration that was used in the rescorings from this point forward. With horn on top and trombones playing lower harmony, it still maintains the horn soli sonority and aesthetic, while still being in a comfortable range for the trombone. See Figure 68 & **Error! Reference source not found..**

Figure 68 shows the original horn soli at the beginning of the second movement. It consists of two systems of staves. The first system (measures 75-83) features Horn 1,2 in F (treble clef) and Horn 3,4 in F (treble clef). The second system (measures 84-91) features Horn 1,2 in F (treble clef) and Horn 3,4 in F (treble clef). The score includes dynamics like *mp* and a repeat sign.

Figure 68: Original horn soli at the beginning of the second movement.

Figure 69 shows the horn soli with Horn 3, 4 moved to Trombone. It consists of two systems of staves. The first system (measures 75-83) features Horn 1,2 in F (treble clef) and Trombone 1,2 (bass clef). The second system (measures 84-91) features Horn 1,2 in F (treble clef) and Trombone 1,2 (bass clef). The score includes dynamics like *mp dolce* and a repeat sign.

Figure 69: Horn 3, 4 moved to Trombone. Note the easy range for Tenor Trombone.

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At Letter E, the oboe switches to English horn for all of the solos between Bar 113 and 133, then back to oboe after that.

In Bar 141, Horns 3 & 4 play drones in octaves that are quite low. These were moved to trombone and tuba, and resulted in good ranges for the low brass, and addressed the need for four voices. See Figure 70 & Figure 71.

141

Horn 1,2 in F

Horn 3,4 in F

Trombone 1

Trombone 2

f

mf

mf

f

mf

f

mf

Figure 70: Original score with four Horns and Trombones.

141

Horn 1,2 in F

Trombone 1, 2

Tuba

f

mf

mf

f

mf

f

mf

Figure 71: Horn 3,4 moved into Trombone and Tuba.

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In Movement III at Bar 255, the 2nd flute was moved to the 2nd clarinet (instead of oboe) because it was too low for the oboe and less reedy. See Figure 72 & Figure 73.



Figure 72: Original with two Flutes.

Figure 73 shows a musical score for two parts: Flute and Clarinet 2 in B-flat. The Flute part is in treble clef with a key signature of two flats. It starts at bar 255 with a half rest, followed by a quarter note G4, and then a series of eighth and quarter notes. A *pp* (pianissimo) dynamic marking is placed below the first measure. The Clarinet 2 in B-flat part is in treble clef with a key signature of two flats. It starts at bar 255 with a half rest, followed by a quarter note G4, and then a series of eighth and quarter notes. A *pp* dynamic marking is placed below the first measure. A *pp* dynamic marking is also placed above the first measure of the Clarinet part, with the text "w/Fl." (with Flute) written above it.

Figure 73: 2nd Flute moved to 2nd Clarinet.

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Movement IV posed a challenge that was anticipated with some trepidation. As can be seen in Figure 74, the orchestration in the opening fanfare called for two trumpets and four horns – two soprano and four alto brass voices. There was only one trumpet and two horns available in this rescore - one soprano and two alto brass voices. Horn 3 & 4 were moved into the two tenor trombones, which have the range to cross into the alto voice. Most of Trumpet 2 was moved either to Horn 1 when it is doubled or dropped altogether in the case of other doubles.

This substitution has almost the same impact, given that the chamber orchestra will employ five brass for the fanfare instead of the original six brass consisting of all trumpets and horns in the full symphony orchestra version; this rescored version uses trumpets, horns, and trombones. This came out well. See Figure 74 & Figure 75.

273
Horn 1,2 in F
Horn 3,4 in F
Trumpet in Bb
f
ff

277
Horn 1,2 in F
Horn 3,4 in F
Trumpet in Bb
dim.
dim.
dim.

281
Horn 1,2 in F
Horn 3,4 in F
Trumpet in Bb
mp cresc.
mp cresc.
mf cresc.
f pp
f pp
ff pp

Figure 74: Original Brass orchestration.

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The image displays three systems of musical notation for a brass section, specifically focusing on the rescored parts for Horns, Trumpet, and Trombones. The notation is in 6/8 time and B-flat major.

- System 1 (Measures 273-276):**
 - Horn 1,2 in F:** Features a 'Soli' section with triplet eighth notes and accents. Measure 276 includes a '3' above a triplet.
 - Trumpet in C:** Also features a 'Soli' section with triplet eighth notes and accents. Measure 276 includes a '3' above a triplet.
 - Trombone 1, 2:** Features a 'Soli' section with triplet eighth notes and accents. Measure 276 includes a '3' above a triplet.
- System 2 (Measures 277-280):**
 - Horn 1,2 in F:** Continues the melodic line with accents. Measure 280 includes a 'dim.' (diminuendo) marking.
 - Trumpet in C:** Continues the melodic line with accents. Measure 280 includes a 'dim.' (diminuendo) marking.
 - Trombone 1, 2:** Continues the melodic line with accents. Measure 280 includes a 'dim.' (diminuendo) marking.
- System 3 (Measures 281-284):**
 - Horn 1,2 in F:** Features a 'cresc.' (crescendo) marking and triplet eighth notes. Measure 284 includes a 'f' (forte) dynamic and a fermata.
 - Trumpet in C:** Features a 'cresc.' (crescendo) marking and triplet eighth notes. Measure 284 includes a 'f' (forte) dynamic and a fermata.
 - Trombone 1, 2:** Features a 'cresc.' (crescendo) marking and triplet eighth notes. Measure 284 includes a 'f' (forte) dynamic and a fermata.

Figure 75: Brass rescored, dropping one Trumpet but adding Trombones.

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4.6.5.3 Berlioz

In the first movement at Letter E (Bar 36), this texture crosses almost all the winds so it provided a fair amount of leeway in which to move things around without changing the overall timbre. See Figure 76 & Figure 77.

Figure 76: Original score at Bar 36

Figure 77: Same section pared down but spread out across the winds.

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In the first movement at Letter NN (Bar 463), the syncopated melody figure in flutes, clarinets and oboes needs the flute to switch to piccolo for its entrance in the fourth bar, so the oboe was moved to the upper octave. There is so much going on in the orchestra at this location that the difference is not noticeable. See Figure 78 & Figure 79.

463 **NN** tempo primo piu animato

Piccolo

Flute 1,2

Oboe

Clarinet 1,2 in Bb

mf unis. *cresc.*

mf unis. *cresc.*

mf *cresc.*

Figure 78: Original score with woodwind offbeats and Piccolo entrance.

463 **NN** Tempo primo piu animato

Flute

Oboe

Clarinet 1 in Bb

Clarinet 2 in Bb

mf *cresc.*

mf *cresc.*

mf *cresc.*

Piccolo

Figure 79: Flute moved to Piccolo; Oboe moved to Flute part.

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This next issue at the opening of the third movement required some experimentation, which was addressed when the score was originally entered into Sibelius: what to do about the English Horn solo at the beginning and end of the movement. In the score in the beginning of the movement, Berlioz directs that the oboe plays offstage. The English horn starts off the movement with a solo that is alternated with the offstage oboe. See Figure 80. The challenge is that there is only one player available in the rescored orchestration that can double on oboe and English horn. That person could probably switch back and forth, but that would not only look comical, but they also need to play together at Bar 906. A substitute was needed to be found from within the existing orchestra instrumental configuration for English horn.

The image displays a musical score for two instruments: Oboe and English Horn. The score is divided into two systems. The first system, labeled '896 (behind the scene)', shows the Oboe part with a 'solo' marking and a dynamic of *p* (piano). The English Horn part also has a dynamic of *p*. The second system, labeled '902', shows the Oboe part with a dynamic of *p* and the English Horn part with a dynamic of *f* (forte). The score is written in 6/8 time and includes various musical notations such as notes, rests, and dynamic markings.

Figure 80: Original version with Oboe and English Horn.

Muted trumpet was considered. Chicago composer Easley Blackwood⁶⁴ used a muted trumpet as a substitute for English horn in his arrangement of *Capriccio Espagnol*, but that timbre didn't work well in this context. See Figure 81.

⁶⁴ Easley Blackwood entry on Wikipedia: https://en.wikipedia.org/wiki/Easley_Blackwood_Jr.

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896 mute solo
Trumpet in C
p

902
Trumpet in C

Figure 81: English Horn solo moved to Trumpet.

The solution ended up being bassoon. It was available in the chamber orchestra instrumentation, and it is a double reed, so the tone sonority is probably the closest to English horn of any other instrument in the orchestra. A consultation with a professional bassoon colleague was made because of concern about the range, but he assured me that it was fine with some minor modification to some of the octaves.⁶⁵ It is unlikely that English horn players will be happy about losing their big solo, but that is one of the limitations and lamentations of using a reduced orchestration. See Figure 82.

896 (behind the scene)
Oboe
Bassoon 1,2 solo
p

902
Oboe AA
Bassoon 1,2

Figure 82: Final version, with the English Horn solo moved to Bassoon.

⁶⁵ Email exchange on June 02, 2020 with leading New York freelance bassoonist and Manhattan School of Music (New York City) faculty member Harry Searing. His comment was, “*I don’t think anyone would really notice if you dropped the bassoon down an octave for that really high stuff (G, F, E), but I would keep the high D grace note to high C. That’s just Rite of Spring stuff, I have high school kids that can play that now!*” His advice was followed.

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The third bar of the fifth movement presented some orchestration issues to resolve: the distribution of voices in a diminished chord in the woodwinds that was originally played by 7 players. The Piccolo was placed below the oboe to preserve the timbre of having the oboe on top of the chord just like in the original. The E \flat clarinet was also used here, earlier than is indicated in the original score. The net result is a woodwind chord that sounds virtually the same and provides background to the string activity. See Figure 83 & Figure 84.

Figure 83 shows the original score for the third bar of the fifth movement. It features three woodwind staves: Oboe, Clarinet in C, and Bassoon 1,2. The Oboe staff begins at measure 1275. Each staff contains a sustained diminished chord. The Oboe part is marked with *poco f* and *p* dynamics, connected by a crescendo hairpin. The Clarinet in C and Bassoon 1,2 parts also show *poco f* and *p* dynamics with a crescendo hairpin.

Figure 83: Original score of the sustained diminished chord in the woodwinds at the 3rd Bar.

Figure 84 shows the rescored version of the third bar. It includes five woodwind staves: Piccolo, Oboe, Clarinet in E \flat , Clarinet 2 in B \flat , and Bassoon. The Piccolo staff starts at measure 3. Each staff contains a sustained diminished chord. The Piccolo part is marked with *poco f* and *p* dynamics, connected by a crescendo hairpin. The Oboe, Clarinet in E \flat , Clarinet 2 in B \flat , and Bassoon parts also show *poco f* and *p* dynamics with a crescendo hairpin.

Figure 84: Rescored with the addition of Piccolo and E \flat Clarinet. Note that Piccolo sounds an octave higher than written, so the Piccolo G sounds only a minor third below the oboe.

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The fifth movement at Letter E (Bar 1312) has a big Eb Clarinet solo accompanied by two oboes and the Second Clarinet. The Piccolo can't be switched to flute to fill in because the piccolo is needed for their soli on the 7th bar, plus it isn't *scharf und spitzig*⁶⁶ enough. At first, the bassoon was moved to the Second Clarinet part and Second Clarinet was moved to the Second Oboe part, but the bassoon proved to be too heavy on the bottom, plus the bassoon was needed for the 16th notes on the 8th bar, where the Second Oboe part could be eliminated to no ill effect. The final choice was to keep the Second Clarinet on the original part and have bassoon play the Second Oboe part. That worked well and the range isn't too high for the bassoon. See Figure 85 & Figure 86.

1312 **E** Allegro (♩. = 104)

1316

⁶⁶ Richard Strauss' directive to the Eb Clarinet in his tone poem *Ein Heldenleben* Op. 40, Letter 13: *sehr scharf und spitzig* (sharp and spitting).

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Figure 85: Original score.

40 **E** Allegro (♩ = 104)

Piccolo

Oboe

Clarinet in Eb

Clarinet 2 in Bb

Bassoon

poco f

solo

tr

tr

tr

tr

poco f

poco f

poco f

mf

tr

mf

Figure 86: Rescored with Bassoon on the 2nd Oboe part.

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The fifth movement of the Berlioz calls for both E \flat Trumpet and B \flat Cornet. We have one C Trumpet player available in our Chamber Orchestra orchestration, so the highest notes from both parts were put into C Trumpet so that we can hear trumpet sonority when it emerges, like in this example at 9 before Letter R. See Figure 87.

The musical score for Figure 87 is divided into two systems. The first system covers measures 232 to 236, and the second system covers measures 237 to 238. The instruments are Horn 1 in F, Horn 2 in F, Trumpet in C, Trombone 1, Trombone 2, and Tuba. The key signature is B-flat major (two flats). The time signature is 4/4. The score shows a crescendo in measures 232-235, followed by a double bar line at measure 236. In measure 237, the dynamics change to *ff* (fortissimo) for the Horns and Trombones, and *f* (forte) for the Trumpet and Tuba. The Tuba part is silent in measure 237. The score ends with a double bar line at measure 238.

Figure 87: Trumpet at the top of the brass stack.

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Two bars after Letter Y (Bar 1578), the orchestration needed to be changed because of the lack of flute and Second Oboe. The flute player is on piccolo and the range is too low for the piccolo to play. The flute part was moved to the E \flat Clarinet and the Second Oboe to Second B \flat Clarinet. Everything then remained in the same tessitura as the original. See Figure 88 & Figure 89.

Figure 88 shows the original orchestration for measures 1578 and 1579. The Flute 1,2 part is written in treble clef, and the Oboe part is also in treble clef. Both parts start with a piano (*p*) dynamic and a crescendo hairpin. The Flute 1,2 part has a dynamic marking of *(dim.)* (diminuendo) in measure 1579. The Oboe part also has a *(dim.)* marking in measure 1579. The music consists of eighth and sixteenth notes with various accidentals.

Figure 88: Original orchestration.

Figure 89 shows the revised orchestration for measures 306 and 307. The Oboe part is written in treble clef, the Clarinet in E \flat part is in treble clef with a key signature of one sharp, and the Clarinet 2 in B \flat part is in treble clef with a key signature of two sharps. All three parts start with a piano (*p*) dynamic and a crescendo hairpin. The Oboe part has a dynamic marking of *(dim.)* (diminuendo) in measure 307. The Clarinet in E \flat and Clarinet 2 in B \flat parts also have *(dim.)* markings in measure 307. The music consists of eighth and sixteenth notes with various accidentals.

Figure 89: Flute and Oboe parts moved to E \flat and B \flat Clarinet.

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4.6.5.4 Strauss

In the Strauss at Bar 31, the rescore roster of instruments in the chamber orchestra does not include the contrabassoon, so the line was put in the bassoon instead. The contrabassoon is doubled by the string bass, so in this instance the bassoon is doubling the cello instead. See Figure 90 & Figure 91.

31 Ziemlich langsam (♩ = 72)

Contrabassoon

Violoncello Soli

Violoncello Rest

Contrabass

Figure 90: Original score using Contrabassoon, doubling Contrabass.

31 Ziemlich langsam (♩ = 72)

Bassoon

Violoncello

Contrabass

Figure 91: Contrabassoon was removed and replaced by Bassoon, which doubles Cello instead of Bass.

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At Bar 55 – the exposed English Horn bar was put in the oboe. The focus here is on the flute, and since they are both double reeds it will be very transparent. See **Error! Reference source not**

Figure 92 shows a musical score for three instruments: Flute 1,2, Oboe, and English Horn. The score is for measures 55 and 56. In measure 55, the Flute 1,2 part has a melodic line starting with a forte (*f*) dynamic. The Oboe part has a whole rest. The English Horn part has a melodic line starting with a forte (*f*) dynamic, followed by a decrescendo (*dim.*) leading to a piano (*p*) dynamic in measure 56. The Flute 1,2 part continues its melodic line in measure 56, also ending with a piano (*p*) dynamic. The Oboe part has a whole rest in measure 56.

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Figure 93 shows a musical score for two instruments: Flute and Oboe. The score is for measures 55 and 56. In measure 55, the Flute part has a melodic line starting with a forte (*f*) dynamic. The Oboe part has a melodic line starting with a forte (*f*) dynamic. In measure 56, the Flute part continues its melodic line, ending with a piano (*p*) dynamic. The Oboe part has a melodic line starting with a piano (*p*) dynamic.

Figure 92: Original score using the English Horn.

Figure 93: English Horn moved into the Oboe.

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At Bar 60 (Letter F), the inner horn parts were moved to the trombones, who don't play there. This added depth, while retaining a horn quality by having horns in the top and bottom notes. See Figure 94 & Figure 95.

Figure 94 shows the original score for four horns. The score is written for Horn 1,2 (treble clef) and Horn 3,4 (treble clef). The key signature is one sharp (F#), and the time signature is 5/4. The score begins at bar 60, marked with a box containing the letter 'F' and the word 'mute'. The dynamics are marked 'p' (piano). The music consists of sustained notes with some movement in the lower register of the Horn 3,4 part.

Figure 94: Original score with four Horns.

Figure 95 shows the revised score where the inner horn voices are filled in by trombones. The score is written for Horn 1 (treble clef), Horn 2 (treble clef), Trombone 1 (bass clef), and Trombone 2 (bass clef). The key signature is one sharp (F#), and the time signature is 5/4. The score begins at bar 60, marked with a box containing the letter 'F' and the word 'mute'. The dynamics are marked 'p' (piano). The music consists of sustained notes with some movement in the lower register of the Trombone 1 and 2 parts.

Figure 95: Using Trombones to fill in the inner Horn voices.

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As much as it was painful to do so, the bass clarinet part in Bar 67 was taken out and given to the bassoon. It is doubled in the celli, so it won't be missed. See Figure 96 & Figure 97.

Figure 96 shows a musical score for two staves: Bass Clarinet (top) and Violoncello (bottom). The score spans from bar 67 to bar 72. The key signature is one sharp (F#). The time signature changes from 2/4 to 3/4 in bar 69, then to 5/4 in bar 71, and finally to 3/4 in bar 72. The Bass Clarinet part features a melodic line with triplets and a fermata in bar 71. The Violoncello part provides a harmonic accompaniment with triplets and a fermata in bar 71. Dynamic markings include *p* (piano), *mf dim.* (mezzo-forte, decrescendo), and *pp* (pianissimo). Performance instructions include *pizz.* (pizzicato) and *arco* (arco). The score is marked with 'H' and 'I' in boxes above the staves.

Figure 96: Original, with the Bass Clarinet and Celli doubled.

Figure 97 shows a musical score for two staves: Bassoon (top) and Violoncello (bottom). The score spans from bar 67 to bar 72. The key signature is one sharp (F#). The time signature changes from 2/4 to 3/4 in bar 69, then to 5/4 in bar 71, and finally to 3/4 in bar 72. The Bassoon part features a melodic line with triplets and a fermata in bar 71. The Violoncello part provides a harmonic accompaniment with triplets and a fermata in bar 71. Dynamic markings include *p* (piano), *mf dim.* (mezzo-forte, decrescendo), and *pp* (pianissimo). Performance instructions include *pizz.* (pizzicato) and *arco* (arco). The score is marked with 'H' and 'I' in boxes above the staves.

Figure 97: Bass Clarinet replaced with the Bassoon. As a bass clarinetist, this hurt.

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At Bar 234, three muted trumpets have an entrance. A possible solution was to use trumpet and two horns, but it is too high for the horns, so the two lower voices were put in the clarinets. It is still in the right tessitura, and with the trumpet on top, it is closer to the original than using horns, even though they are brass instruments. In this case, range was more important than timbre. See Figure 98 & Figure 99.

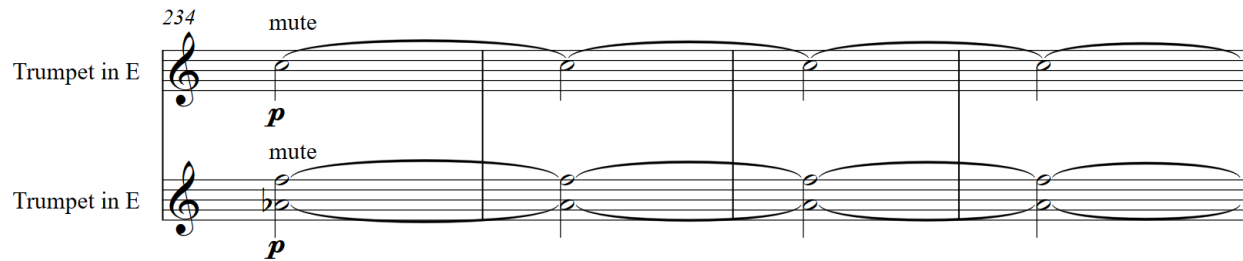


Figure 98: Original entrance with three Trumpets.

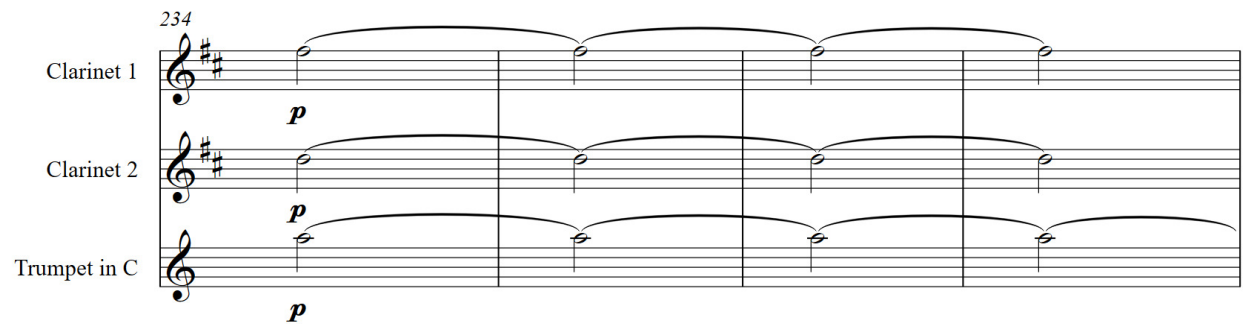


Figure 99: Lower Trumpets replaced with Clarinets to preserve the tessitura.

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In the one instance in the score where xylophone appears - for five measures at Bar 96 (the fifth bar of Letter M) - the timpani player was switched to xylophone, but that requires a bit of a quick change back to timpani afterward (see Bar 101 in Figure 100). An alternate cue was set up in the celeste if they prefer to have that played there instead. In the case of the glockenspiel, I moved all of that into celeste since the sound is similar. See Figure 100.

The figure shows a musical score for two staves: Xylophone and Celeste. The Xylophone staff starts at measure 96 with a *mf* dynamic, followed by a *p* dynamic, and then a *mf* dynamic. The Celeste staff has an 'Alternate for Xylophone' and also shows *mf* and *p* dynamics. Above the Xylophone staff, there are annotations: 'To Timp.' and 'Timpani' with a note 'Etwas lebhafter'.

Figure 100: The Xylophone part played by the Timpani player or cued in the Celeste.

4.6.6 Validation and Quality

One of the big challenges in rescoring a symphonic work for chamber orchestra is making sure that the source (original) score is correct, otherwise mistakes will be propagated into the rescored chamber orchestra work. The activities listed in this section helped to bring the finished product into alignment.

The lesson learned here is that particular care needs to be taken that the original symphony orchestra score is of good quality. If it comes from IMSLP and is taken from a score that was published (and now in the public domain), then chances are that it will be of generally good quality. If it comes from a source like MuseScore, then *caveat emptor!*⁶⁷ Most of the scores coming from that source are not created by professional copyists and will likely have errors, as was the case with the Mozart score that was used. In the case of the Rimsky-Korsakov, even though the person that created it did a terrific job, it still required a lot of validation and correction against the original score (the original score was sourced from IMSLP).

4.6.6.1 Mozart

- The rescored score was checked for missing dynamic marks against the original score.

⁶⁷ Caveat emptor defined at dictionary.com (<https://www.dictionary.com/browse/caveat-emptor>): “let the buyer beware: the principle that the seller of a product cannot be held responsible for its quality unless it is guaranteed in a warranty.”

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- The original score was consulted when arbitrating the markings. With two computer screens available, the PDF copy of the original score was kept at the ready on another computer screen, which was obtained from IMSLP since this work is in the public domain.
- An extraneous "a 2" was removed from the bassoon and oboe parts.
- DC al Fine, and Fine was added to the score for proper iteration.
- Forte (f) dynamics markings were added and normalized to all the parts in the beginning of the second reprise.
- A piano (p) dynamic was missing at beginning of trio in all the entrances and added.
- Dynamics were rescored back to the score in bars 55 - 59.
- A Start Repeat was added to the beginning of the Trio even though it isn't in the score. It was confusing Sibelius' iteration when using their playback feature.
- Iteration in the beginning was fixed after a DC during playback. The first reprise was set to only play during the first three passes. On the DC, the cursor moved, and it didn't play and was subsequently corrected. A solution was found on Google at Play->Repeats in Sibelius and unchecked "Play repeats after a D.S. or D. C. jump." Minuet-style iteration was then fixed during playback. This was another Sibelius challenge for proper playback.
- A missing note was corrected in Bar 82 in the Clarinet 2 part.
- The tempo was changed from MM. = 128 to 132 to make it sound better.
- The part cleanup was quite easy due to the brevity of the piece.

4.6.6.2 Rimsky-Korsakov

- String arco and pizzicato artifacts were fixed, and proper articulation was restored.
- Traditional articulation was set in the clarinet solo.
- A lot of artifacts were left over in the score and cleaned up, particularly dynamic marks that were not in the score, or were missing. Non-original staccato articulations put in for separations were taken out.

4.6.7 Rescoring Percussion

This issue came up so often and was so challenging that it warranted its own section, analysis, and examination. It is difficult and challenging to take a major symphonic work, especially from the Romantic or Late Romantic Period, which use a lot of percussion requiring multiple players, and rescore it for chamber orchestra with only two players, one of which is usually playing timpani.

4.6.7.1 Rimsky-Korsakov

A decision needed to be made about what percussion would be retained besides timpani. There are six parts in the original score, but only three are used in the first movement (section).⁶⁸ The

⁶⁸ Capriccio Espagnol is played continuously ("attaca") from start to finish, although there are five distinct sections labelled in the score with Roman numerals. So, each part can be considered a movement or a section.

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arbitrary requirement made based on the desired target size of the chamber orchestra was to have two percussion players - one being tympani and one percussionist doing everything else.

In the opening of the piece, Rimsky-Korsakov uses four percussion instruments, besides timpani: triangle, tambourine, bass drum and cymbals. With the arbitrary availability of only one percussionist, only one instrument could be picked given that they all overlap. After listening to several recordings on YouTube, the clear requirement was the tambourine. In one video, the camera even did a closeup⁶⁹ on the tambourine player. See Figure 101 & Figure 102.

Figure 101: Original six Percussion parts, starting at Bar 1.

Figure 101: Original six Percussion parts, starting at Bar 1.

Figure 102: Rescored down to just Timpani and Tambourine.

Figure 102: Rescored down to just Timpani and Tambourine.

In Movement III, another big challenge was deciding which percussion to use, and at first glance it looked like snare drum, then using triangle at the end, like in the first movement. Listening to various recordings, snare drum was very prominent, and boisterously so – it drowns out the triangle in the beginning.

⁶⁹ Zubin Mehta conducting the Berlin Philharmonic: <https://youtu.be/Lh6mDL-VwYw>

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In Movement IV at Letter P (Bar 396), Rimsky-Korsakov starts adding on more percussion as the melody moves to the strings. With the heavy accompaniment in the woodwinds and brass, removing the tambourine and triangle could be done with confidence, and the snare and the cymbals used instead. This is very thick orchestration. The composer adds bass drum, but at the same time he moves the tympani to forte and adds tuba forte as well, so the bass drum could be removed as well, as had been done earlier. See Figure 103 & Figure 104.

396 **P**

Timpani *f*

Triangle *f* 3

Tambourine *f*

Snare Drum *mf*

Cymbals *mf*

Bass Drum *mf*

Figure 103: Original Percussion orchestration at Letter Q.

Timpani *f* 3

Percussion *mf*
(Snare)
(Cymbals)

Figure 104: Letter P Percussion (Cymbals and Snare Drum) reduced for one player.

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Rimsky-Korsakov (Movement V): At Bar 414, Rimsky-Korsakov throws in everything but the proverbial kitchen sink in the percussion at the very beginning, but only for four bars, and then it reverts to two players. See Figure 105 & Figure 106.

414

Timpani

Triangle

Castanets

Snare Drum

Cymbals

Bass Drum

Figure 105: Original score at the start of the Fifth Movement in the Percussion.

Timpani

Percussion

Bass Drum

Figure 106: Rescored for two Percussion players.

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In Movement V, there was a big challenge at Bar 569 (Letter V) when the composer again starts using a great deal of percussion. When having an arbitrary limit of two percussion players, it was preferable to keep one player on timpani as much as possible – and switching her/him/they to a few other percussion instruments when necessary - and leaving most of the rest of the percussion with the other player and focusing largely on snare drum during the big tutti sections. The snare cuts through during loud sections and can rhythmically support the orchestra. This became a logistical challenge in places where cymbals are desired while the snare and timpani are active. This asks the percussion player to play two instruments at the same time, although the expectation is that the cymbals are suspended so that they can be played simultaneously. Consultation was made with a colleague⁷⁰ who is an orchestra percussionist to see what was practical and this ended up being the best solution. See Figure 107 & Figure 108.

569 **V**

Timpani

Triangle

Castinets

Snare Drum

Cymbals

Bass Drum

Figure 107: Original Percussion orchestration with six voices.

Timpani

Snare Drum

(Cymbals)

Figure 108: Rescored to three voices across two Percussionists.

⁷⁰ Chuck Burkinshaw, Percussionist with the San Fernando Valley Symphony Orchestra in Los Angeles, California USA

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In Movement V there were additional challenges in having one percussion player cover multiple instruments – in this case snare and cymbals. At Bar 609 (13th bar of Letter X), the cymbals were most important, so the triangle was briefly moved over to the timpani player and left off snare or castanets, or snare roll where cymbals are played at the same time.⁷¹ It gives the same impact. See Figure 109 & Figure 110.

609

Y

Timpani

Triangle

Castinets

Snare Drum

Cymbals

Bass Drum

mf

Figure 109: Original Percussion orchestration.

611

Triangle To Timp. Timpani

Timpani

Snare Drum

Cymbals

mf

Figure 110: Percussion narrowed down to two players with the Timpani player changing over to Triangle and back.

⁷¹ Snare Drum and Cymbals can be played simultaneously if the Percussionist uses Suspended Cymbals.

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In the last movement of the Rimsky-Korsakov, it was challenging merging all the percussion parts notationally down to two players while retaining the percussion impact and aesthetic, especially since the timpani player is on timpani 95% of the time. They were merged by adding an additional staff below the main percussion staff so that their part shows two lines. A consultation was made with the same percussionist⁷² as to what is feasible in playing multiple instruments simultaneously, and it is mostly snare and cymbals.

4.6.7.2 Berlioz

In the fourth movement, the original score calls for five percussion: two timpani, snare, cymbals, and bass drum. We had two percussion players available in our rescored chamber orchestra orchestration, therefore the percussion rescore was a challenge.

⁷² Chuck Burkinshaw, Percussionist with the San Fernando Valley Symphony Orchestra in Los Angeles, California USA

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At the end of the fourth movement, three percussion parts are needed to be covered with one player. After the decapitation in the fifth bar after R (Bar 1264), the snare drum comes in loudly until the end of the movement. The only problem is that we also needed violin reinforcement by cymbals and bass drum in their entrances in the last four bars. The solution was to alternate snare roll and cymbal/bass drum hits in those three bars, which worked fine with all the sound going on, especially in the continuous timpani roll. See Figure 111 & Figure 112.

1264

Timpani 1
ff

Timpani 2
ff

Cymbals
f
ff

Bass Drum
f
ff

Snare Drum
ff
ff

Figure 111: Original score requiring five Percussion players.

170

Timpani
ff

Percussion
(snare drum)
ff

(cymbals)
f
ff

(bass drum)
f
ff

To Timp.

Figure 112: Reduced to two players. Percussion 2 alternates between Snare roll and Cymbals/Bass Drum in the last four bars.

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In the last movement at Letter O (Bar 1459), the Percussion 1 player (normally on timpani) was moved over to bass drum while Percussion 2 was playing chimes (starting at Letter I – Bar 1374) for the Dies Irae. But the timpani comes in again at 9 before Letter R (Bar 1504) in two parts, but they combined together well so from 9 before R, Percussion 1 is still on bass drum and Percussion 2 is on timpani playing the combined parts together. See Figure 113 & Figure 114.

1504 (baguettes d'éponge)

Timpani 1

Timpani 2

Bass Drum

mf

cresc.

cresc.

ff

ff

ff

Figure 113: Original score at 9 before Letter R.

232

Bass Drum

Timpani 2

cresc.

mf

cresc.

ff

ff

To Timp.

Figure 114: Rescored for two players.

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4.6.7.3 Strauss

At the very beginning of the score, it was clear that it was possible to combine four percussion parts into two parts – the two timpani parts can be played by one player, and the snare drum and tambourine can also be played by one player. Both are prominent at the very beginning, so retaining them was important. See Figure 115 & Figure 116.

Sehr schnell und heftig (♩ = 144)

Figure 115 is a musical score for percussion, titled "Sehr schnell und heftig (♩ = 144)". It features four staves: two Timpani, Snare Drum, and Tambourine. The time signature is 2/4. The first two staves (Timpani) are in bass clef, and the last two (Snare Drum and Tambourine) are in treble clef. The score begins with a forte (f) dynamic. The first Timpani part plays a series of eighth notes, while the second Timpani part plays a series of quarter notes. The Snare Drum and Tambourine parts play a series of eighth notes. The score is divided into measures by vertical bar lines.

Figure 115: Original score Percussion at the very beginning with four players.

Sehr schnell und heftig (♩ = 144)

Figure 116 is a musical score for percussion, titled "Sehr schnell und heftig (♩ = 144)". It features three staves: Timpani, Snare Drum, and Tambourine. The time signature is 2/4. The first staff (Timpani) is in bass clef, and the last two (Snare Drum and Tambourine) are in treble clef. The score begins with a forte (f) dynamic. The Timpani part plays a series of eighth notes, while the Snare Drum and Tambourine parts play a series of quarter notes. The score is divided into measures by vertical bar lines.

Figure 116: Rescored for two Percussionists: one on Timpani, and one playing Snare and Tambourine.

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Letter V (Bar 196) posed the biggest challenge of the entire effort across all four symphonic works. There were two percussion players available in the rescored orchestration, and 7 percussion parts to figure out how to cover and/or reduce. Plus, one of the players was usually only playing timpani. That meant figuring out what to do with six parts and one player and not sacrificing Strauss's orchestrational richness. Fortunately, the tempo is slow here (MM. quarter approx. = 76) and entrances are on the quarter. Since this section does not consist of more than one tap of a percussion instrument (some are rolls) per quarter note, it was feasible for the solitary percussionist to move around to play different instruments, but not more than two at a time, plus it was reasonable for them to have these instruments arrayed (suspended) around them. Suspended cymbals were also specified so that they don't take two hands. See Figure 117.

The figure shows two systems of musical notation for percussion parts. The first system, starting at bar 196, includes parts for Castinets, Tambourine, Tri., Snare Drum, Cym., and Bass Drum. The second system, starting at bar 203, includes parts for Snare Drum, Cym., B. D., Tambourine, and Castinets. The notation includes various musical symbols such as notes, rests, and dynamic markings (f, p, mf, ff, dim.). Above the staves, there are tempo and performance instructions in German: 'wieder etwas massiger' (twice), 'accelerando' (twice), and 'poco accelerando'. A double bar line with a repeat sign is shown at the end of the first system.

Figure 117: The most challenging place in the rescore - 13 bars of Percussion at Letter V.

My original notation for percussion was workable, but it was based on a maximum of four staves with instrument changes occurring on the same staff. This got messy and would have added undue confusion on the part of the percussionist. Instead, as mentioned in Section 4.6.3.4, having fixed

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staves for each percussion instrument added a lot of clarity and consistency. Here is the result (See Figure 118):

Figure 118 shows two systems of percussion staves. The first system, starting at measure 196, is marked with a box containing the letter 'V'. It includes staves for Snare Drum, Cym., B. D., Tambourine, Tri., and Castinets. The second system, starting at measure 203, is marked with a box containing the letter 'W'. It includes the same percussion instruments. The staves are rescored to allow one player to move around and retain the color. The first system includes dynamics like *mf*, *p*, and *f*, and tempo markings like 'Wieder etwas mässiger' and 'accelerando'. The second system includes dynamics like *f*, *mf*, *p*, and *ff*, and tempo markings like 'Wieder etwas mässiger' and 'poco accelerando'.

Figure 118: Percussion at Letter V rescored so one player can move around and retain the color.

In some cases, it was preferable to eliminate the bass drum and substitute it with timpani when it was possible and appropriate. That was done at Letter V. See Figure 117 & Figure 118.

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Most of the cymbals are indicated suspended cymbals (as does Strauss), but he often pairs cymbals with bass drum, so it is up to the percussionist if they want to have cymbals mounted on the bass drum to make it easier for them to be played together.

When possible, it is preferable to use crash cymbals (piatti) in place of suspended cymbals due to the majestic sound. It was particularly preferable to use crash cymbals in the last two measures. The percussionist was moved to crash cymbals in the last two bars, with the timpani also covering the bass drum, with both muffled so that they don't hang over the orchestra unison eighth notes in the last two bars. See Figure 119.

The figure shows a musical score for two percussion parts: Bass Drum and Cymbals, spanning measures 344 to 347. Above measure 344, there is a box containing 'JJ' and the tempo marking 'Sehr schnell.' The Bass Drum part is written on a single-line staff with a bass clef. It has rests in measures 344, 345, and 346, followed by a muffled note in measure 347 labeled '(muffle w towel)' and 'ff'. The Cymbals part is written on a single-line staff with a cymbal clef. It has rests in measures 344, 345, and 346, followed by a muffled note in measure 347 labeled '(piatti)' and 'ff'. The final two measures (346 and 347) end with a double bar line.

Figure 119: Percussion at the end of the piece.

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At three before DD/Bar 263, percussion needed to be cut down – too much and too overlapping. Listening to recordings of it critically, one can hear that the “action” is in the tambourine, snare, and castanets, which could be handled by one player if the percussion instruments are suspended. The bass drum was skipped there and some of the other percussion was pared down. Xylophone was moved to the celeste, which is played by another player who is exclusively playing the celeste. See Figure 120 & Figure 121.

Figure 120 shows a musical score for percussion instruments. The score is for measures 263 to 268. The instruments listed are Castinets, Tambourine, Snare Drum, Bass Drum, and Xylophone. A box labeled 'DD' is placed above measure 264. The Xylophone part is moved to the Celeste. The score includes dynamic markings: *f* (forte) for Tambourine and Snare Drum, *mf* (mezzo-forte) for Xylophone, and *pp* (pianissimo) for Bass Drum. The Xylophone part is marked *mf* in measure 268.

Figure 120: Percussion in original score. Timpani is not shown.

Figure 121 shows a musical score for three percussion instruments: Snare Drum, Tambourine, and Castinets. The score is for measures 263 to 268. A box labeled 'DD' is placed above measure 264. The Xylophone part has been moved to the Celeste. The score includes dynamic markings: *f* (forte) for Snare Drum and Tambourine, and *mf* (mezzo-forte) for Celeste. The Celeste part is marked *mf* in measure 268.

Figure 121: Three Percussion instruments played by one player. The Xylophone part has been moved to Celeste.

Overlap is avoided between percussion instruments when possible, otherwise the percussion part would become impossible for one player to perform by themselves.

While one of the two percussionists is kept mostly on timpani, there were a couple of times that they were really needed to temporarily move to other instruments, particularly with the bass drum and xylophone, although I did mention in Figure 100 above that an alternate for xylophone was written in the celeste.

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Strauss clearly goes for an “oriental” feeling in the percussion in this piece. While the rescored percussion part is challenging for the percussionist, this was reviewed and adjusted based on a bar by bar review of the percussion parts with Vadim Karpinos, Assistant Principal Percussionist with the Chicago Symphony and Chuck Berkinshaw, Percussionist with the San Fernando Valley Symphony in Southern California, USA. While the percussion part is difficult (and was the most difficult aspect of this reduction), it is infinitely playable and retains the rich oriental flavor that Strauss intended for this piece.

In the Strauss, so many challenges arose in the percussion parts that a set of directions to the performing percussionists became necessary. This will appear in the conductor’s score if/when this piece is eventually published:

4.6.7.4 Directions to Percussionists

This rescoring calls for two players: one mostly playing timpani and the other playing a variety of percussion instruments. The percussion part is probably the most challenging part in the chamber orchestra, not from technique but from logistics.

Directions for the Timpanist: You will mostly play on timpani, but there are a few places where you are needed to fill in on other instruments:

There is an important bass drum roll at Letter B; just be aware that you may be sharing the bass drum with the percussionist, so place the instrument accordingly. There are also five bars of xylophone at the fifth bar of Letter M where you are needed. If that is problematic, those bars are cued in the celeste, although it would sound better on xylophone. There are three bars of cymbals at the sixth bar of Letter HH, which may be played on suspended cymbals (again being aware that this instrument is likely being shared with the percussionist), and you can probably use your timpani sticks so that you don’t need to change sticks to play this. Finally, you are needed in the last two bars of the piece to play both the last timpani and bass drum notes simultaneously. The marking in the part suggests muffling both the timpani and bass drum; this is because the entire orchestra is playing eighth notes and you shouldn’t hang over. Muffling should solve that.

Strauss’s original timpani part consists of two staves. One is regular Pauken (timpani) and the other is for eine kleine Pauke (mit Holzschlägel) - a small timpani (with wooden mallet). Strauss is looking for a more “oriental” sound out of that instrument, and that upper note E is likely not playable on your regular timpani, so you may want to use a rototom with a wooden stick. Both timpani parts are combined so that they may be played by one player. Just be aware that the high E’s are meant for the kleine Pauke.

Directions for the Percussionist: This part combines parts that are normally played by six players in a full symphony orchestra, and it has been carefully rescored so that they can be played by one player, although you will be switching between instruments quite a bit. Percussion in the full score

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and percussion part will always appear in this order, although empty staves are hidden: Snare drum, cymbals, bass drum, tambourine, triangle, castanets, and tam-tam.

Triangle: Using a single pair of snare drumsticks will minimize stick switching between the percussion instruments. One solution for eliminating the switch to triangle beaters is to duct tape beaters on your sticks and they will produce a fine triangle tone. If you do this, make sure that you put a mark on the stick so that you can be aware of the stick orientation. See photo below:



Other solutions are to use either plastic tip sticks or metal sticks so that they can be used on triangle, but the tone of the triangle will likely not be optimal. Or a triangle machine can be used, such as those made by Danmar and Grover.

Instruments will need to be suspended for easy access. It may be useful to have more than one of a specific instrument as needed so that one of them can be suspended and the other left lying down so that it can be picked up. The 13 bars starting at Letter V calls for switching between 5 instruments, but the tempo is slow there and the parts do not overlap, so switching should be possible. Note that piatti (crash cymbals) are called for in the last two bars of the piece. If the timpanist balks at playing timpani and bass drum at the same time, then the percussionist can go back to either suspended cymbal/bass drum or have the cymbals mounted on top of the bass drum.

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5 Conclusions, Lessons Learned, and Measurable Outcomes

This document revolves around four pieces of music written for full symphony orchestra and the process of rescoring them for a chamber orchestra a fraction of the size. Along the way, processes and techniques were derived and documented and presented here in detail – from how to pick symphony orchestra pieces as realistic candidates for rescore, to how to modify percussion parts so that they can be played with only two players while retaining the orchestrational timbre that was the composer’s original intent. This examination starts with a narrative describing the journey the author made from pure performer to prolific music writer and author and the progress and stops made on the way before arriving at the process of writing for chamber orchestra.

The larger conclusion that merits being immediately called out is the question of whether it is feasible to take a piece of symphonic music writing for 106 players and successfully and realistically rescore it for a 24-piece chamber orchestra? I believe that the answer is yes, but only if the principles and methodologies detailed here in Section 4 are followed.

Here are some of the conclusions and lessons learned:

Does the term “Extreme Scoring” make sense? It does as much as any other process name, and it cannot be denied that the act of paring down a large symphonic work and making it work for chamber orchestra is an act of extreme scoring. This was successfully achieved in three examples:⁷³ Rimsky-Korsakov’s *Capriccio Espagnol*, Berlioz’s *Symphonie Fantastique* and Richard Strauss’s *Salome’s Dance of the Seven Veils* – the last of which seems the most unlikely, given that it is derived from an orchestral interlude inside a massive opera. The large pieces rescored here span the Early, Middle and Late Romantic Periods, and the composers represent a variety of European nationalities, from France, Germany and even a Russian writing in a Spanish-flavored style.

The lessons learned in picking these pieces were looked at in sizing up what are good candidates for rescore through a review of what constitutes a chamber orchestra, outlining the principles in determining the size and instrumentation of the ensemble, as well as the practicality of a particular symphonic work as a candidate for rescore.

Given the widespread use today of electronic composition tools such as notation software, the various digital import formats were reviewed, the sources where digital versions of scores may be found, as well as dealing with a wide range of quality when using third party electronic scores.

The four pieces that were rescored as part of this entire process were reviewed in detail, including links to the finished rescoring on YouTube, the motivations and criteria behind why they were

⁷³ The Mozart Symphony No. 40 movement examined in this document is intentionally omitted from this list. While it can be played with a large orchestra, it is a piece from the Classical Period and is not a large symphonic work based on its orchestration.

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selected, their instrumentation, as well as issues specific to their orchestration and other comments, observations, and challenges germane to the specific piece.

The issue of orchestral balance was examined and called out in a separate topic as it pertains to the chamber orchestra performing a work originally intended for an ensemble many multiples its size in terms of the number of musicians on the stage. This is a critical issue, and one that will engender multiple opinions, from the conductor to the executive director and their motivations and wants and desires.

Finally, a deep dive was performed on the principles, best practices and techniques that were derived and developed in detail by topic. Throughout Section 4.6, these are broken out by the piece reference by the composer name (Mozart, Rimsky-Korsakov, Berlioz, and Strauss). These include:

- Rescoring the orchestral string section, the conclusions reached and exceptions to those conclusions.
- Maintaining the harmonic and voicing structure of the original piece and the considerations that need to be made when performing rescoring of the magnitude described here.
- The editing and notational practices made during the physical creation of the score and parts. While this is not strictly compositional, nevertheless it is a vital part of the voyage taken from rescoring idea to scores and parts on the music stands.
- The processes involved in eliminating instruments from within the chamber orchestra score. This is one of the three massive challenges in the Extreme Rescore process, the other two being instrument substitution and rescoring percussion. When going from a piece of symphonic music intended to be performed by 80-110 performers to a chamber orchestra with 24 players, this issue becomes paramount and is examined in detail sorted by composer with granular “before and after” cases. It looks at how the number of players were reduced in the strings and the reduction in the number of parts in the winds, brass, and percussion. It shows how it was done and the techniques used while retaining the overall integrity of the original score.
- Instrument substitution was another huge challenge during the rescore of these pieces for chamber orchestra, as well as the challenges and risks as substituted instruments were used to replace missing chordal members as well as polyphony while maintaining the timbre that was the original composer’s intention.
- A review of the process, with examples, concerning the care that needs to be taken that the source original symphony orchestra score is of good quality, as well as the validation and error correction that still needs to be taken.
- Finally, an in-depth look at the issues involved with the challenges in taking a major symphonic work that makes use of multiple percussion parts and rescoring it essentially for two players, one of which is usually playing the timpani. This was quite difficult and required

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consultation with outside experts to create percussion parts that were both viable and playable, yet still retained the original composer's sonorities.

During the rescoring process, I took copious notes about the issues that I was encountering and the solutions I found for them, and they are examined and analyzed in this document. This had resulted in an intermediate step – a composition-centric document; the other two being the actual rescore of the four orchestral compositions for chamber orchestra which was achieved using the Sibelius notation program, and this analysis document. In the intermediate step, all the thoughts and issues associated with that piece were documented in chronological order. These then formed the basis for much of the content in this final document.

They are listed in their original form in the Appendix for examination.

Some final comments: I *loved* doing this. I always thought that theses and dissertations were supposed to be horrible efforts, especially given the number of Ph.D. candidates I personally know that ended up ABD,⁷⁴ as well as the case where I provided encouragement to my elder sister Julie when she was writing her Ph.D. dissertation⁷⁵ in Architecture at the University of California at Berkeley.

For this, I have not needed any encouragement as doing this part of my dissertation has been a glorious adventure, and I thank my Ph.D. advisors at Leiden for providing me with a framework, guidance, and incentives for creating things, like this document, that I wanted to do but needed a structure and discipline underneath which to create them.

Thank you!

Michael Drapkin

Sarasota, Florida, USA
2020-2021

⁷⁴ ABD: All but Dissertation. Ph.D. candidates that fulfilled all of their Ph.D. requirements but did not write or finish their dissertation. This even included my Los Angeles cousin Fred Selden, and I even offered to write his dissertation for him, as it was on jazz improvisation, and I was interested in the topic. But alas, too much time had transpired.

⁷⁵ For encouragement, I used to tell Julie “Degreed is good” which is a play on the Michael Douglas line “Greed is good” in the Hollywood movie Wall Street.

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6 Appendix

These are the original analyses that I wrote for each of the four pieces that I rescored. They are listed here in their original form – one for each piece, and the analysis is written in chronological (score) order. While most of the material here appears earlier in the document, these are included as a score centric complete analysis of each piece from an Extreme Scoring perspective done in score order.

6.1 Mozart Symphony No. 40 in G minor, K.550 (1788)

Website: <https://restructuringclassicalmusic.com/chamber-orchestra/>
YouTube: <https://youtu.be/iuJTPaNUpps>

Why Did I Pick This Piece?

I rescored this piece as a quick “warm-up” to get a feel for the rescoring process before tackling the bigger symphony orchestra pieces included in this dissertation. Additionally, when I rescored this, it was going to be performed as a stand-alone movement with the Texas Chamber Symphony in Houston, Texas, USA in a concert in early 2020, but COVID prevented that, plus I eventually withdrew from the organization.

This was an easy movement to rescore, and it only took me one evening to do the entire thing. Indeed, it only meant eliminating a couple of the winds. In general, symphonies from the Classical Period (Haydn, Mozart, etc.) don’t need much - if any - rescoring in order for them to be performed by chamber orchestra, and many orchestras are using these types of pieces during the pandemic so that they can maintain social distancing on stage with a minimum number of players – and also hire less musicians. They are often paired with conducted chamber ensemble pieces like the Stravinsky Octet, Dvorak Serenade, etc.

The Mozart G Minor Symphony was on one of my first orchestra concerts,⁷⁶ and I particularly like this movement with its driving hemiola opening theme in minor and use of counterpoint, balanced by excursions into major by the woodwinds in a sort of question-and-answer format. It is in the traditional minuet/trio structure in g minor.

⁷⁶ With the Santa Monica (California) Youth Symphony in 1974. Other pieces included Wagner’s Overture to Die Meistersinger and the Saint-Saëns Cello Concerto No. 1 with Los Angeles cellist Jeffrey Solow. It also was the first time I performed using a Clarinet in A, which precipitated my purchasing one.

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Many of my editing comments below refer to formatting and issues specific to my Sibelius notation program. Much of this was done while deciding how I wanted to address formatting and are not included in my later restructuring works as they became standardized⁷⁷.

Instrumentation - 16 players

1. Flute
2. Oboe
3. Clarinet 1 & 2 in B \flat
4. Bassoon
5. Horn 1 & 2 in F
6. 4 Violins (Violin 1, 2)
7. 2 Violas
8. 2 Celli
9. Contrabass.

Editing Analysis

- The original orchestration calls for flute, 2 oboes, 2 clarinets, 2 bassoons, 2 horns, violin 1, violin 2, viola, cello, bass. This exists in two different versions: one with two clarinets and one without. The clarinets were probably added in a later version.⁷⁸ The orchestration that I used is the one that includes the clarinets.
 - This meant eliminating one of the oboes and one of the bassoons.
 - Performance time is approximately 5 minutes.
1. The strings were left largely intact as originally notated.
 2. In paring down woodwinds, care was needed to be made to maintain the harmony and voicing. I looked for opportunities in doublings, such as between 2nd clarinet and 2nd oboe.

⁷⁷ I use Evernote for aggregating notes – I have a note with a list of items that I need to do when I format scores and parts as well as other similar notes. <https://evernote.com/>

⁷⁸ Zaslav, Neal (1983). *Introductory notes to a recording of the 31st and 40th Symphonies made by Christopher Hogwood and the Academy of Ancient Music, Oiseau-Lyre 410-197-2*

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3. Eliminating the Second Bassoon part created opportunities for removing doublings (*a due* - "a2") by examining the cello line. For example, in Bar 8 when the bassoons go into harmony, the lower part in Second Bassoon is doubled with the cello, so it can be eliminated. See *Figures 1 & 2*.

Figure 122: Original score - beginning of the Menuetto.

Figure 123: Rescored, eliminating the 2nd Bassoon.

4. Note that in this document and the successive Analysis documents, I make every attempt to keep the descriptive text and “before and after” figures together on one page. This is to eliminate the need to page back and forth when comparing them and allows the reader to see them in one glance. But that periodically means additional white space in the document as pagination is inserted for this purpose, such as can be seen at the bottom of this page.
5. I standardized the instrument names and made sure there is a short form name listed.
6. I standardized the string bass clef so that they sounded an octave below the cello and were written in the same range as cello. The original score sometimes combines cello and bass, which should sound an octave apart.

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7. I normalized the Horn parts to Horn in F. This was trivial to do in Sibelius: create the instrument in the desired key, copy, and paste. See *Figures 3 & 4*.



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16. In Bar 51, I took the Second Oboe from their oboe duo and put it into First and Second Clarinet. It sounds more woodwind quintet-like with a soli now between flute, oboe, clarinet, and bassoon. See *Figures 5 & 6*. Note that the original score notates Clarinet in C, while my version uses Clarinet in B \flat for expediency, since very few clarinetists use or even own a Clarinet in C.

51

Oboi.

Fagotti.

p

cresc.

f

p

p

Figure 126: Original score with oboes doubled.

51

Oboe

Clarinet 1 in B \flat

Clarinet 2 in B \flat

Bassoon

p

cresc.

f

p

p

cresc.

f

p

cresc.

f

p

cresc.

f

p

f

p

Figure 127: Second Oboe moved to the Clarinet parts.

17. I split the clarinet parts into two staves to make it easier to move lines from the oboe and bassoon without dealing with multiple voices in the same staff.
18. I doubled the lower oboe 2 divisi part into the clarinet 1 if it isn't doubled already.
19. I moved the upper bassoon divisi to clarinet 2. The result sounds more Brahmsian.

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20. In Bar 42, I dropped the chordal 5th in bassoon 1 in the 1st beat, and on the 2nd and 3rd beat dropped the chordal 3rd - doubled in clarinet 2 right above. This maintained the harmony while using 3 voices instead of 4. See first arrow in *Figure 7 & 8*.
21. Bar 43 dropped the chordal 5th in the upper divisi bassoon 1 from the D⁷ chord. See second arrow in *Figure 7 & 8*.

42

Clarineti in C.

Fagotti.

p

Figure 128: Original score with Clarinets and Bassoons.

42

Clarinet 1 in Bb

Clarinet 2 in Bb

Bassoon

p

Figure 129: Revised version eliminating a bassoon voice by dropping the 5th in a dominant chord.

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22. In bassoon bars 31-35, both parts are doubled, so I needed to pick one of the two voices. I decided to pick the top, and it played two octaves below 1st violin, oboes, and clarinets. See *Figures 9 & 10*.
23. I analyzed the chord progression in bars 36-37. I decided which notes to drop in the bassoon part bearing in mind voice leading and the bass line. See *Figures 9 & 10*.

Figure 130: Original Score excerpt starting at Bar 31.

Figure 131: Rescored using the top bassoon line, doubled in Oboe, Clarinets and Violin 1

24. I split the horns into separate staves. See *Figure 4*.
25. I fixed the title and subtitle.
26. I cleaned up the score layout and fixed the stave justification percentage.
27. I added DC al Fine, and Fine to the score.

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28. I added forte (f) to all parts in beginning of second reprise.
29. I added piano (p) dynamic missing at beginning of trio in all entrances.
30. I restored dynamics back to score in bars 55 - 59.
31. I added Start Repeat to beginning of the Trio even though it isn't in the score. It was messing up Sibelius' iteration when using their playback feature.
32. I fixed iteration in the beginning after a DC during playback. I set the first reprise to only play the first three passes. On the DC, the cursor moved, and it didn't play. I undid that. I Googled and found Play->Repeats and unchecked "Play repeats after a D.S. or D. C. jump." Minuet-style iteration was then fixed during playback. This was another Sibelius challenge for proper playback.
33. I corrected a missing note in bar 82 in Clarinet 2.
34. I changed the tempo from MM. = 128 to 132. It sounds better.
35. Part cleanup was quite easy due to the brevity of the piece.

6.2 Rimsky-Korsakov Capriccio Espagnol Op.34 (1887)

Website: <https://restructuringclassicalmusic.com/chamber-orchestra/>

YouTube: <https://youtu.be/aqi82VszShg>

Why Did I Pick This Piece?

This is a great piece from the Russian/European late romantic period, a classic and an orchestral showpiece for full symphony orchestra and fun for the audience. It also has some *terrific* clarinet solos that every clarinet player studies in college and comes up often on orchestra auditions. I have taken on a huge challenge with this piece - rescoring a showpiece written for full symphony orchestra and pulling it off with chamber orchestra. Since it was written in 1887 it is in the public domain.

It is such a pleasure to perform! I have only performed this once⁷⁹, but would love to perform this again, and getting a chamber orchestra together would be much easier than assembling a full symphony orchestra.

Instrumentation (note some of the doubles) – 23 players

⁷⁹ I performed this once with the Honolulu Symphony in 1983 on one of our inter-island community concerts. The Principal Clarinetist could not perform at one of the concerts, so as the Assistant Principal Clarinetist, I was tapped to play the 1st clarinet part – with no rehearsal.

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10. Flute/Piccolo
11. Oboe/English Horn
12. Clarinet 1 & 2 in A and B \flat
13. Bassoon
14. Horn 1 & 2 in F
15. Trumpet in C
16. Trombone 1 & 2
17. Tuba
18. Timpani/triangle
19. Percussion (1 player) on snare, cymbals, castanets, bass drum, tambourine, triangle
20. Harp
21. 4 Violins (Violin 1, 2)
22. 2 Violas
23. 2 Celli
24. Contrabass.

Balance

This discussion of orchestral balance appears in the notes for all three of the large orchestral works that I rescored for chamber orchestra: Rimsky-Korsakov: Capriccio Espagnol, Berlioz: Symphonie Fantastique and Strauss: Salome's Dance of the Seven Veils. The issues are identical in each piece.

The original limitation of 22 players was somewhat arbitrary and arose out of budgetary constraints and small stage sizes. When I was involved founding the Texas Chamber Symphony, we felt that the maximum number of players that we could realistically budget for and fit on stage was 22 (later 24) players. Our first concert on December 21st in Pearland, Texas USA used that complement of players.⁸⁰

In all three pieces, the winds and percussion heavily outnumber the strings: 9 strings vs. 14 winds, harp, and percussion in the Rimsky-Korsakov and Berlioz pieces, and 9 strings vs. 15 winds, harp, and percussion (+ celeste) in the Strauss. This will need to be addressed at the outset, or the strings will be drowned out. Here I propose three solutions:

4. Increase the number of string players. This will be the most likely solution for most chamber orchestras. Instead of 4 violins, 2 violas, 2 celli and bass, increase it to 6 violins, 3 violas, 3

⁸⁰ Concert December 21st, 2019 by the Pearland Chamber Orchestra later renamed as the Texas Chamber Symphony. The concert featured the premiere of my chamber orchestra piece "A Klezmer Set." <https://youtu.be/fpYHJ3Bzc60>

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celli and bass, or 8 violins, 4 violas, 4 celli and 2 basses or some variation thereof⁸¹. But that will significantly increase the size of the orchestra as well as the labor cost.

5. Have the conductor keep the volume down in the winds and percussion to achieve balance. This might be a challenge, although it would make for more impactful tutti/fortissimo sections.
6. Amplify the strings. This certainly can work for performances and recordings, but it adds complexity and cost, and requires solid mixing on the part of the recording engineer, which does not always happen.

This issue doesn't apply to the rescore of the Third Movement Menuetto of Mozart's 40th/G minor Symphony, as that piece only uses 7 winds and no percussion out of the 16 players that I indicate in the score, so balance will not be as much of a challenge, nor need to be addressed in the same way that it is in these three orchestral works.

Editing Analysis

- The original orchestra calls for piccolo, 2 flutes, 2 oboes (one doubling on English Horn), 2 clarinets in A & B♭, 2 bassoons, 4 horns in F, 2 trumpets in A & B♭, 2 tenor trombones & bass trombone, tuba, timpani, tambourine, triangle, bass drum/cymbals, tambourine/castanets (5 separate percussion parts), violin 1, violin 2, viola, cello, bass.
 - This meant eliminating 2 flutes (one player to double flute and piccolo), 1 bassoon, 2 horns, 1 trumpet, 1 trombone, 4 percussion (assuming that 5 players would play the separate percussion parts in the original).
 - I originally thought that I could eliminate the harp and keep the number of players in the chamber orchestra at 22 players, but in retrospect I needed to have it in order to retain the aesthetics of the orchestration, especially the harp cadenza.
 - The performance time is approximately 14 minutes.
1. I increased the staff size on the score so that the staves weren't so tiny. I unlocked the format for the entire score and re-optimized it so that multipage systems stopped overlapping.
 2. I cleaned up the score in Sibelius. Most of the text size was extremely big.
 3. I added Title, Subtitle and Composer and initial Tempo marking - fixed the font sizes.
 4. I needed to decide what instruments to eliminate. The likely candidates were harp⁸², which meant eliminating the harp cadenza, bass drum, which is probably

⁸¹ The St. Paul Chamber Orchestra, in Minnesota, USA, is one of the best-known professional chamber orchestras in the United States. Their roster lists 6 violins, 2 violas, 4 celli and 1 bass. See <https://content.thespco.org/people/orchestra-musicians/> They also expand or contract the number of players based on the instrumental requirements in each score that they perform.

⁸² Ultimately, I decided that I could not eliminate the harp, especially since there was a big harp cadenza. It was a good decision, as I needed harp in Berlioz: Symphony Fantastique and Strauss: Salome's Dance. This meant increasing the size of my "standard" chamber orchestra to 23 players. In Salome's Dance I had the same decision point with celeste, which I also concluded could not be eliminated from the rescored orchestration.

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not needed in a chamber orchestra, and piccolo, although I considered making piccolo a double with flute⁸³.

5. I needed to decide about what percussion would be retained besides timpani. There are six parts in the original score, but only three are used in the first movement (section⁸⁴). The goal was to have two percussion players - one being tympani and one percussionist doing everything else.
6. I converted A trumpet to C trumpet. This became the standard in all of my scores.
7. I worked one screen at a time cleaning and rescoring.
8. I hid staves with instruments that are not used until later in the piece, such as harp, solo violin and cello, English horn, B♭ clarinet, etc.

⁸³ I did end up having the flute player double on piccolo.

⁸⁴ Capriccio Espagnol is played continuously (“attaca”) from start to finish, although there are five distinct sections labelled in the score with Roman numerals. So, each part can be considered a movement or a section.

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First movement - I. Alborada

1. I looked for opportunities for consolidation from doubles.
2. In Bar 1, I started flute on the piccolo. See *Figure 1*.
3. In Bar 1, I eliminated Oboe 2 (see *Figure 1*), and in Bar 6 I had oboe play the Flute 2 part to retain the 16th notes. See *Figure 2*.
4. Bar 1, Horn 3, 4 is doubled in the celli and trombones, so they can be eliminated. See *Figure 1*.



Figure 132: Original score.

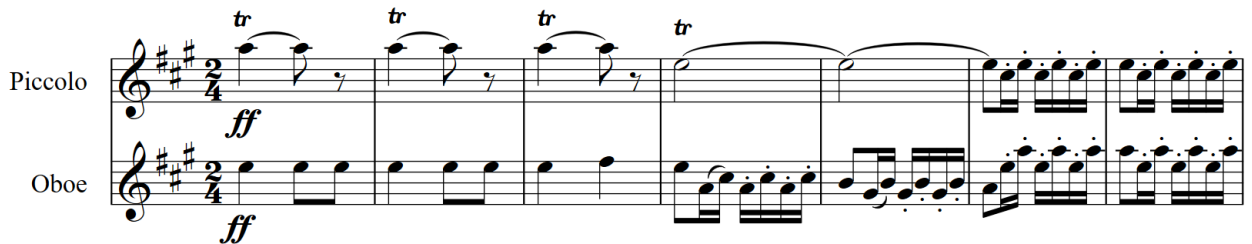


Figure 133: Rescored. Eliminated Oboe 2 and put Flute 2 in the Oboe and Flute 1 in the Piccolo down an octave.

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7. The opening uses four percussion instruments, besides timpani. Triangle, tambourine, bass drum and cymbals. I could only really pick one, so I listened to several recordings on YouTube and the clear winner was the tambourine - the camera even did a closeup on a tambourine being played. See *Figures 3 & 4*.

Figure 134 shows a musical score for six percussion parts: Timpani, Triangle, Tambourine, Cymbals, and Bass Drum. The score is in 2/4 time with a key signature of one sharp (F#). The Timpani part is in the bass clef. The Triangle, Tambourine, and Cymbals parts are in the treble clef. The Bass Drum part is in the bass clef. The score shows the first seven measures of the piece. The Triangle, Tambourine, and Cymbals parts are marked with a forte (f) dynamic. The Bass Drum part is marked with a mezzo-forte (mf) dynamic.

Figure 134: Original six Percussion parts, starting at Bar 1.

Figure 135 shows a musical score for two percussion parts: Timpani and Tambourine. The score is in 2/4 time with a key signature of one sharp (F#). The Timpani part is in the bass clef. The Tambourine part is in the treble clef. The score shows the first seven measures of the piece. The Tambourine part is marked with a forte (f) dynamic.

Figure 135: Rescored down to just Tambourine.

5. I fixed string arco, pizz artifacts, and restored proper articulation.
6. I set proper articulation in the clarinet solo.

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7. At B, moved the 2nd oboe part into the 2nd clarinet. See *Figure 5 & 6*.

Figure 136 shows a musical score for measures 27 through 32. The score is for two staves: Oboe and Clarinet in A. A box labeled 'B' is placed above measure 27. The Oboe staff contains a series of chords, mostly triads and dyads, with some trills. The Clarinet in A staff contains a series of trills, mostly on the notes G and A, with some chords. The dynamic marking *ff* is present at the beginning of the Clarinet in A staff.

Figure 136: Original score with two Oboes.

Figure 137 shows a musical score for measures 27 through 32. The score is for three staves: Oboe, Clarinet 1 in A, and Clarinet 2 in A. A box labeled 'B' is placed above measure 27. The Oboe staff contains a series of chords, mostly triads and dyads, with some trills. The Clarinet 1 in A staff contains a series of trills, mostly on the notes G and A, with some chords. The Clarinet 2 in A staff contains a series of chords, mostly triads and dyads, with some trills. The dynamic marking *ff* is present at the beginning of the Clarinet 1 in A staff, and *ff w/ob* is present at the beginning of the Clarinet 2 in A staff.

Figure 137: 2nd Oboe is moved to 2nd Clarinet, which was doubled with the 1st Clarinet anyway.

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Second Movement - II. Variazioni

1. The first issue was the four horn soli in the beginning, and my first major orchestration challenge. I only have two horns to use but also two trombones, so I put Horn 3,4 in the two trombones. This worked well and became a configuration that I used in all of my rescorings from this point forward. With horn on top and trombones playing lower harmony, it still maintains the horn soli sonority and aesthetic, while still being in a comfortable range for the trombone. See *Figures 7 & 8*.

Figure 138 displays the original horn soli at the beginning of the second movement. The score is written for Horn 1,2 in F and Horn 3,4 in F. The music begins at measure 75, marked *mp*. The Horn 1,2 part features a melodic line with eighth and sixteenth notes, while the Horn 3,4 part provides a harmonic accompaniment with sustained notes and some movement. The score continues to measure 84, where the Horn 3,4 part has a rest.

Figure 138: Original horn soli at the beginning of the second movement.

Figure 139 shows the horn soli with Horn 3,4 moved to Trombone. The score is written for Horn 1,2 in F and Trombone 1, 2. The music begins at measure 75, marked *mp dolce*. The Horn 1,2 part remains the same as in Figure 138, but the Trombone 1, 2 part now plays the lower harmony, maintaining the sonority and aesthetic. The score continues to measure 84, where the Trombone 1, 2 part has a rest.

Figure 139: Horn 3,4 moved to Trombone. Note the easy range for Tenor Trombone.

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In the woodwind background texture at the 2nd bar of Letter D, I took out the 2nd flute as it is doubled in the 2nd clarinet an octave below. See *Figures 9 & 10*.

Figure 140: Original score with harmony in Flutes and Clarinets.

Figure 141: 2nd Flute doubled in 2nd Clarinet.

2. I did a lot of clean-up of artifacts left over in the score, particularly dynamic marks that are not in the score, and or are missing, and staccato articulations that are not in the score that it put in for separations.
3. At Letter E, the oboe switches to English horn for all of those solos between bar 113 and 133, then back to oboe after that.
4. I moved all the trumpet parts in B \flat to trumpet in C.

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5. In Bar 141, the horns 3 and 4 play drones in octaves that are quite low. These got moved to trombone and tuba. They resulted in good ranges for the low brass. See *Figures 11 & 12*.

Figure 142 shows a musical score for measures 141 through 146. The score is for four parts: Horn 1,2 in F (treble clef), Horn 3,4 in F (treble clef), Trombone 1 (bass clef), and Trombone 2 (bass clef). Horn 1,2 in F plays a melody starting in measure 141 with a forte (*f*) dynamic. Horn 3,4 in F plays a drone in octaves, starting in measure 141 with a mezzo-forte (*mf*) dynamic. Trombone 1 and Trombone 2 play a drone in octaves, starting in measure 141 with a mezzo-forte (*mf*) dynamic. The score includes dynamic markings (*f*, *mf*) and articulation marks (accents, slurs).

Figure 142: Original score with four Horns and Trombones.

Figure 143 shows a musical score for measures 141 through 146. The score is for three parts: Horn 1,2 in F (treble clef), Trombone 1, 2 (bass clef), and Tuba (bass clef). Horn 1,2 in F plays a melody starting in measure 141 with a forte (*f*) dynamic. Trombone 1, 2 plays a drone in octaves, starting in measure 141 with a mezzo-forte (*mf*) dynamic. The Tuba plays a drone in octaves, starting in measure 141 with a mezzo-forte (*mf*) dynamic. The score includes dynamic markings (*f*, *mf*) and articulation marks (accents, slurs).

Figure 143: Horn 3,4 moved into Trombone and Tuba.

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6. Also, at Bar 141, and elsewhere in the movement, there is two-part harmony in the flutes and oboes. I eliminated the lower flute and upper oboe voices in order to maintain the harmony and separation; these sections are tutti with the orchestra and worked quite well. See *Figures 13 & 14*.

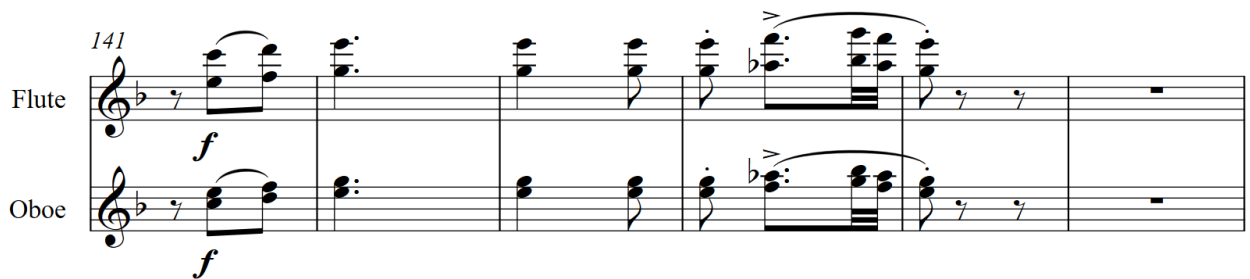


Figure 144: Original harmony in the Flutes and Oboes.

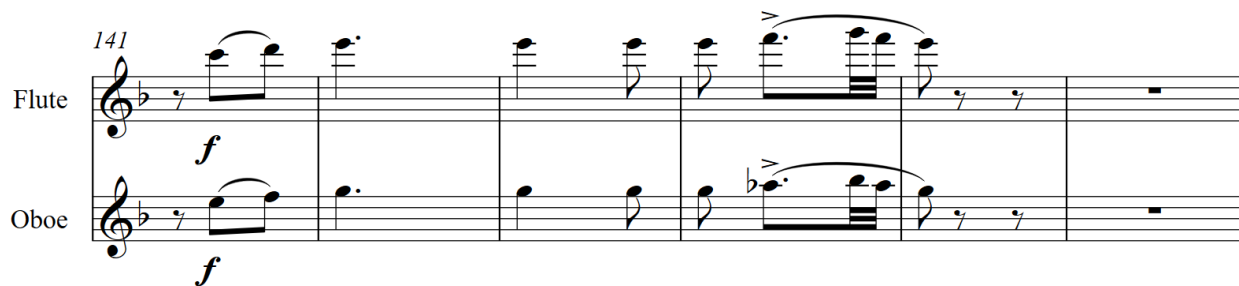


Figure 145: Pared down to one Flute and one Oboe.

7. Throughout here (and in most of the piece), the strings remained intact. Divisi parts will be covered by doubled strings in the chamber orchestra.

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8. I separated the clarinets into two parts from one...this was a bit challenging to extract at the Tempo I bar 161. See *Figures 15 & 16*.

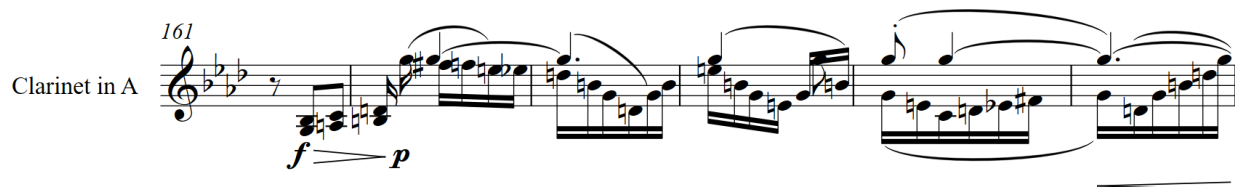


Figure 146: Original Clarinet part.



Figure 147: Clarinet parts separated out.

9. “Rinse, repeat” to end of movement.

Third Movement - III. Alborada

1. Trumpets are in B \flat now. The lower octave is not needed as it is doubled in the horns.
2. The first challenge was Bar 214 (Letter H) - the violin solo is accompanied by harp, but when I decided to keep the harp back in, this problem went away.
3. Flute replaced the piccolo.
4. Horn 3 and 4 are already doubled in the trombones.
5. The second challenge was deciding which percussion to use - looked like snare drum, then triangle at the end, similar to the first movement. Listening to recordings, snare drum was prominent, and boisterously so – it drowns out the triangle in the beginning.
6. In tuba the lower divisi is used as both lines are doubled in the trombones.

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7. Bar 241 (Letter J) – I moved the upper bassoon to Trombone 1 for harmony and counterpoint. See *Figures 17 & 18*.

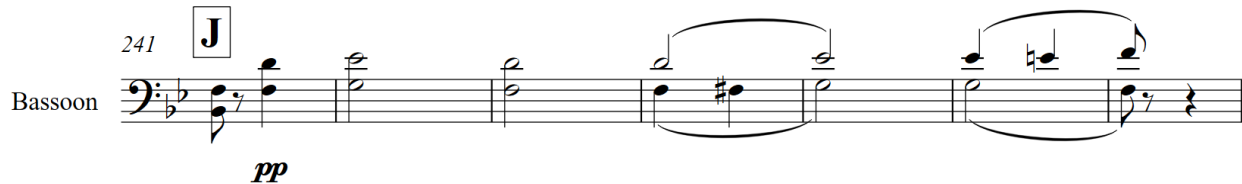


Figure 148: Original part for two Bassoons.

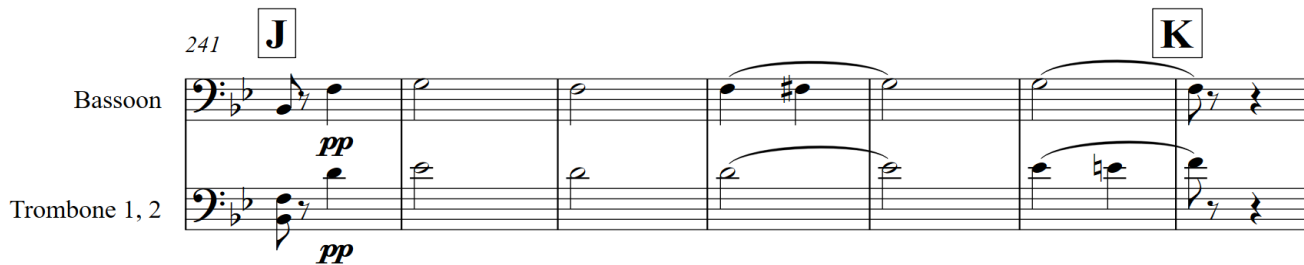


Figure 149: Same thing, split between the Bassoon and Trombone.

8. At Bar 255, I moved the 2nd flute to the 2nd clarinet (instead of oboe) because it is too low for oboe and less reedy. See *Figures 19 & 20*.



Figure 150: Original with two Flutes.



Figure 151: 2nd Flute moved to 2nd Clarinet.

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Fourth Movement - IV. Scena e canto gitano

1. I anticipated the challenge of this one with trepidation. As can be seen in *Figure 21*, the orchestration in the opening fanfare calls for two trumpets and four horns – two soprano and four alto brass voices. There is only one trumpet and two horns available in this rescore, so we have one soprano and two alto brass voices. I moved Horn 3 & 4 into the two tenor trombones, which can cross into the alto voice. I also moved some of Trumpet 2 either to Horn 1 when it is doubled or dropped altogether when there are doubles.

It has almost the same impact, given that the chamber orchestra will employ 5 brass for the fanfare instead of 6 brass (all trumpets and horns) in the full symphony orchestra version and our version uses trumpets horns and trombones. Most of the Trumpet 2 is in fact either doubled or moved to Horn 1. This came out well. See *Figures 21 & 22*.

Figure 152: Original Brass orchestration. The score is in 8/8 time and features three staves: Horn 1,2 in F; Horn 3,4 in F; and Trumpet in Bb. The first system (measures 273-276) shows a fanfare with triplets and a forte (f) dynamic. The second system (measures 277-280) shows a continuation of the fanfare with a decrescendo (dim.) dynamic. The third system (measures 281-284) shows a more complex rhythmic pattern with triplets and a crescendo (cresc.) dynamic, ending with a forte (f) to piano (pp) dynamic change.

Figure 152: Original Brass orchestration.

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The image displays three systems of musical notation for brass instruments. Each system consists of three staves: Horn 1,2 in F (treble clef), Trumpet in C (treble clef), and Trombone 1, 2 (bass clef). The key signature is one flat (B-flat).

- System 1 (Measures 273-276):** Features a 'Soli' marking for the Horn and Trombone parts. The Trumpet part has a 'con forza' marking. Triplets are indicated by a '3' over the notes. The system ends with a double bar line.
- System 2 (Measures 277-280):** Continues the musical material. The Horn and Trombone parts have a 'dim.' (diminuendo) marking. The Trumpet part also has a 'dim.' marking. The system ends with a double bar line.
- System 3 (Measures 281-284):** Features a 'cresc.' (crescendo) marking for the Horn and Trombone parts. The Trumpet part has a 'mf' (mezzo-forte) marking. The system ends with a double bar line.

Figure 153: Brass rescored, dropping one Trumpet but adding Trombones.

2. By restoring the harp, the cadenzas stayed intact. This also meant increasing the number of players in the chamber orchestra by one to 23 players.
3. The tutti sections after the cadenzas required a lot of cleanup work but were relatively easy to rescore.

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4. At Letter P (Bar 396), Rimsky-Korsakov starts adding on more percussion as the melody moves to the strings. With the heavy accompaniment in the woodwinds and brass, I felt confident in removing the tambourine and triangle and using the snare and the cymbals. This is very thick orchestration here. The composer adds bass drum, but at the same time he moves the tympani to forte and adds tuba forte as well, so I felt that I could eliminate the bass drum, as I have earlier. See *Figures 23 & 24*.

396 **P**

Timpani

Triangle

Tambourine

Snare Drum

Cymbals

Bass Drum

f

f

mf

mf

mf

Figure 154: Original Percussion orchestration at Letter Q.

Timpani

Percussion

(Snare)

(Cymbals)

f

mf

Figure 155: Letter P Percussion (Cymbals and Snare Drum) reduced for one player.

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Fifth Movement - V. Fandango asturiano

1. At Bar 414, Rimsky-Korsakov throws in everything but the proverbial kitchen sink in the percussion at the very beginning, but only for four bars, and then it reverts to two players. See *Figures 25 & 26*.

414

Timpani *ff*

Triangle *mf*

Castanets *f*

Snare Drum *f*

Cymbals *p*

Bass Drum *f*

Figure 156: Original score at the start of the Fifth Movement in the Percussion.

Timpani *ff*

Percussion Cymbals *f*

Castanets *p*

Figure 157: Rescored for two Percussion players.

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2. The piccolo is doubled in the violins, but also disappears after the first four bars, so it is not needed. See *Figures 27 & 28*.

Figure 158 shows a musical score for three instruments: Piccolo, Flute, and Violin 1, spanning measures 414 to 417. The key signature is two sharps (F# and C#) and the time signature is 3/4. The Piccolo part (top staff) begins at measure 414 with a *ff* dynamic, playing a series of eighth notes with accents. The Flute part (middle staff) also begins at measure 414 with a *ff* dynamic, playing a series of eighth notes with accents. The Violin 1 part (bottom staff) begins at measure 414 with a *ff* dynamic, playing a series of eighth notes with accents. In measure 415, the Piccolo and Violin 1 parts continue with the same pattern. In measure 416, the Piccolo and Violin 1 parts continue with the same pattern. In measure 417, the Piccolo and Violin 1 parts continue with the same pattern. The Flute part continues with the same pattern. In measure 418, the Piccolo and Violin 1 parts are silent, while the Flute part continues with a *mf* dynamic, playing a series of eighth notes with accents.

Figure 158: Original score, showing the Piccolo and Violin 1 in unison. Remember that Piccolo sounds an octave higher than written.

Figure 159 shows a musical score for the Flute part, spanning measures 416 to 419. The key signature is two sharps (F# and C#) and the time signature is 3/4. The Flute part begins at measure 416 with a *ff* dynamic, playing a series of eighth notes with accents. In measure 417, the Flute part continues with the same pattern. In measure 418, the Flute part continues with the same pattern. In measure 419, the Flute part continues with the same pattern. In measure 420, the Flute part continues with a *mf* dynamic, playing a series of eighth notes with accents.

Figure 159: Piccolo removed. The Flute part remains the same as the original, but piccolo is dropped.

Since the previous movement transitions *attacca* into this one, Rimsky-Korsakov is clearly making a big splash so that the audience knows that there is a new section starting, again for the first four bars, and then he backs off on the orchestrational thickness and concentrates on the melody.

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3. There was a big challenge at Bar 569 (Letter V) when the composer again starts using a lot of percussion. The trick with having an arbitrary limit of two percussion players was keeping one player on timpani as much as possible – switching to a few other percussion instruments when necessary - and then relying for most of the rest of the percussion with the other player and focusing largely on snare drum during the big tutti sections. The snare cuts through during loud sections and is able to rhythmically support the orchestra. This became a logistical challenge in places where cymbals are desired while the snare and timpani are active. This asks the percussion player to play two instruments at the same time. I consulted with a colleague⁸⁵ who is an orchestra percussionist to see what was practical and this ended up being the best solution. See *Figures 29 & 30*.

569 V

Figure 160 shows the original percussion orchestration with six voices. The score is for measures 569-573. The instruments are Timpani, Triangle, Castinets, Snare Drum, Cymbals, and Bass Drum. The Timpani part has a constant eighth-note pattern. The Triangle, Castinets, and Bass Drum parts have a similar eighth-note pattern. The Snare Drum part has a pattern of eighth notes and rests. The Cymbals part has a pattern of eighth notes and rests. Dynamics include *f* (forte) and *p* (piano).

Figure 160: Original Percussion orchestration with six voices.

Figure 161 shows the rescored percussion to three voices across two Percussionists. The score is for measures 569-573. The instruments are Timpani, Snare Drum, and Cymbals. The Timpani part has a constant eighth-note pattern. The Snare Drum part has a pattern of eighth notes and rests. The Cymbals part has a pattern of eighth notes and rests. Dynamics include *f* (forte).

Figure 161: Rescored to three voices across two Percussionists.

4. The final movement is exceptionally long in terms of the number of score pages. While it is only one of five movements, it represents about a third

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of the entire score volume, especially with much of it involving larger combinations of orchestral instruments and the mostly allegro tempo.

5. Much of this movement uses harmonized woodwinds – piccolo and two flutes, two oboes, two clarinets and two bassoons, such as can be seen in Bar 577 (Letter W) (*Figure 31*). Much of it involves doubles that can be consolidated, so in various places where there are two flutes in harmony and two oboes in harmony, these were condensed to one flute and one oboe in harmony while maintaining the overall orchestration and harmonic structure. Same with using clarinet 1 with oboe (or flute) and clarinet 2 with bassoon. See *Figures 31 & 32*.

Figure 162 is a musical score for four woodwind instruments: Piccolo, Flute, Oboe, and Clarinet in A. The score is for measures 577 to 582. A large 'W' in a box is placed above the Piccolo staff at measure 577. Each instrument has a melodic line with trills (tr) and a harmonic accompaniment consisting of chords. The Piccolo part is in the treble clef, while the others are in the bass clef. The key signature has two sharps (F# and C#).

Figure 162: Lots of woodwind pairs in the original score.

Figure 163 is a musical score for four woodwind instruments: Flute, Oboe, Clarinet 1 in A, and Clarinet 2 in A. The score is for measures 579 to 584. Each instrument has a melodic line with trills (tr) and a harmonic accompaniment consisting of chords. The Flute and Oboe parts are in the treble clef, while the Clarinet parts are in the bass clef. The key signature has two sharps (F# and C#).

Figure 163: Pared down from seven to four players from eight while maintaining orchestration and harmonic structure.

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6. There were additional challenges in having one percussion player cover multiple instruments – in this case snare and cymbals. At Bar 609 (13th bar of Letter X), the cymbals were most important, so I briefly moved the triangle over to the timpani player and left off snare or castanets, or snare roll where cymbals are played at the same time⁸⁶. It gives the same impact. See *Figures 33 & 34*.

609 Y

Figure 164: Original Percussion orchestration.

611

Triangle To Timp. Timpani

⁸⁶ Snare Drum and Cymbals can be played simultaneously if the Percussionist uses Suspended Cymbals.

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Figure 165: Percussion narrowed down to two players with the Timpani player changing over to Triangle and back.

7. It was challenging merging all of the percussion parts notationally down to two players while retaining the percussion impact and aesthetic, especially since the timpani player is on timpani 95% of the time. I merged them adding an additional staff below the main percussion staff so that their part shows two lines. I consulted with the same colleague percussionist⁸⁷ as to what is feasible in playing multiple instruments simultaneously, and it is mostly snare and cymbals.
8. Finally, I added the piccolo back (the flute player doubles on piccolo) in the very beginning to facilitate a high A trill (see *Figure 35*), and in the ending section for impact (see *Figure 36*).



Figure 166: Flute doubles on Piccolo and starts the piece on Piccolo.

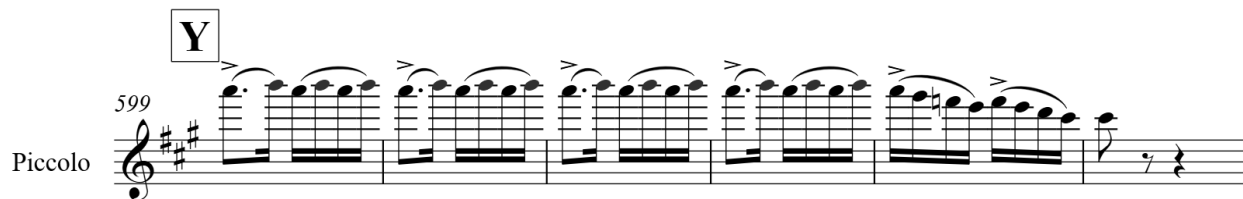


Figure 167: Flute switches back to Piccolo near the end. Piccolo sounds up an octave from what is written, so this is quite high.

6.3 Berlioz: Symphonie Fantastique Op. 14 (1830)

Website: <https://restructuringclassicalmusic.com/chamber-orchestra/>

YouTube: <https://youtu.be/UdR1b8nFJ4c>

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Why Did I Pick This Piece?

This is one of the great orchestral showpieces for full symphony orchestra from French composer Hector Berlioz from the early romantic period. It is fun to play, great to listen to and (to no surprise) has some great clarinet solos⁸⁸ that every orchestra clarinetist studies. While it is a huge piece with great orchestration, it is also a bit easier to rescore than the later romantic composers that tended to include large numbers of instruments and enormous numbers of players in their orchestration. Since it was published in 1830, it is also in the public domain. Even though it was written over 190 years ago, the subject matter of the programmatic aspects of the work are still contemporary – a young man struggling with drug abuse and his infatuation with a woman.

Instrumentation (note some of the doubles) – 23 Players

- 25. Flute/Piccolo
- 26. Oboe
- 27. Clarinet 1 & 2 in A and B \flat , Clarinet 1 in E \flat (last movement)
- 28. Bassoon
- 29. Horn 1 & 2 in F
- 30. Trumpet in C
- 31. Trombone 1 & 2 (often covering Horn 3,4)
- 32. Tuba
- 33. Timpani/triangle
- 34. Percussion playing timpani 2 in the 3rd movement
- 35. Harp
- 36. 4 Violins (Violin 1, 2)
- 37. 2 Violas
- 38. 2 Celli
- 39. Contrabass.

⁸⁸ You can hear my rendition of the clarinet solo in the slow movement at [Drapkin Berlioz Slow Movement Solo](#). This was a guest Principal Clarinet performance with the Norwalk Symphony in Connecticut, USA.

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Getting the Score into Sibelius

This piece took many months to enter into the computer and rescore. Unlike with the Mozart and Rimsky-Korsakov reductions I had already completed, I had trouble finding a version of this piece that was already in Sibelius⁸⁹ digital format. I needed a copy of the original score in Sibelius file format, and that was exceedingly difficult.

I did finally locate a version of the score in Sibelius format at the Association Nationale Hector Berlioz in France, but they refused to share it with me, even though I was polite to the French and even said “please”. What I ended up doing instead was to scan a PDF of the score⁹⁰ using the PhotoScore Ultimate software⁹¹, which will scan music into digital form, either from a flatbed scanner or from a PDF file. The challenge with all OCR⁹² programs – whether it is text or sheet music – is that they are only as good as the quality of the document being scanned. The lower the quality and sharpness, the more error artifacts are introduced. In the case of sheet music, it can sometimes have amusing consequences⁹³. There is a point where the amount of artifact correction exceeds the time it would take to enter something by hand.

In this case, it was kind of a mixed bag. The number of artifacts in the PhotoScore Ultimate scan of the Berlioz score was not bad, but the software had difficulty figuring out which instrument went into which staff, so most of my editing was spent moving music into the right instrument. It took me three months to get it into Sibelius, especially since the original Berlioz score is 160 pages long. That having been said, I did also hire someone to proofread the score before I started rescoring it as a final step in quality control.

While I was cleaning up the original score, I also went ahead and made changes to some areas that would have created a lot of extra work that I already knew were going to change. These included:

- Combining the two harp parts together
- Combining the two tuba (ophicleide) parts together
- Moving the English horn solo in the third movement into bassoon. We have only one player doubling oboe/English horn, and that solo alternates between the two instruments, so I had to find another player in the orchestra. After

⁸⁹ Sibelius – along with Finale, one of the two major music notation programs. <https://www.avid.com/sibelius>

⁹⁰ A PDF of the score to Berlioz: *Symphonie Fantastique* is readily available for free from IMSLP at [https://imslp.org/wiki/Symphonie_fantastique,_H_48_\(Berlioz,_Hector\)](https://imslp.org/wiki/Symphonie_fantastique,_H_48_(Berlioz,_Hector))

⁹¹ PhotoScore Ultimate: <https://www.neuratron.com/photoscore.htm>

⁹² OCR: Optical Character Recognition. https://en.wikipedia.org/wiki/Optical_character_recognition

⁹³ Here are the first 3 minutes of the original untouched PhotoScore scan into Sibelius format, and audio rendered by Sibelius. It sounds vaguely familiar, but instead sounds kind of like a version for piano, orchestra and chorus as nightmarishly rendered by Webern or Stockhausen: <https://ccome.org/Symphonie%20Fantastique%20-%20nightmare%20audio%20sequence.mp3> PhotoScore didn’t always know what instrument to use, which resulted in a lot of editing. This was a somewhat hilarious rendering by algorithms instead of humans.

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significant experimentation and consultation with professional colleagues, bassoon was the best solution. English Horn players will revile me for eternity for taking away their solo.

- I converted all the horn parts to horn in F, and the trumpet and cornet parts to trumpet in C.
- There were a few other places I did something similar.

The “original” score that I created in Sibelius isn’t strictly the same as the original, but it suited my purposes for rescoring.

Berlioz Orchestration

Another interesting observation I made as a result of entering this score into Sibelius was that, by and large, Berlioz uses a fixed orchestration for each movement, therefore a lot of instruments are tacet throughout entire movements. For example, harp only appears in the second movement (A Ball), and tuba (ophicleide⁹⁴) only appears in the last two movements. Therefore, I list the instrumentation of each movement in my Editing Analysis below.

Balance

This discussion of orchestral balance appears in the notes for all three of the large orchestral works that I rescored for chamber orchestra: Rimsky-Korsakov: Capriccio Espagnol, Berlioz: Symphonie Fantastique and Strauss: Salome’s Dance of the Seven Veils. The issues are identical in each piece.

The original limitation of 22 players was somewhat arbitrary and arose out of budgetary constraints and small stage sizes. When I was involved in founding the Texas Chamber Symphony, we felt that the maximum number of players that we could realistically budget for and fit on stage was 22 (later 24) players. Our first concert on December 21, 2019 in Pearland, Texas USA used that complement of players.⁹⁵

In all three pieces, the winds and percussion heavily outnumber the strings: 9 strings vs. 14 winds, harp, and percussion in the Rimsky-Korsakov and Berlioz pieces, and 9 strings vs. 15 winds, harp, and percussion (+ celeste) in the Strauss. This will need to be addressed at the outset, or the strings will be drowned out. Here I propose three solutions to address ensemble balance:

8. Increase the number of string players. This will be the most likely solution for most chamber orchestras. Instead of 4 violins, 2 violas, 2 celli and bass, increase it to 6 violins, 3 violas, 3

⁹⁴ Ophicleide: <https://en.wikipedia.org/wiki/Ophicleide>

⁹⁵ Concert December 21st, 2019 by the Pearland Chamber Orchestra later renamed as the Texas Chamber Symphony. The concert featured the premiere of my chamber orchestra piece “A Klezmer Set.” I am performing the clarinet solos. <https://youtu.be/fpYHJ3Bzc60>

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celli and bass, or 8 violins, 4 violas, 4 celli and 2 basses or some variation thereof⁹⁶. But that will significantly increase the size of the orchestra as well as the labor cost.

9. Have the conductor keep the volume down in the winds and percussion to achieve balance. This might be a challenge, although it would make for more impactful tutti/fortissimo sections.
10. Amplify the strings. This certainly can work for performances and recordings, but it adds complexity and cost, and requires solid mixing on the part of the recording engineer, which does not always happen.

This issue doesn't apply to the rescore of the Third Movement Menuetto of Mozart's 40th/G minor Symphony, as that piece only uses 7 winds and no percussion out of the 16 players that I indicate in the score, so balance will not be as much of a challenge, nor need to be addressed in the same way that it is in these three orchestral works.

Editing Analysis

- I set the metrics of my Sibelius file (page size, staff size, margins, etc.) the same as those in my Capriccio Espagnol rescore. I also developed a new rescoring technique: I decided to create new instrument staves for all of my new destination parts (e.g., Current Clarinet, New Clarinet) with an "X" at the end of the name so that I can see that they are the target staves. I then had double the number of instrument staves at the beginning (e.g., "Old Clarinet" and "New Clarinet", etc.). This made it much easier to cut and paste from the original to the rescored staves. I deleted the contents of the old staff when the new staves were complete and "hid" the empty staves. Eventually, there was nothing left of the original score, and I was done rescoring.
- At the very beginning, I already began using some of the Extreme Scoring techniques that I have used in my other reductions. I substituted woodwind parts – mostly eliminating unisons or octaves in order to accommodate limited numbers of woodwinds, and when I needed four horns (I only have two available), then I used trombone in place of horn 3 and horn 4 where needed, making sure that horn is always on top in order to retain the original timbre and Horn 2 playing any solos that would otherwise show up in the trombone part.
- The original orchestration calls for two flutes (2nd doubling on piccolo), two oboes (2nd doubling on English Horn), Clarinet 1 in B♭, A, C & E♭, Clarinet 2 in B♭, A & C, four bassoons, Horn 1 & 2 (E♭, E, F, low B♭), Horn 3 & 4 (C, E♭), Trumpet 1 & 2 (C, B♭, E♭), Cornets 1 & 2 in B♭, Cornet obbligato (B♭, "Un Bal"), three trombones, two ophicleides⁹⁷,

⁹⁶ The St. Paul Chamber Orchestra, in Minnesota, USA, is one of the best-known professional chamber orchestras in the United States. Their roster lists 6 violins, 2 violas, 4 celli, and 1 bass. See <https://content.thespco.org/people/orchestra-musicians/> They also expand or contract the number of players based on the instrumental requirements in each score that they perform.

⁹⁷ The parts are played by tuba in modern orchestras.

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Percussion (Bells, Cymbals, Bass Drum, Snare Drum), Timpani, two harps, Violin 1, Violin 2, Viola, Celli, Basses.

- The performance time is approximately 50 minutes.

First Movement – I. Rêveries - Passions

Video/Audio 00:00: <https://youtu.be/UdR1b8nFJ4c?t=001>

1. The first movement's instrumentation:

- Flute/Piccolo
- Oboe
- Clarinet 1,2 in B♭
- Bassoon
- Horn 1, 2 in F
- Trumpet in C
- Horn 2, 3 played by trombones
- Timpani 1
- Strings

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2. In the first movement at Letter E (Bar 36), this texture crosses almost all the winds so it gave me a fair amount of leeway in which to move things around without changing the overall timbre. See *Figure 1 & 2*.

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36 **E**

Flute 1,2

Oboe

Clarinet 1,2 in Bb

Bassoon 1,2

Horn 1,2 in F

Horn 3,4 in F

Figure 168: Original score at Bar 36

36 **E**

Flute

Oboe

Clarinet 1 in Bb

Clarinet 2 in Bb

Horn 1 in F

Horn 2 in F

Trombone 1

Trombone 2

Figure 169: Same section pared down but spread out across the winds.

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Letter F (Bar 49) was a different story – the triplet texture is only in the flutes and clarinets – four voices, and the root of the Db major chord is doubled. I could replace Flute 2 with oboe, but orchestrally it would change the flavor of the sound, so I decided to drop Flute 2 that was playing the root of the chord and leave the root only in the clarinet. A bit thinner, but better orchestrally, and nobody can really hear the difference. See *Figures 3 & 4*.

Figure 170 shows a musical score for measures 49-51. The title is "F sans ralentir soli". The instruments are Flute 1,2 and Clarinet 1,2 in Bb. The Flute part starts with a triplet of eighth notes (F, Ab, Bb) marked *pp*, followed by a half note F, and then a triplet of eighth notes (F, Ab, Bb). The Clarinet part starts with a triplet of eighth notes (F, Ab, Bb) marked *pp*, followed by a half note F, and then a triplet of eighth notes (F, Ab, Bb). The key signature is Bb major (two flats).

Figure 170: Original score with two pairs of winds.

Figure 171 shows a musical score for measures 49-51. The title is "F Sans ralentir soli". The instruments are Flute, Clarinet 1 in Bb, and Clarinet 2 in Bb. The Flute part starts with a triplet of eighth notes (F, Ab, Bb) marked *pp*, followed by a half note F, and then a triplet of eighth notes (F, Ab, Bb). The Clarinet 1 part starts with a triplet of eighth notes (F, Ab, Bb) marked *pp*, followed by a half note F, and then a triplet of eighth notes (F, Ab, Bb). The Clarinet 2 part starts with a triplet of eighth notes (F, Ab, Bb) marked *pp*, followed by a half note F, and then a triplet of eighth notes (F, Ab, Bb). The key signature is Bb major (two flats).

Figure 171: Root dropped in Flute 2. Covered by Clarinet 2 an octave lower.

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3. Letter EE (Bar 360) – The oboe solo comes in with texture going on in Violin 1 (quarter note triplets) and clarinets/bassoons texture underneath (syncopated halves and quarters). The texture is written with two clarinets and two bassoons. We only had two clarinets and one bassoon available, so the octave above the bassoon was removed. The top and bottom notes remain the same and the third moves into Clarinet 2. This looked to be a bit sparser without the octave, but it sounded fine. It is a texture, and the focus is on the oboe solo with countermelody in the violas and celli underneath. This could have been done either with the triad remaining or root/third/octave (or passing tones) and could have used another instrument to fill in the fourth voice, but I wanted to retain

360 **EE** Tempo Primo
I solo espressivo



Oboe

Clarinet 1,2 in B \flat

Bassoon 1,2

the clarinet/bassoon sonority, so I preferred to drop a voice. See *Figures 5 & 6*.

Figure 172: Original score with texture in the Clarinets and Bassoons below the Oboe melody.

360 **EE** Tempo Primo
solo espressivo



Oboe

Clarinet 1 in B \flat

Clarinet 2 in B \flat

Bassoon

Figure 173: Reduced texture with two Clarinets and one Bassoon.

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4. Letter NN (Bar 463) – the offbeat melody figure in flutes, clarinets and oboes needs the flute to switch to piccolo for its entrance in the fourth bar, so I moved the oboe to the upper octave. There is so much going on in the orchestra there that no one can tell the difference. See *Figures 7 & 8*.

463 **NN** tempo primo piu animato

This musical score for Figure 174 shows four staves: Piccolo, Flute 1,2, Oboe, and Clarinet 1,2 in Bb. The Piccolo staff has a whole rest in the first four bars and enters in the fifth bar with a half note G#5 (written as a whole note on the staff) marked *mf*. The Flute 1,2 staff has a whole rest in the first bar, then a half note G4 in the second bar, and continues with eighth notes in the third and fourth bars. The Oboe staff has a whole rest in the first bar, then a half note G4 in the second bar, and continues with eighth notes in the third and fourth bars. The Clarinet 1,2 in Bb staff has a whole rest in the first bar, then a half note G3 in the second bar, and continues with eighth notes in the third and fourth bars. Dynamics include *mf* and *cresc.* for the woodwinds.

Figure 174: Original score with woodwind offbeats and Piccolo entrance.

463 **NN** Tempo primo piu animato

This musical score for Figure 175 shows four staves: Flute, Oboe, Clarinet 1 in Bb, and Clarinet 2 in Bb. The Flute staff has a whole rest in the first four bars and enters in the fifth bar with a half note G#5 (written as a whole note on the staff) marked *mf*. The Oboe staff has a whole rest in the first bar, then a half note G4 in the second bar, and continues with eighth notes in the third and fourth bars. The Clarinet 1 in Bb staff has a whole rest in the first bar, then a half note G3 in the second bar, and continues with eighth notes in the third and fourth bars. The Clarinet 2 in Bb staff has a whole rest in the first bar, then a half note G3 in the second bar, and continues with eighth notes in the third and fourth bars. Dynamics include *mf* and *cresc.* for the woodwinds.

Figure 175: Flute moved to Piccolo; Oboe moved to Flute part.

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Second Movement – II. Un Bal

Video/Audio 12:55: <https://youtu.be/UdR1b8nFJ4c?t=775>

1. Second Movement Original Instrumentation:

- Flute/Piccolo
- Oboe
- Clarinet 1,2 in A
- Horn 1,2 in F
- Horn 3,4 played by trombones
- Harp (both parts combined into one player)
- Strings

2. The 2nd Movement – A Ball – has lighter orchestration. Here Berlioz uses four woodwinds (the clarinets are playing on A clarinets, which put them in the key signature of C instead of B \flat clarinets in the key of B), no bassoon, four brass (horns), no timpani but the addition of harp. The score calls for two harps, but we have only one harp available in our rescored Chamber Orchestra orchestration, so the parts were combined.

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Third Movement – III. Scène aux champs

Video/Audio 18:50: <https://youtu.be/UdR1b8nFJ4c?t=1130>

1. Third Movement Original Instrumentation:

- Flute
- Oboe
- Clarinet 1,2 in B \flat
- Bassoon
- Horn 1,2 in F
- Horn 3,4 (rescored into the trombones)
- Timpani 1
- Timpani 2
- Strings

The instrumentation changes again in the slow third movement. There is no piccolo, the clarinets are back to B \flat instruments, the bassoon is back, horns are the only brass instruments (with ersatz Horns 3 & 4 again filled in by the trombones), no harp, and two timpani for the thunder effects at the end of the movement (Bar 1072). Normally timpani are played by 4 players – one on a drum – but I combined them since we only have two percussion players in my reduced orchestration. So, each one will play two timpani. See *Figure 9*.

The image shows a musical score for two timpani parts, labeled 'Timpani 1' and 'Timpani 2'. Each part consists of two staves, representing four drums in total. The notation includes various dynamic markings: *pp*, *<sf>*, *p*, *pp*, *ppp*, *f*, and *pp*. A note in the Timpani 2 part specifies '(baguettes d'éponge)'. The score is written in bass clef with a key signature of one flat (B \flat). The dynamics are indicated by slanted lines connecting the notes to the markings.

Figure 176: Four timpani drums played by two players.

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2. The next issue I experimented with and addressed when I was entering the score into Sibelius was what to do about the English Horn solo at the beginning and end of the movement. In the score in the beginning of the movement, Berlioz directs that the oboe plays offstage. The English horn starts off the movement with a solo alternated with the offstage oboe. See *Figure 10*. The challenge is that there is only one player available in my rescored orchestration that can double on oboe and English horn. That person could probably switch back and forth, but that would not only look comical, but they also need to play together at Bar 19. I needed to find a substitute in my existing orchestra instrumental configuration for English horn.

The image displays a musical score for two instruments: Oboe and English Horn. The score is divided into two systems. The first system, labeled '896 (behind the scene)', shows the Oboe part with a 'solo' marking and a 'p' (piano) dynamic. The English Horn part also has a 'p' dynamic. The second system, labeled '902', shows the Oboe part with a 'p' dynamic and the English Horn part with a 'p' dynamic. The score is written in 6/8 time and includes various musical notations such as notes, rests, and dynamics.

Figure 177: Original version with Oboe and English Horn.

I experimented with using muted trumpet - Chicago composer Easley Blackwood⁹⁸ used a muted trumpet as a substitute for English horn in his arrangement of *Capriccio Espagnol*, but I didn't like the timbre. See *Figure 11*.

⁹⁸ Easley Blackwood entry on Wikipedia: https://en.wikipedia.org/wiki/Easley_Blackwood_Jr.

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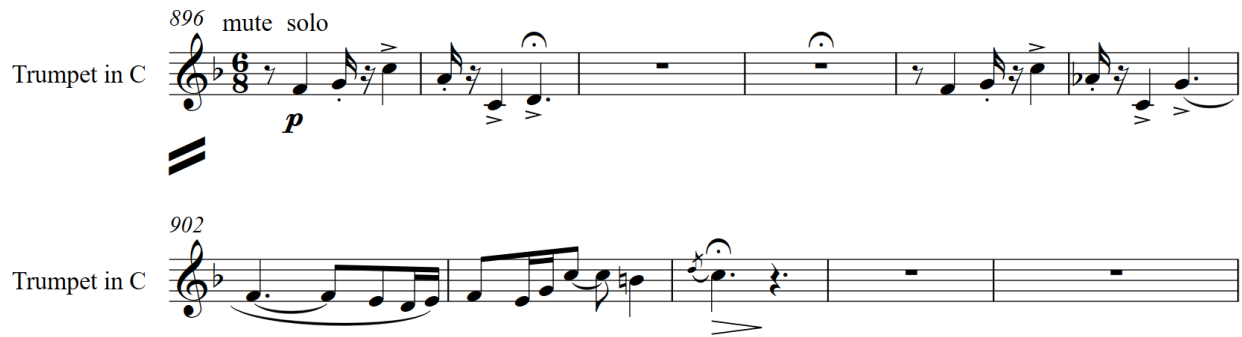


Figure 178: English Horn solo moved to Trumpet.

I ended up using bassoon because it was available in my orchestration, and it was a double reed, so the tone quality is quite close to English horn. I consulted with a professional bassoon colleague because I was concerned about the range, but he assured me that it was fine with some minor modification to some of the octaves⁹⁹. I don't think English horn players will be happy about losing their big solo, but that is one of the limitations of using a reduced orchestration. See *Figure 12*.

Figure 179: Final version, with the English Horn solo moved to Bassoon.

⁹⁹ Email exchange on June 02, 2020 with leading New York freelance bassoonist and Manhattan School of Music (New York City) faculty member Harry Searing. His comment was, “I don’t think anyone would really notice if you dropped the bassoon down an octave for that really high stuff (G, F, E), but I would keep the high D grace note to high C. That’s just Rite of Spring stuff, I have high school kids that can play that now!” I followed his advice.

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3. Measure 928 (Letter CC) is a rescoring dilemma that comes up often. The melody in the flute and violins is harmonized, but there is only one flute available in our chamber orchestra rescore. The second flute harmony joins the first flute, which was playing alone with the violins. See *Figure 13*.

CC

927

Flute 1,2

Violin 1

Violin 2

dim.

pp

p

<sf

<sf

<sf

Figure 180: Original score with two Flutes unison with the Violins.

At first, I thought of replacing the Second Flute with the Second Clarinet, but then two thoughts came to mind. 1. If I do that, I will change the orchestration from flutes and violins to flute, clarinet, and violins. 2. The Second Flute part is doubled in the Second Violin. Therefore, I decided that I wanted to keep the flute sound on top of the First Violin but didn't need the Second Flute since it is already in the Second Violin, so the Second Flute harmony could be left off without adversely affecting the sound in that section. See *Figure 14*.

Flute

Violin 1

Violin 2

dim.

pp

p

<sf

<sf

<sf

Figure 181: Flutes reduced to one Flute.

Sometimes the harmony in the two flutes is also doubled in the oboes, so I could safely have the one flute play the First Flute part and have the oboe play the

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Second Flute part, as is the case in #4 below. That way I could retain both the harmony and the color...perhaps not as strong as the original, but this is chamber orchestra – not full symphony orchestra, so it can be lighter. The goal is not to exactly replicate a symphony but to play this piece in the *context* of a chamber orchestra. So, the arbitrarily limited instrumentation of the chamber orchestra actually becomes an asset, as the audience becomes accustomed to hearing the piece relative to the size of the chamber orchestra in front of them and not be thinking that “this isn’t a full symphony.” They will instead hear Berlioz Symphony Fantastique in all of its glory performed in a chamber orchestra. I can listen to it on my iPhone speaker as well as on my massive home theater, and they both still sound like the same piece.

4. In the 3rd Movement at bar 1035, the two-flute harmony is doubled in the oboes, so I put the upper in the flute and lower in the oboe, which works and sounds fine, especially in a chamber orchestra. Plus, it is doubled in the clarinets. This situation arises frequently. See *Figures 15 & 16*.

Figure 182 shows a musical score for Flute 1,2 and Oboe. The Flute part is in treble clef and the Oboe part is in treble clef. Both parts start at bar 1035. The Flute part has a dynamic marking of *sf* followed by *p*. The Oboe part has a dynamic marking of *sf* followed by *p*. Both parts have a slur over the first two measures.

Figure 182: Original with two Flutes and two Oboes.

Figure 183 shows a musical score for Flute and Oboe. The Flute part is in treble clef and the Oboe part is in treble clef. Both parts start at bar 140. The Flute part has a dynamic marking of *sf* followed by *p*. The Oboe part has a dynamic marking of *sf* followed by *p*. Both parts have a slur over the first two measures.

Figure 183: Rescored, retaining Flute 1 and Oboe 2 parts.

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Fourth Movement – IV. Marche au Supplice

This is a movement that I very much looked forward to rescoring. When I was 14 years old, I entered high school and got involved in marching band. I joined both my high school band¹⁰⁰ as well as a local youth band. Southern California, USA, had a number of very active marching music circuits that included drum and bugle corps, which consist of brass, percussion, and flag groups. One such group was the Kingsmen Drum and Bugle Corp. of Anaheim, California, USA.¹⁰¹ The Kingsmen won the first Drum Corps International¹⁰² World Championship in 1972 held in Whitewater, Wisconsin, USA. Their 1974 field show featured Berlioz: Symphonie Fantastique, including the March to the Gallows,¹⁰³ and portions of the last movement.

Why am I discussing marching band in the middle of dissertation notes? Thanks to the Anaheim Kingsmen and the enormous enthusiasm I had for them, Berlioz Symphonie Fantastique became one of the first classical pieces I really learned on my own, plus it represented several other “firsts” for me:

3. March to the Gallows was the first arrangement I did for two clarinets and bassoon that I rescored by working out of a full score.¹⁰⁴ Before that I found easier media, like piano arrangements.
4. It was the first concert that I played as a Tanglewood Fellow – the summer home of the Boston Symphony – where I performed it under Seiji Ozawa.

Therefore, I have a lot of emotional attachment to this piece, and to this movement in particular, so I beg your indulgence for including drum and bugle corps in my dissertation. It is a great lifetime honor to rescore this piece.

¹⁰⁰ The Agoura High School Chargers Marching Band, Agoura, California, USA.

¹⁰¹ Kingsmen Drum and Bugle Corps: <http://kingsmendrumcorps.org/>

¹⁰² Drum Corps International: <https://www.dci.org/>

¹⁰³ Video of Kingsmen 1974 show starting at March to the Gallows. I was actually in the audience at this performance as a teenager: <https://youtu.be/TZEhelyFZY0?t=176>

¹⁰⁴ Rescore of March to the Gallows for two clarinets and bass clarinet by Michael Drapkin: <http://ccome.org/mp3/March%20to%20the%20Gallows.mp3>

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As I mentioned near the beginning of this document regarding *Berlioz Orchestration*, Berlioz makes a lot of use of choruses in this movement: choruses of winds, brass, and strings. One favorite example is 5 bars after Letter H (Bar 1176), where he rapidly shifts back and forth in his orchestration. As you can see, he quickly shifts from brass, woodwinds, string (pizz then arco), woodwinds, brass, string pizz, percussion, strings and then woodwinds again. See *Figure 17*.

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Figure 184 is a musical score for a large ensemble, showing a rapid shift from one chorus to another. The score is written for 17 instruments: Flute, Oboe, Clarinet 1 in Bb, Clarinet 2 in Bb, Bassoon, Horn 1 in F, Horn 2 in F, Trumpet in C, Trombone 1, Trombone 2, Tuba, Timpani 1, Timpani 2, Violin 1, Violin 2, Viola, Violoncello, and Contrabass. The score is in 4/4 time and features dynamic markings such as *p* (piano), *f* (forte), and *solo*. The key signature has two flats (Bb and Eb). The score shows a transition from a first chorus to a second chorus, with various instruments playing different patterns and dynamics. The first chorus ends with a *p* dynamic, and the second chorus begins with a *p* dynamic. The score also includes markings for *pizz.* (pizzicato) and *arco* (arco) for the strings, and *Susp. Cymbals* and *Bass Drum* for the percussion.

Figure 184: Shifting rapidly from one chorus to another. View/hear at <https://youtu.be/UdR1b8nFJ4c?t=2143>

Another example takes place later in the movement where it is “winds vs. strings (+ timpani).” It gets progressively shorter until everyone merges in a massive *ff* tutti. See Figure 18.

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The musical score for Figure 185, titled "Battle of the Winds vs. the Strings," features a complex orchestration. The woodwind and brass sections (Flute, Oboe, Clarinet 1 in Bb, Clarinet 2 in Bb, Bassoon, Horn 1 in F, Horn 2 in F, Trumpet in C, Trombone 1, Trombone 2, and Tuba) are marked with a forte (*f*) dynamic and play a rhythmic pattern of eighth notes. The strings (Violin 1, Violin 2, Viola, Violoncello, and Contrabass) are marked with a forte (*f*) dynamic and play a sustained harmonic. The Timpani part is marked with a forte (*f*) dynamic and plays a rhythmic pattern of eighth notes. The score includes dynamic markings such as *f*, *dim.*, *p*, *pp*, and *ff*, as well as crescendos and decrescendos. A specific instruction "(Montez le Sib en Sib)" is written above the Timpani part. The score is written in 2/4 time and includes a key signature of one flat (Bb).

Figure 185: Battle of the Winds vs. the Strings. The Timpani lend the Strings a hand. See <https://youtu.be/UdR1b8nFJ4c?t=2263>

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No discussion of this movement would be complete without pointing out one of his most famous (and amusing) programmatic orchestrations at 2 bars before Letter S (Bar 1263): The guillotine blade suddenly slams down at the end of the plaintive clarinet solo and the head goes bouncing down (SLAM, bounce, bounce, bounce) through the string section with the bouncing provided by the string pizzicatos. This is an execution, after all! See *Figure 19*.

167

Clarinet 1 in Bb

Horn 1 in F

Trumpet in C

Trombone 1

Tuba

Percussion

Violin 1

Violin 2

Viola

Violoncello

Contrabass

ff

mf

pizz.

Snare Drum (snare drum)

ff

mf

S

Figure 186: Decapitation, complete with head bounce. See/hear at <https://youtu.be/UdR1b8nFJ4c?t=2285>

See/hear: 31:19: <https://youtu.be/UdR1b8nFJ4c?t=1878>

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1. Fourth Movement Instrumentation:

- Flute
- Oboe
- Clarinets in C
- Bassoon
- Horns 1,2
- Horns 3,4 generally played by trombones
- 2 x Cornets
- 2 x Trumpets
- 3 x Trombones
- 2 Ophicleides (played by tubas)
- Timpani 1,2
- Snare drum, Cymbals, Bass Drum
- Strings

2. As much as I looked forward to rescoring this movement, I also saw it as a significant challenge. The score calls for 13 brass, but our chamber orchestra orchestration consists of six brass: two horns, one trumpet, two trombones, and tuba. However, if one used the 13 brass in the original score, the chamber orchestra would be overpowered. The rescored orchestration meant *one* trumpet available instead of the two trumpets and two cornets in the original score, so this was invariably less “brassy” but that also left the solitary trumpet carrying the soprano brass voice.
3. The original score calls for five percussion: two timpani, snare, cymbals, and bass drum. We had two percussion players available in our rescored chamber orchestra orchestration, therefore percussion rescore was a challenge. See #4 and #5 below.

-
- 1178 solo
- Timpani 1
- Timpani 2
- Cymbals
- Bass Drum
- p*
- poco f*
- cresc.*
- ff*
- mf*
- p*
- poco f*
- cresc.*
- mf*
- p*

Michael Drapkin: Extreme Scoring – Principles, Best Practices and Techniques

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The image displays two systems of musical notation for Percussion 2, which is switching between Timpani 2 and Percussion.

System 1 (Measures 83-87):

- Measure 83:** Timpani 2 (bass clef) has a whole rest. Percussion (bass clef) has a whole rest. The section is labeled "Solo".
- Measure 84:** Timpani 2 has a half note G2. Percussion has a half note G2. The section is labeled "Solo".
- Measure 85:** Timpani 2 has a whole rest. Percussion has a whole rest. The section is labeled "Solo".
- Measure 86:** Timpani 2 has a whole rest. Percussion has a whole rest. The section is labeled "Solo".
- Measure 87:** Timpani 2 has a half note G2. Percussion has a half note G2. The section is labeled "Solo".

System 2 (Measures 88-91):

- Measure 88:** Timpani 2 has a half note G2. Percussion has a half note G2. The section is labeled "Solo".
- Measure 89:** Timpani 2 has a half note G2. Percussion has a half note G2. The section is labeled "Solo".
- Measure 90:** Timpani 2 has a half note G2. Percussion has a half note G2. The section is labeled "Solo".
- Measure 91:** Timpani 2 has a half note G2. Percussion has a half note G2. The section is labeled "Solo".

The score includes dynamic markings such as *p* (piano), *f* (forte), *ff* (fortissimo), and *mf* (mezzo-forte). It also includes articulation markings like *cresc.* (crescendo) and *dim.* (diminuendo). The percussion part includes a "To B. D." (To Bass Drum) instruction. The timpani part includes a "To Timp." (To Timpani) instruction. The percussion part includes a "To Perc." (To Percussion) instruction. The timpani part includes a "To Timpani" instruction.

Figure 188: Percussion 2 switching from Timpani 2 to Percussion and Back.

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5. At the end of the fourth movement, I needed to cover three percussion parts with one player. After the decapitation in the fifth bar after R (Bar 1264), the snare drum comes in loudly until the end of the movement. The only problem is that we also needed violin reinforcement by cymbals and bass drum in their entrances in the last four bars. The solution was to alternate snare roll and cymbal/bass drum hits in those three bars, which worked fine with all of the sound going on, especially in the continuous timpani roll. See *Figure 22 & 23*.

1264

Timpani 1
ff

Timpani 2
ff

Cymbals
f
ff

Bass Drum
f
ff

Snare Drum
ff
ff

Figure 189: Original score requiring 5 Percussion players.

170

Timpani
ff

Percussion (snare drum)
ff

Percussion (cymbals)
f
ff

Percussion (bass drum)
f
ff

To Timp.

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Figure 190: Reduced to two players. Percussion 2 alternates between Snare roll and Cymbals/Bass Drum in the last four bars.

Fifth Movement – V. Songe d'une Nuit du Sabbat

Movement V: Dream of a Witches' Sabbath. Berlioz's orchestration changes here with Clarinet 1 moving to E \flat Clarinet and the addition of Chimes and Tuba for the Dies Irae section.

See/hear 38:26: <https://youtu.be/UdR1b8nFJ4c?t=2305>

1. Fifth Movement Instrumentation

- Flute/Piccolo (two players)
- 2 x Oboes
- Clarinet 1 in E \flat
- Clarinet 2 in C (transposed to B \flat for convenience in my version)
- 4 x Bassoons
- 4 x Horns
- Trumpets
- 3 x Trombones
- Tuba
- 2 x Tympani
- Bass Drum
- Chimes (for the Dies Irae)
- Strings

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2. In the third bar we had some orchestration issues to resolve: the distribution of voices in a diminished chord in the woodwinds that was originally played by 7 players. The Piccolo was placed playing below the oboe in order to preserve the timbre of having the oboe on top of the chord just like in the original. The Eb clarinet was also used here, earlier than is indicated in the score. The net result is a woodwind chord that sounds virtually the same background to the string activity. See *Figures 24 & 25*.

Figure 191 shows a musical score for three woodwind parts: Oboe, Clarinet in C, and Bassoon 1,2. The score is for measure 1275. Each part has a sustained diminished chord. The Oboe part starts with a dynamic of *poco f* and a crescendo to *p*. The Clarinet in C part also starts with *poco f* and a crescendo to *p*. The Bassoon 1,2 part starts with *poco f* and a crescendo to *p*. The chord is sustained across the measure.

Figure 191: Original score of the sustained diminished chord in the woodwinds at the 3rd Bar.

Figure 192 shows a musical score for five woodwind parts: Piccolo, Oboe, Clarinet in Eb, Clarinet 2 in Bb, and Bassoon. The score is for measure 3. Each part has a sustained diminished chord. The Piccolo part starts with a dynamic of *poco f* and a crescendo to *p*. The Oboe part also starts with *poco f* and a crescendo to *p*. The Clarinet in Eb part starts with *poco f* and a crescendo to *p*. The Clarinet 2 in Bb part starts with *poco f* and a crescendo to *p*. The Bassoon part starts with *poco f* and a crescendo to *p*. The chord is sustained across the measure.

Figure 192: Rescored with the addition of Piccolo and Eb Clarinet. Note that Piccolo sounds an octave higher than written, so the Piccolo G sounds only a minor third below the oboe.

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3. Letter E (Bar 1312) has an E \flat Clarinet solo with two oboes and the Second Clarinet. Piccolo can't be switched to flute to fill in because the piccolo is needed on the 7th bar, plus it isn't *scharf und spitzig*¹⁰⁵ enough. First, I tried having bassoon play the Second Clarinet part and Second Clarinet on the Second Oboe part, but the bassoon is too heavy on the bottom, plus I needed the bassoon 16th notes on the 8th bar, where I can shed the Second Oboe part to no ill effect. The final choice was to keep the Second Clarinet on the original part and have bassoon play the Second Oboe part. That worked well and isn't too high for the bassoon. See *Figures 26 & 27*.

¹⁰⁵ Richard Strauss' directive to the E \flat Clarinet in his tone poem *Ein Heldenleben Op. 40*, Letter 13: *sehr scharf und spitzig* (sharp and spitting).

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1312 **E** Allegro (♩. = 104)

Piccolo

Oboe

Clarinet in Eb

Clarinet in C

Bassoon 1,2

1316

Piccolo

Oboe

Clarinet in Eb

Clarinet in C

Bassoon 1,2

Figure 193: Original score.

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40 **E** Allegro (♩ = 104)

Piccolo

Oboe

Clarinet in Eb

Clarinet 2 in Bb

Bassoon

44

poco f

mf

tr

mf

Figure 194: Rescored with Bassoon on the 2nd Oboe part.

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4. At Letter O (Bar 1459), I had the Percussion 1 player (normally on timpani) move over to bass drum while I had Percussion 2 playing chimes (starting at Letter I – Bar 1374) for the Dies Irae. But the timpani comes in again at 9 before Letter R (Bar 1504) in two parts, but they combined together well so from 9 before R, Percussion 1 is still on bass drum and Percussion 2 is on timpani playing the combined parts together. See *Figures 28 & 29*.

1504 (baguettes d'éponge)

Timpani 1

Timpani 2

Bass Drum

1508

Timpani 1

Timpani 2

Bass Drum

Figure 195: Original score at 9 before Letter R.

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The image shows a musical score for two percussion parts: Bass Drum and Timpani 2. The score is divided into two systems, measures 232-236 and 237-241. In the first system, the Bass Drum plays a series of dotted half notes, each marked with a sharp sign (F#), with a *cresc.* (crescendo) marking. Timpani 2 plays a continuous eighth-note pattern, starting at a *mf* (mezzo-forte) dynamic and also marked with *cresc.*. A double bar line separates the systems. In the second system, the Bass Drum continues with dotted half notes (F#), marked *ff* (fortissimo) at measure 237. Timpani 2 continues with the eighth-note pattern, also marked *ff*. At measure 241, the Bass Drum part ends with a double bar line, and the Timpani 2 part has a *To Timp.* (To Timpani) marking above it, indicating a transition to a different timpani part.

Figure 196: Rescored for two players.

5. This movement calls for both E \flat Trumpet and B \flat Cornet. We have one C Trumpet player available in our Chamber Orchestra orchestration, so I have been putting the highest notes from both parts into C Trumpet so that we can hear trumpet timbre when it emerges, like in this example at 9 before R. See *Figure 30*.

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232

Horn 1 in F
Horn 2 in F
Trumpet in C
Trombone 1
Trombone 2
Tuba

f *cresc.*

237

Horn 1 in F
Horn 2 in F
Trumpet in C
Trombone 1
Trombone 2
Tuba

ff *ff* *f* *ff* *f* *ff*

Figure 197: Trumpet at the top of the brass stack.

-
- 1578
- Flute 1,2
- Oboe
- p*
- dim.*

306

Oboe

Clarinet in Eb

Clarinet 2 in Bb

p *(dim.)*

p *(dim.)*

p *(dim.)*

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7. One final note: I couldn't go through this piece without mentioning one of Berlioz's most interesting sections in this movement: he starts a very foreboding fugato at letter EE which builds up to a huge climax at letter II (shown below) of syncopated quarters that runs for four bars. Then he has brass barrel in offset by an eighth note (with tuba going up and down a diminished arpeggio) to create the aural impression of total pandemonium. See *Figure 33*. See/hear at <https://youtu.be/UdR1b8nFJ4c?t=2717>

The image displays a musical score for a brass section, starting at measure 395 and marked with a Roman numeral II. The instruments listed on the left are Piccolo, Oboe, Clarinet in Eb, Clarinet 2 in Bb, Bassoon, Horn 1 in F, Horn 2 in F, Trumpet in C, Trombone 1, Trombone 2, and Tuba. The score is written in common time (C) and features a key signature of one sharp (F#). The Piccolo, Oboe, Clarinet in Eb, Clarinet 2 in Bb, and Bassoon parts are marked with a forte (ff) dynamic and play a syncopated eighth-note pattern. The Horn 1 in F, Horn 2 in F, and Trumpet in C parts also play a syncopated eighth-note pattern. The Trombone 1, Trombone 2, and Tuba parts are marked with a forte (ff) dynamic and play a diminished arpeggio pattern, which is offset by an eighth note from the other instruments. The score is divided into four measures, with the first measure being a whole rest for all instruments. The second measure is the start of the syncopated eighth-note pattern for the Piccolo, Oboe, Clarinet in Eb, Clarinet 2 in Bb, and Bassoon. The third measure is the start of the diminished arpeggio pattern for the Trombone 1, Trombone 2, and Tuba. The fourth measure is the end of the pattern for all instruments.

Figure 200: Brass playing an eighth note offset from everyone else.

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6.4 Strauss: Salome's Dance of the Seven Veils Op.54 (1905)

Rescoring Analysis from Symphony Orchestra to Chamber Orchestra

Strauss: Dance of the Seven Veils, from the opera Salome, Op. 54 (1905)

Website: <https://restructuringclassicalmusic.com/chamber-orchestra/>

YouTube: <https://youtu.be/yCADmA6bkUY>

Why Did I Pick This Piece?

Aside from the fact that Richard Strauss is my favorite composer, this is a great standalone orchestral showpiece from his massive and extraordinarily successful¹⁰⁶ opera *Salome*. *Salome's Dance*, and the later scene when Salome kisses the decapitated¹⁰⁷ head of John the Baptist, were considered scandalous and an early example of the advertising axiom “sex sells.” When Strauss was working as the conductor of the Berlin State Opera, his employer, Kaiser Wilhelm II, said to him: “This *Salome* will do you no good.” Strauss later wrote in his diary: “The ‘no good’ enabled me to build my house in Garmisch.”

Strauss was the master of rich romantic orchestration, and this work is no exception – it has no less than 48 separate instrumental parts in the orchestra. Rescoring this work for chamber orchestra was for me the “Holy Grail” of orchestrations for my dissertation. I chose this piece because it isn't too long - 10 minutes/349 bars as opposed to 48 minutes/1796 bars for Berlioz's *Symphonie Fantastique*. However, this is a late Romantic Period German composition, and Strauss was the master of that genre, so this rescore was the ultimate challenge.

Therefore, his scoring is far thicker than anything else I have arranged before. Listening to it, I was certain that I could rescore it successfully, although I decided that I needed to retain the celeste for the rich exotic color that it adds, and that I could easily shed instruments like heckelphone, contrabassoon as well as a bevy of various flavors of trumpets, and as much as it pained me to do so – the bass clarinet. To be totally fair, unlike

¹⁰⁶ Chris Walton, *The Musical Times*, Vol. 146, No. 1893 (Winter, 2005), pp 5: “The world premiere of *Salome* in Dresden 100 years ago, on 9 December 1905, was a triumph. Richard Strauss's reputation had hitherto rested on his symphonic poems and songs, but *Salome* now confirmed him as both a leading music dramatist and the foremost modernist in music. Within two years it had received 50 different productions, and its success at the box office has never waned since.”

¹⁰⁷ I note that this is the second work that I rescored where decapitation occurs. I am not sure why this is.

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the earlier Berlioz and Rimsky-Korsakov pieces that I rescored, this one does not have big clarinet solos. I just like the piece!

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One item of importance: I was originally going to stick with my arbitrary 23 player limit. This meant eliminating the celeste and trying to substitute that part mostly on the harp. Thinking about it over time, I realized that I couldn't do that – I needed both harp and celeste to give the piece its magical fantasy feeling, especially with the big flute solo at Bar 72 (Letter I). See *Figure 1*.

The image displays a musical score for three instruments: Flute, Harp, and Celeste. The score is set in 5/4 time and begins at bar 71. A box labeled 'I' is positioned above the flute staff at the start of bar 72, indicating a solo. The flute part features a complex, rapid melodic line with many beamed sixteenth and thirty-second notes, marked with a 'p' (piano) dynamic. The harp part provides a harmonic accompaniment with chords and single notes, while the celeste part plays a more rhythmic, arpeggiated pattern. The score is written on three systems of staves, with the flute staff at the top, harp in the middle, and celeste at the bottom.

Figure 201: Flute solo at Bar 72 (Letter I), with Harp and Celeste. View/hear: <https://youtu.be/yCADmA6bkUY?t=131>

Instrumentation (note some of the doubles) – 24 Players

40. Flute/Piccolo
41. Oboe
42. Clarinet 1 & 2 in B \flat
43. Bassoon
44. Horn 1 & 2 in F
45. Trumpet in C
46. Trombone 1 & 2 (often covering Horn 3,4)
47. Tuba
48. Timpani/bass drum/xylophone
49. Percussion: Snare, Cymbals, Bass Drum, Tambourine, Triangle, Castanets, Tam-tam
50. Harp
51. Celeste

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- 52. 4 Violins (Violin 1, 2)
- 53. 2 Violas
- 54. 2 Celli
- 55. Contrabass.

Score Challenges

Like with the Berlioz, I could not find a digital version of the original score in Sibelius format, so my initial work with this piece was entering it into my Sibelius notation system. I entered about half of it by hand, and then engaged a music copyist to enter the other half and to proofread the entire score.

Strauss Orchestration

The score is heavily doubled. As I mentioned in the third paragraph on Page 1, a lot of instruments and doubling can be either discarded or combined.

Balance

This discussion of orchestral balance appears in the notes for all three of the large orchestral works that I rescored for chamber orchestra: Rimsky-Korsakov: Capriccio Espagnol, Berlioz: Symphonie Fantastique and Strauss: Salome's Dance of the Seven Veils. The issues are identical in each piece.

The original limitation of 22 players was somewhat arbitrary and arose out of budgetary constraints and small stage sizes. When I was involved founding the Texas Chamber Symphony, we felt that the maximum number of players that we could realistically budget for and fit on stage was 22 (later 24) players. Our first concert on December 21st in Pearland, Texas USA used that complement of players.¹⁰⁸

In all three pieces, the winds and percussion heavily outnumber the strings: 9 strings vs. 14 winds, harp, and percussion in the Rimsky-Korsakov and Berlioz pieces, and 9 strings vs. 15 winds, harp, and percussion (+ celeste) in the Strauss. This will need to be addressed at the outset, or the strings will be drowned out. Here I propose three solutions:

11. Increase the number of string players. This will be the most likely solution for most chamber orchestras. Instead of 4 violins, 2 violas, 2 celli and bass, increase it to 6 violins, 3 violas, 3

¹⁰⁸ Concert December 21st, 2019 by the Pearland Chamber Orchestra later renamed as the Texas Chamber Symphony. The concert featured the premiere of my chamber orchestra piece "A Klezmer Set."
<https://youtu.be/fpYHJ3Bzc60>

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celli and bass, or 8 violins, 4 violas, 4 celli and 2 basses or some variation thereof¹⁰⁹. But that will significantly increase the size of the orchestra as well as the labor cost.

12. Have the conductor keep the volume down in the winds and percussion to achieve balance. This might be a challenge, although it would make for more impactful tutti/fortissimo sections.
13. Amplify the strings. This certainly can work for performances and recordings, but it adds complexity and cost, and requires solid mixing on the part of the recording engineer, which does not always happen.

This issue doesn't apply to the rescore of the Third Movement Menuetto of Mozart's 40th/G minor Symphony, as that piece only uses 7 winds and no percussion out of the 16 players that I indicate in the score, so balance will not be as much of a challenge, nor need to be addressed in the same way that it is in these three orchestral works.

Editing Analysis

- The original orchestration calls for piccolo, three flutes, 2 oboes, English horn, heckelphone, E \flat clarinet, 2 B \flat clarinets, 2 A clarinets, bass clarinet, 3 bassoons, contrabassoon, 6 horns in F, 4 trumpets, 4 trombones, tuba, percussion (8-9 players): 5 timpani, snare drum, bass drum, cymbals, triangle, tam-tam, tambourine, castanets, glockenspiel, xylophone, celeste, 2 harps, 16 violin I, 16 violin II, 10-12 violas, 10 violoncellos, 8 double basses.
 - This meant eliminating 82 players.
 - The performance time is approximately 10 minutes.
5. Like with my earlier scores, I set the metrics of my Sibelius file (page size, staff size, margins, etc.) to the same as those in my Capriccio Espagnol rescore. Like I did when rescoring Berlioz: Symphonie Fantastique, I decided to create new instrument staves for all of my new wind, harp, and percussion parts with an "X" at the end so that I can see that they are the destination staves. That system again worked quite well here as well.

¹⁰⁹ The St. Paul Chamber Orchestra, in Minnesota, USA, is one of the best-known professional chamber orchestras in the United States. Their roster lists 6 violins, 2 violas, 4 celli and 1 bass. See <https://content.thespc.org/people/orchestra-musicians/> They also expand or contract the number of players based on the instrumental requirements in each score that they perform.

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6. At the very beginning of the score, I could see that I was able to combine four percussion parts into two parts – the two timpani parts can be played by one player, and the snare drum and tambourine can also be played by one player. Both are prominent at the very beginning, so retaining them was important. See *Figures 2 and 3*.

Sehr schnell und heftig (♩ = 144)

The score is for four percussion parts: two Timpani, Snare Drum, and Tambourine. The tempo is 'Sehr schnell und heftig' with a quarter note equal to 144 beats per minute. The time signature is 2/4. The first two staves are Timpani, both marked with a forte 'f' dynamic. The third staff is Tambourine, and the fourth is Snare Drum. The notation shows a rhythmic pattern of eighth and sixteenth notes with rests, starting with a forte 'f' dynamic.

Figure 202: Original score Percussion at the very beginning with four players.

Sehr schnell und heftig (♩ = 144)

The score is for two percussionists. The first staff is Timpani, marked with a forte 'f' dynamic. The second staff is Snare Drum, and the third staff is Tambourine, both marked with a forte 'f' dynamic. The tempo is 'Sehr schnell und heftig' with a quarter note equal to 144 beats per minute. The time signature is 2/4. The notation shows a rhythmic pattern of eighth and sixteenth notes with rests, starting with a forte 'f' dynamic.

Figure 203: Rescored for two Percussionists: one on Timpani, and one playing Snare and Tambourine.

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7. Also, at the very beginning, there are two cello parts – one for the first desk and one for everyone else. I retained the split so that they are played by two players – this way the sforzando in the lower staff could be retained. If I combined them together, it would be lost. See *Figure 4*.

Sehr schnell und heftig (♩ = 144)

arco pizz. arco pizz. arco pizz. arco

Violoncello

(First Desk)
pizz. *f* arco

(Rest) *f sfz* *sfz* *sfz* *sfz* *sfz*



Figure 204: First Desk Celli and "The Rest" of the Celli.

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8. At Bar 31, my rescore roster of instruments does not include the contrabassoon, so I put the bass line in the bassoon instead. The contrabassoon was doubled by the string bass, so bassoon is doubling the cello instead. See *Figures 5 and 6*.

31 *Ziemlich langsam* (♩ = 72)

Contrabassoon

Violoncello Soli

Violoncello Rest

Contrabass

Figure 205: Original score using Contrabassoon, doubling Contrabass.

31 *Ziemlich langsam* (♩ = 72)

Bassoon

Violoncello

Contrabass

Figure 206: Contrabassoon was removed and replaced by Bassoon, which doubles Cello instead of Bass.

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9. Bar 55 – I put the exposed English Horn bar in the oboe. The focus is on the flute, and since they are both double reeds it will be very transparent. See *Figures 7 and 8*.

Figure 207 shows a musical score for three instruments: Flute 1,2, Oboe, and English Horn. The score is for bar 55. The Flute 1,2 part starts with a forte (*f*) dynamic and plays a complex, fast-moving melody. The Oboe part is silent in this bar. The English Horn part starts with a forte (*f*) dynamic and plays a simple, sustained note. A dashed line labeled *dim.* indicates a dynamic decrease from *f* to *p* (piano) for the English Horn part. The Oboe part enters in the next bar with a piano (*p*) dynamic.

Figure 207: Original score using the English Horn.

Figure 208 shows a musical score for two instruments: Flute and Oboe. The score is for bar 55. The Flute part starts with a forte (*f*) dynamic and plays a complex, fast-moving melody. The Oboe part starts with a forte (*f*) dynamic and plays a simple, sustained note. A dashed line labeled *dim.* indicates a dynamic decrease from *f* to *p* (piano) for the Oboe part. The Oboe part enters in the next bar with a piano (*p*) dynamic.

Figure 208: English Horn moved into the Oboe.

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10. Letter F marks the appearance of both harp parts. I combined them together bearing in mind what is practical for a single player, plus I had a colleague that plays the harp to look it over. I really wanted to retain the bass clef line in Harp 2 in Bar 62, as it adds to the lushness in the violin cadence in Bar 64. See *Figures 9 and 10*.

Figure 209: Original score with two Harps.

Figure 210: Harp consolidated to one player.

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11. At Bar 60 (Letter F), I moved the inner horn parts to the trombones, who don't play there. This added depth, while retaining a horn quality by having horns in the top and bottom notes. See *Figures 11 and 12*.

Figure 211: Original score with four Horns.

Figure 212: Using Trombones to fill in the inner Horn voices.

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12. As much as it pained me to take out the bass clarinet part in Bar 67 and give it to the bassoon, it is doubled in the celli, so it won't be missed. See *Figure 13 and 14*.

Figure 213 shows a musical score for two instruments: Bass Clarinet and Violoncello. The score spans from bar 67 to bar 71. The Bass Clarinet part is written in treble clef with a key signature of one sharp (F#). The Violoncello part is written in bass clef. Both parts feature triplet eighth notes in bars 67 and 68. Bar 69 has a 3/4 time signature change. Bar 70 has a 5/4 time signature change. Bar 71 has a 3/4 time signature change. Dynamics include *p*, *mf dim.*, and *pp*. Performance markings include *pizz.* and *arco*. Section markers **H** and **I** are present above the staves.

Figure 213: Original, with the Bass Clarinet and Celli doubled.

Figure 214 shows a musical score for two instruments: Bassoon and Violoncello. The score spans from bar 67 to bar 71. The Bassoon part is written in bass clef. The Violoncello part is written in bass clef. Both parts feature triplet eighth notes in bars 67 and 68. Bar 69 has a 3/4 time signature change. Bar 70 has a 5/4 time signature change. Bar 71 has a 3/4 time signature change. Dynamics include *p*, *mf dim.*, and *pp*. Performance markings include *pizz.* and *arco*. Section markers **H** and **I** are present above the staves.

Figure 214: Bass Clarinet replaced with the Bassoon. As a bass clarinetist, this hurt.

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13. At Bar 70 (Letter H), the piccolo was eliminated as it is doubled in the violins, celeste, and the harp, and we needed the flute player on flute for the big solo at Letter I (Bar 72). See Figure 15.

The image shows a musical score for measures 70-72, marked with 'H' in a box. The instruments shown are Picc., Cel., Harp 1, and Violin 1. The Picc. part is marked 'p sfz' and 'dim.'. The Cel. part is marked 'p' and 'sfz'. The Harp 1 part is marked 'sfz'. The Violin 1 part is marked 'p' and 'sfz'.

Figure 215: Original score with Piccolo, which is eliminated in the rescore.

14. 2nd bar of P – Bar 121. The glockenspiel makes an appearance for a single solitary note that is covered by the celeste, even though it is one octave higher than the top celeste note.
15. In general, the original orchestration is very thick, and I found myself slowly wading through it one page at a time. There is an enormous amount of doubling in the score, and the challenge was balancing polyphony and harmony – specifically, making sure that the polyphonic structure of the piece of music was maintained within the context of my reduced orchestration, while making sure that the harmonic structure beneath it was maintained.
16. At Bar 159, I switched the flute player to their piccolo double in order to retain the playful quality of this C# major intermezzo in the piece. In the original score, piccolo has the highest pitch at its beginning (along with the top violins), changing the overall timbre of the ensemble. I switched back to flute before the emergence of the glorious melody in the strings at Letter T/Bar 177.

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17. Letter V (Bar 196) posed a conundrum. I had two percussion players available in my rescored orchestration, and 7 percussion parts to figure out how to cover and/or reduce. Plus, I had one player usually only on timpani. That meant that I had to figure out what to do with six parts and one player. Fortunately, the tempo is slow here (MM. quarter approx. = 76) and entrances are on the quarter. Too many parts, and something had to go. I put this off for later. See #18 below.

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18. At Letter X/Bar 216, Strauss introduces some metric complications. The previous meter is 3/4 and at Letter X he introduces some bars in 2/4 time in the flute, oboe, clarinet, and bassoon where dotted half = half. However, I know from experience performing this piece that there is an accelerando 10 bars before that (Bar 206) into Bar 209 – *Allmahlich bewegter* which normally gets conducted in 1¹¹⁰ (one bar per beat). Although flute and oboe are effectively playing two against three, it is still in the context of conducting in 1, so there won't be a three pattern in the conductor. It is less confusing than it first seems. This is a bit of a challenge from a notational standpoint because I am notating 2/4 when it is technically still in the 3/4-time signature. The 2/4-time signature is entered as text. See Figure 16.

The figure displays a musical score for four instruments: Flute, Oboe, Clarinet 1, and Bassoon. The score is divided into two systems. The first system (bars 215-219) shows the instruments playing in 3/4 time, with a 2/4 time signature indicated in the flute part. The second system (bars 220-224) shows the instruments playing in 2/4 time, with a 3/4 time signature indicated in the flute part. The score includes dynamic markings (f, mf, p, dim.), articulation (accents), and phrasing (breath marks, slurs).

Figure 216: Strauss introducing bars that are two against three and vice-versa.

¹¹⁰ One ictus (downbeat) by the conductor per bar.

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19. At Bar 234, three muted trumpets enter. A possible solution was to use trumpet and two horns, but it is too high for the horns, so I put the two lower voices in the clarinets. It will still be in the right tessitura, and with the trumpet on top, it is closer to the original than using horns, even though they are brass instruments. In this case, range was more important than timbre. See *Figures 17 and 18*.

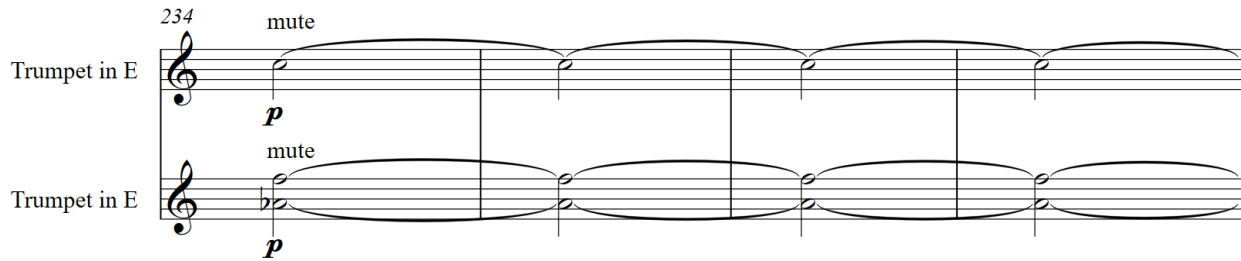


Figure 217: Original entrance with three Trumpets.

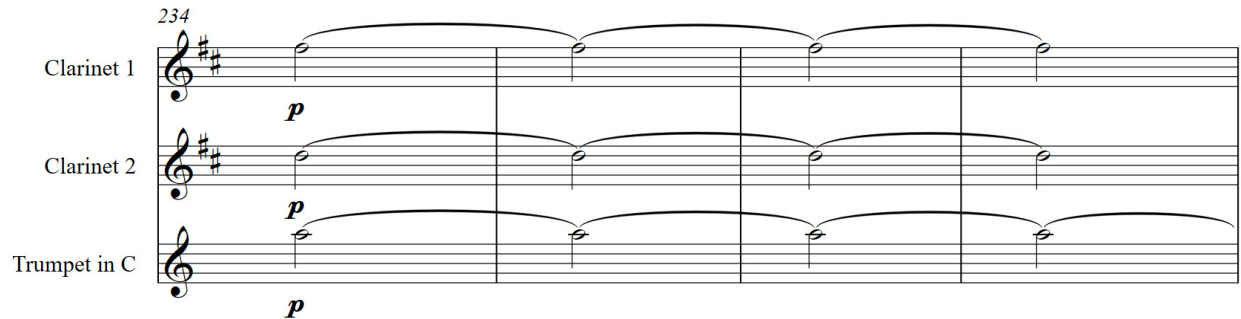


Figure 218: Lower Trumpets replaced with Clarinets to preserve the tessitura.

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20. Three before DD/Bar 263, I had to cut down on some percussion – too much and too overlapping. Listening to it critically, the “action” is in the tambourine, snare, and castanets, which I believed could be handled by one player as long as the percussion instruments are suspended. I skipped the bass drum and pared down some of the other percussion. I also moved the xylophone to the celeste, which is played by another player. See *Figures 19 and 20*.

Figure 219 is a musical score for percussion instruments. It consists of five staves: Castinets, Tambourine, Snare Drum, Bass Drum, and Xylophone. The score is marked with a box labeled 'DD' above the fourth measure. The Castinets staff has a single note in the fourth measure. The Tambourine staff has a series of notes and rests, with a dynamic of *f* in the fifth measure. The Snare Drum staff has a series of notes and rests, with a dynamic of *mf* in the fifth measure. The Bass Drum staff has a single note in the fourth measure, with a dynamic of *pp*. The Xylophone staff has a series of notes and rests, with a dynamic of *mf* in the fifth measure. The score is numbered 263 at the beginning.

Figure 219: Percussion in original score. Timpani is not shown.

Figure 220 is a musical score for three percussion instruments played by one player. It consists of four staves: Snare Drum, Tambourine, Castinets, and Celeste. The score is marked with a box labeled 'DD' above the fourth measure. The Snare Drum staff has a series of notes and rests, with a dynamic of *f* in the fifth measure. The Tambourine staff has a series of notes and rests. The Castinets staff has a single note in the fourth measure. The Celeste staff has a series of notes and rests, with a dynamic of *mf* in the fifth measure. The score is numbered 263 at the beginning.

Figure 220: Three Percussion instruments played by one player. The Xylophone part has been moved to Celeste.

21. At Letter HH (Bar 300), Strauss lets loose the entire ensemble. This was a bit of a challenge as it is a massive F7 dominant chord, but all of the chordal members were covered. He slams the F-A-F motive in the bass instruments, which has plenty of coverage in the bassoon, trombones, tuba, timpani, and string bass.

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22. I left the issue in #13 above for last as the rest of the rescoring is complete – 13 bars at Letter V. It does not consist of more than one tap of a percussion instrument (some are rolls) per quarter note, so it was feasible for a percussionist to move around to play different instruments, but not more than two at a time, plus I thought it was reasonable for them to have these instruments arrayed (suspended) around them. As mentioned earlier, I specified suspended cymbals, so they don't take two hands. See *Figure 21*.

The image displays two staves of musical notation for percussion instruments. The first staff, labeled '196 V', covers measures 196 to 203. It includes parts for Castinets, Tambourine, Tri., Snare Drum, Cym., and Bass Drum. The tempo markings are 'wieder etwas massiger' and 'accelerando'. Dynamic markings include *f*, *mf*, and *p*. The second staff, labeled '203 W', covers measures 203 to 210. It includes parts for Snare Drum, Cym., B. D., Tambourine, Tri., and Castinets. The tempo markings are 'Wieder etwas mässiger' and 'poco accelerando'. Dynamic markings include *ff*, *mf*, *p*, and *dim.*

Figure 221: Most challenging place in the rescore - 13 bars of Percussion at Letter V.

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23. I had to completely rethink the percussion part, and this turned out to be the most difficult part of this entire rescoring. The challenge is that there are usually six players plus timpani player filling the percussion requirements, and that becomes a huge challenge at Rehearsal Letter V. Since the timpani mostly remains playing timpani, that means condensing what is meant for six players down to one without sacrificing Strauss's orchestral richness. My original scoring for percussion worked, but I based it on a maximum of four staves with instrument changes occurring. This got really messy and would have added undue confusion on the part of the percussionist. Here is what I did (See *Figure 22*):

Figure 222 displays two systems of percussion staves for Letter V, measures 196-203. The first system (measures 196-203) includes Snare Drum, Cym., B. D., Tambourine, Tri., and Castinets. The second system (measures 203-209) includes Snare Drum, Cym., B. D., Tambourine, Tri., and Castinets. The notation includes various musical symbols such as notes, rests, and dynamic markings (mf, p, f, ff, dim.).

System 1 (Measures 196-203):

- Measures 196-197:** Snare Drum (mf), Cym. (p), B. D. (mf), Tambourine (p), Tri. (p), Castinets (f).
- Measures 198-199:** Snare Drum (mf), Cym. (p), B. D. (mf), Tambourine (p), Tri. (p), Castinets (f).
- Measures 200-201:** Snare Drum (mf), Cym. (p), B. D. (mf), Tambourine (p), Tri. (p), Castinets (f).
- Measures 202-203:** Snare Drum (mf), Cym. (p), B. D. (mf), Tambourine (p), Tri. (p), Castinets (f).

System 2 (Measures 203-209):

- Measures 203-204:** Snare Drum (f), Cym. (mf), B. D. (f), Tambourine (f), Tri. (f), Castinets (ff).
- Measures 205-206:** Snare Drum (mf), Cym. (p), B. D. (mf), Tambourine (f), Tri. (f), Castinets (dim.).
- Measures 207-208:** Snare Drum (mf), Cym. (p), B. D. (mf), Tambourine (dim.), Tri. (p), Castinets (mf).
- Measures 209-210:** Snare Drum (mf), Cym. (p), B. D. (mf), Tambourine (p), Tri. (p), Castinets (mf).

Figure 222: Percussion at Letter V rescored so one player can move around and retain the color.

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- a. There are six percussion instruments specified by Strauss in the score: snare, cymbals, bass drum, tambourine, triangle, castanets, and tam-tam. I assigned each one their own staff, ensuring that the order that the instruments appear always remain the same, even though staves with no notes on them are hidden, as is a common practice in score notation. This also makes the percussion part a lot clearer. See *Figure 23*.

Salome's Dance of the Seven Veils (1905) From the opera Salome, Op. 54

Richard Strauss (1864 - 1949)
Rescored for Chamber Orchestra by Michael Drapkin

Sehr schnell und heftig (♩ = 144)

The figure shows a musical score for six percussion instruments: Snare Drum, Cymbals, Bass Drum, Tambourine, Triangle, and Castanets. The score is in 2/4 time and begins with a forte (f) dynamic. The Snare Drum and Cymbals have notes in the first, third, and fifth measures. The Tambourine has notes in the second, fourth, and sixth measures. The Bass Drum, Triangle, and Castanets have rests throughout the first six measures.

Figure 223: Six separate Percussion staves at the beginning of the piece.

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- b. In the one place where xylophone appears for five measures at Bar 96 (the fifth bar of Letter M), I had the timpani switch to xylophone, but there is a bit of a quick change back to timpani afterwards (See Bar 101 in *Figure 24*). I set up an alternate part in the celeste if they prefer to have that played there instead. In the case of the glockenspiel, I moved all of that into celeste since the sound is very similar. See *Figure 24*.

Figure 224 shows a musical score for two staves: Xylophone and Celeste. The Xylophone staff begins at measure 96 with a melody in the right hand, marked *mf*. The Celeste staff has an alternate melody in the right hand, also marked *mf*. The Xylophone part switches to *p* in measure 97 and back to *mf* in measure 101. The Celeste part switches to *p* in measure 97 and back to *mf* in measure 101. Above the Xylophone part, there are markings "To Timp." and "Timpani Etwas lebhafter".

Figure 224: The Xylophone part played by the Timpani player or cued in the Celeste.

- c. In some cases, I was looking to eliminate the bass drum and substitute it with timpani when it was possible and appropriate. I particularly did that at Letter V. See *Figure 22 and 23*.
- d. Most of the cymbals are indicated suspended cymbals (as does Strauss), but he often pairs cymbals with bass drum, so it is up to the percussionist if they want to have cymbals mounted on the bass drum to make it easier for them to be played together.
- e. When possible, I preferred to use crash cymbals (piatti) in place of suspended cymbals. Particularly in the last measure, I preferred crash cymbals. I had percussion on crash cymbals in the last two bars, and had the timpani also cover the bass drum, with both muffled so that they don't hang over the orchestra unison eighth notes in the last two bars. See *Figure 25*.

Figure 225 shows a musical score for two staves: Bass Drum and Cymbals. The Bass Drum staff begins at measure 344 with a melody in the right hand, marked *ff*. The Cymbals staff has a melody in the right hand, marked *ff*. The Bass Drum part switches to "(muffle w towel)" in measure 345 and back to *ff* in measure 346. The Cymbals part switches to "(piatti)" in measure 345 and back to *ff* in measure 346.

Figure 225: Percussion at the end of the piece.

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- f. I tried to avoid overlap between percussion instruments when possible, otherwise the percussion part becomes impossible for one player to perform by themselves.
- g. While I tend to keep the timpani percussionist mostly on timpani, there were a couple of times that I really needed them to temporarily move to other instruments, particularly with the bass drum and xylophone, although I did mention in (b.) above that I wrote an alternate for xylophone in the celeste.
- h. Strauss clearly goes for an “oriental” feeling in the percussion in this piece. While the part that I have written is challenging for the percussionist, I did review and adjust this part based on a bar by bar review of the percussion parts with Vadim Karpinos, Assistant Principal Percussionist with the Chicago Symphony and Chuck Berkinshaw, Percussionist with the San Fernando Valley Symphony in Southern California, USA. While the percussion part is difficult (and was the most difficult aspect of this reduction for me), it is infinitely playable and retains the rich oriental flavor that Strauss intended for this piece.

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Notes to Percussionists

(This will appear in the foreword to the conductor's score)

This rescoring calls for two players: one mostly playing timpani and the other playing a variety of percussion instruments. The percussion part is probably the most challenging part in the chamber orchestra, not from technique but from logistics.

Notes for the timpanist: You will mostly play on timpani, but there are a few places where you are needed to fill in on other instruments:

There is an important bass drum roll at Letter B; just be aware that you may be sharing the bass drum with the percussionist, so place the instrument accordingly. There are also five bars of xylophone at the fifth bar of Letter M where you are needed. If that is problematic, those bars are cued in the celeste, although it would sound better on xylophone. There are three bars of cymbals at the sixth bar of Letter HH, which may be played on suspended cymbals (again being aware that this instrument is likely being shared with the percussionist), and you can probably use your timpani sticks so that you don't need to change sticks to play this. Finally, you are needed in the last two bars of the piece to play both the last timpani and bass drum notes simultaneously. The marking in the part suggests muffling both the timpani and bass drum; this is because the entire orchestra is playing eighth notes and you shouldn't hang over. Muffling should solve that.

Strauss's original timpani part consists of two staves. One is regular Pauken (timpani) and the other is for eine kleine Pauke (mit Holzschlägel) - a small timpani (with wooden mallet). Strauss is looking for a more "oriental" sound out of that instrument, and that upper note E is likely not playable on your regular timpani, so you may want to use a rototom with a wooden stick. Both timpani parts are combined so that they may be played by one player. Just be aware that the high E's are meant for the kleine Pauke.

Notes for the percussionist: This part combines parts that are normally played by six players in a full symphony orchestra, and it has been carefully rescored so that they can be played by one player, although you will be switching between instruments quite a bit. Percussion in the full score and percussion part will always appear in this order, although empty staves are hidden: Snare drum, cymbals, bass drum, tambourine, triangle, castanets, and tam-tam.

Triangle: Using a single pair of snare drumsticks will minimize stick switching between the percussion instruments. One solution for eliminating the switch to triangle beaters is to duct tape beaters on your sticks and they will produce a fine triangle tone. If you do this, make sure that you put a mark on the stick so that you can be aware of the stick orientation. See photo below:

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Other solutions are to use either plastic tip sticks or metal sticks so that they can be used on triangle, but the tone of the triangle will likely not be optimal. Or a triangle machine can be used, such as those made by Danmar and Grover.

Instruments will need to be suspended for easy access. It may be useful to have more than one of a specific instrument as needed so that one of them can be suspended and other left lying down that can be picked up. The 13 bars starting at Letter V calls for switching between 5 instruments, but the tempo is fairly slow there and the parts do not overlap, so switching should be possible. Note that piatti (crash cymbals) are called for in the last two bars of the piece. If the timpanist balks at playing timpani and bass drum at the same time, then the percussionist can go back to either suspended cymbal/bass drum or have the cymbals mounted on top of the bass drum.

Acknowledgements

Thanks for help on the percussion parts go out to Chuck Berkinshaw of the San Fernando Valley Symphony Orchestra and Vadim Karpinos of the Chicago Symphony Orchestra. Further thanks to Grace Paradise, Broadway show harpist, for annotating the harp part.