

ANALYSIS AND PERFORMANCE GUIDE FOR

FIGMENT III BY ELLIOTT CARTER

by

NAHEE SONG

(Under the Direction of Milton Masciadri)

ABSTRACT

Among the abundant repertoire for classical music instruments, compositions for double bass have been much less plentiful. Due to the size and range of the instrument, the role of the double bass has primarily been to provide a harmonic foundation. With the development of instruments and the evolution of genres, however, double bass repertoire also went through some transformation in performance techniques and types of composition. Nonetheless, double bass seemed to hardly overcome its physical limitations as a solo instrument until many composers discovered the potential of the instrument. Elliott Carter explored a range of techniques and compositional methods in his work, *Figment III* (2007), brought a new perspective to double bass as a solo instrument. With Carter's unique compositional tools, this piece showed new compositional possibilities for the double bass as a solo and even as a virtuosic instrument.

INDEX WORDS: Elliott Carter, *Figment III*, double bass, solo repertoire, performance techniques,

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DEDICATION

I dedicate this project to my parents who have been supporting me in every way to take this great opportunity of studying away from my country, learning from great teachers, and finishing my degrees in the United States successfully. Even when they are not present with me, their unceasing support has reached me to completing my journey successfully.

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Introduction

Many instruments are widely accepted as having an appealing sound that invites the emotional engagement of human sensation. Carter created appealing sounds in a somewhat different way, engaging another part of human sensation.¹ He dedicated composition, part of his Figment series,² to the double bass player Donald Palma, who had a close relationship with Carter, and who actively performed and taught in the northeastern United States. Because of Mr. Palma's substantial engagement in performance and teaching, the piece became known by many bass players. It has become one of the major double bass pieces of the 20th century.

This document will discuss how Carter utilized the double bass in his piece, working closely with a performer who engaged not only in solo performance, but also in orchestras, ensembles, and pedagogy. The document will also analyze how Carter's distinctive compositional methods contributed to the performance techniques of double bass. Carter's *Figment III* will be compared with the major double bass works from the Classical period through contemporary, examining how bass repertoire has changed and adapted over time. The following chapters will discuss analytical approaches and techniques with which one can better understand this composition. As Carter did in his compositions, this analytical approach will go beyond the traditional methods of

¹ Human sensation, as a response to sound specifically, is further developed by unprecedented new sounds.

² This series includes *Figment for Solo Cello* (1994), *Figment II for Solo Cello* (2001), *Figment III for Solo Contrabass* (2007), *Figment IV for Solo Viola* (2007), *Figment V for Solo Marimba* (2009), and *Figment VI for Oboe* (2011).

performance practice to provide a valuable reference for players not familiar with implementing analysis of modern music into their performance.

CHAPTER 1
THE STUDY OF DOUBLE BASS REPERTOIRE

Representative Double Bass Repertoire and Performance Practice in Western European Music History

The Double Bass in History

In Western European music history, the development of the double bass occurred according to the emergence of new eras and genres, shifts in ideas of good intonation, and improvement of technology. Historically, its genesis is based on the violin family, although the double bass plays, to a certain extent, an opposing function to the violin's central role playing the melody. Because of the double bass's low and percussive tone quality, it was perfectly suited for keeping the pulse in dance music, starting in the 16th century. Moving into the 17th century, the string ensemble of the violin family was brought together as an ensemble at the King's court.³ Despite the popularity of string ensemble music, low-pitched, large viol instruments at the time were played only for big events.

Another big transition of the double bass in Western music history was the instrument's change of size, which followed the standardization of the violin family. The reduced size of the double bass was caused by the development of string manufacturing, which gave the construction of the modern double bass its foundation. The modern conception of the double bass had been introduced by the Italian instrument-maker,

³ Paul Brun, *A New History of the Double Bass* (Villeneuve D'Ascq, Belgium: P. Brun Productions, 2000).

Michele Todini, during the 17th century. While improvements to the construction of the instrument were made in Italy for the most part, the emergence of new genres engaged with these improvements. In opera and orchestra performances, the need arose for the double bass to better project sound, and to provide proper support for ensembles, and supporting the entire ensemble with steady pulses from the double bass was undoubtedly the main role of the instrument. As the size of orchestra grew, the necessity of this functional role of instrument also grew. Instead of stamping or tapping, the double bass was now in charge of holding the large orchestra together.

Regardless of these important developments of the instrument, historically the perceived conception of double bass as a rhythmic instrument dominated without much change. Numerous questions arise in considering what might have affected this domination of its rhythmic function. The fact that the double bass has such profound tone quality, which perfectly serves its role in the orchestra must be one response. And this sound quality of the double bass was recognized in bigger venues, such as opera houses, built according to the popularity of opera.

Another response might be seen as the limitation of the bass's sonic properties. The timbre of the bass sonically serves the bass or foundation of a work more than any other instrument. Thus, it has been used for this purpose even more than the cello, which takes a similar role in an ensemble. Though, when questions regarding whether instruments can be staged as a solo instrument or not, the cello has been featured as solo instrument much more prominently.

The double bass sonoric limitations dominated its function throughout music history. Attempts to overcome the limitation of the instrument necessitated exploration of additional possibilities on the instrument.

Some interesting observations were made in the 18th century, when ideas of the theatrical function of music were prevalent. Double bass was not only used for securing the harmonic and rhythmic support, but also included for imitation or emphasis of striking events onstage.

Instruments were chosen in accordance with established stereotypes and used for the description of such events as were visually provided by ingenious, perfectly engineered scenic machinery.⁴

Nevertheless, fixed ideas of the instrument contributed to locking the possibilities of the instrument in its limitations.

It is no wonder there were no major solo works for double bass, and there were no solo performances on such a physically demanding instrument in the Baroque era.

The primary task of a double bass player was to provide the fundamental notes and the essential rhythmic impulse and punctuation. This meant giving extra weight to changes of harmony, lightening passing notes, or playing a simplified version of the part that clarified the harmony... Keeping a steady basic pulse was an important responsibility entrusted to 18th-century double bass players.⁵

The recognition of the instrument, always demanded to be more effective in its functional role than in being musical, was shown in the confined function of the instrument.

Therefore, solo works written for double bass during the Baroque period do not exist. The profound productivity of Baroque solo instrumental music was the remarkable outcome of Bach, Vivaldi, and Corelli among others, but none contributed any solo repertoire for

⁴ Brun, 54.

⁵ Brun, 69.

the double bass in this era. What was required of performers, in playing the double bass in an ensemble, was the confined role as the rhythmic and harmonic foundation. In order to even be considered a virtuosic instrument, the bass is to play the accompaniment part with an ear for elaborating the implications of figured bass. The concept of the instrument was to accompany, yet play as solo instrument. The accompanying role of executing poorly written basslines was the most important requirement for a bass player.

Because it is not possible to write every single note of the harmony without bringing confusion to the entire part, the conductor only gives essential general bass indication, leaving much to the consideration of the player. However, so much taste and reflection is required here that a perfect accompanist fully deserves to be called a virtuoso.⁶

Even later in the 18th century, performance practice of the double bass was limited to accompanying methods. With the exception of the outstanding career of the virtuosic double bassist Domenico Dragonetti (1790–1846), the solo works of representative composers were mostly for other instruments. With the impact of Dragonetti's playing, though, a major composer like Beethoven wrote more sophisticated bass parts. Even these, however, were yet confined to an accompanying role.

The use of the double bass solely based on the nature of the instrument, amenable for providing a harmonic and rhythmic foundation, left its task to overcome that nature. Besides, a movement toward exploring various aspects of the instrument outside the box occurred more actively in music of the twentieth century and beyond.

We seldom hear a solo from the double-bass; [its] huge size lacks substance. We cannot imagine the double-bass whispering a tender love-song, or indulging in any sweet sentiment. It is essentially an orchestral instrument. Its heavy notes . . . help make a fine, firm background for the melodies and harmonies of the more delicate instrument.⁷

⁶ Brun, 70.

⁷ Esther Singleton, *The Orchestra and its Instruments* (New York: Creative Media Partners, LLC, 2019, 1917).

In accordance with the emergence of new genres, the double bass brought attention to composers looking for innovative uses for the instrument.⁸ In the twentieth century, many composers and musicians began experimenting with music-making away from the traditional manner, and the double bass became a focus for this.

The change of usage of the double bass occurred in creative ways, aligning with contemporary music trends. Finding and assigning new functions for instruments concerned contemporary composers who wrote music for unique groups of instruments; solo pieces provided a chance for them to bring new potential to their works. The double bass easily fell into this group, and such composers transformed its previously one-dimensional presence.⁹ In accordance with the discovery of various properties of the instruments that differed with earlier music, new compositional methods created a new flow in Western music.¹⁰ In the stream of European music history, this trend competed alongside other musical cultures for popularity.

Recognition of Representative Double Bass Works

Johann Mattias Sperger

The Viennese virtuoso double bass player and composer, J. M. Sperger (1750–1812), wrote many works for solo bass. His most-often played pieces are the Sonatas in B

⁸ Modern composers' interests in finding new sounds for new genres was not limited to the double bass. However, they most definitely developed it in the double bass repertoire.

⁹ Including Concerto for Bassoon and Low Strings, by Sofia Gubaidulina (1931), *Gimmy* No. 2 for violoncello and double bass, by Alfred Schnittke (1976), and *Together* for violin and double bass, by Isang Yun (1989).

¹⁰ For example, twelve-tone, serialism, and sound mass (extended technique).

minor and D major. Compared to other standard repertoire for double bass, Sperger's is not included often in concerts, even in the modern age. This is because the features of these sonatas are comparably simple in their musical components.¹¹

Italian and French composers and players, historically, concentrated on developing bass repertoire following the uses and properties of the double bass in ensemble settings. On the other hand, the First Viennese school was more actively engaged in writing solo instrumental music for bass than that of the Franco-Italian school. Using the Viennese tuning system, devised mainly for solo playing during the transitional time from Baroque to Classical music, Sperger composed numerous pieces well suited for solo playing, and music suitable for double bass.

Stylistic features of Baroque and Classical music are at times dependent on the tone quality of instruments. However, the double bass is not favorably constructed for the simple, *galant* style in terms of tone quality and sonic projection. Today performances of Sperger's Sonatas remain infrequent, partly because modern bass players find the pieces difficult to play for their restrained style. Still, considering what popularity of the composer might have brought to the repertoire of double bass, Sperger's accomplishment remains underestimated, even as his contribution brought bass repertoire a little closer to the flourishing solo repertoire of other instruments.

¹¹ Compared to concertos, the musical style of sonata is, to a certain extent, simpler in melodies, accompaniments, and so on. When bass players choose concert pieces, they may look for a piece that shows their virtuoso capabilities. Bass players also commonly have a lot fewer opportunities to perform solo pieces. Therefore, they rarely include sonatas for double bass in performances.

Carl Ditters von Dittersdorf

As one of the pieces often required at orchestra auditions, Dittersdorf's Double Bass Concerto in E major is quite challenging for making clear sound on the instrument with good quality in a low tessitura. Other classical music reflects the stylistic features of the time, the double bass in more difficult higher positions.¹² As with most Viennese *violone* pieces, the Double Bass Concerto in E major was originally written for Carl Ditters von Dittersdorf (1739–1799), who had close relationships with Haydn, Mozart, and Jan Krtitel Vanhal (1739-1813),¹³ who also composed a concerto for double bass. Vanhal was one of Dittersdorf's students, and played together with him in ensembles. Even though Vanhal's concerto was written as a solo work, greater importance has been given to soloist works of Mozart and Haydn. Even as von Dittersdorf worked closely with these great composers, he could not appeal to them enough to write a solo work for double bass.

Domenico Dragonetti

Domenico Dragonetti (1763–1846) was the most virtuosic soloist of his time. He was widely admired, and had a reputation for astonishing double bass playing, this when the bass was considered too physically demanding to play well enough to show off virtuoso technique to an audience.¹⁴ Dragonetti's hands suited the instrument, which requires a great deal of strength and flexibility. Mary Novello described them as “. . .

¹² One of the typical stylistic features of the Classical era is the reserved expression of the *galant* style. Thus, delivering this stylistic feature through an instrument like the double bass, which is difficult to control, remained prohibitive for the performer, even on the modernized instrument.

¹³ This is one of the standard concertos for double bass. This piece is frequently requested in orchestra auditions for its difficulty. Clean sound and intonation are challenging in its performance.

¹⁴ A similar story persisted even after the development of the instrument offered better conditions for players.

peculiarly formed, very expanded at the finger ends, so capable of a grasp.”¹⁵

Dragonetti’s bass was set with a high bridge, high action (distance) from the fingerboard, and thick strings. The amusing story that Paganini challenged Dragonetti to play second part of a violin duet with him, shows how great a player he was, regardless of the disadvantages.¹⁶

Dragonetti’s exceptional technique was recognized by numerous composers, including Beethoven, whose double bass parts are known for their innovative writing. As mentioned earlier, more advanced writing for bass was still limited to the supportive function of the instrument. No master composers wrote solo pieces for solo double bass, despite Dragonetti’s contributions to introducing the capabilities of the bass as a solo instrument.

The Double Bass Concerto in A major, considered one of the main solo bass works, was in fact composed by Édouard Nanny, and attributed to Dragonetti. It is not technically demanding for modern bass players and is known as a piece for intermediate players.

Dragonetti was known for his exceptional playing, though it seems that overcoming the circumstance of the period’s limitations of the instrument was difficult and was reflected in the piece. As the as yet insufficient historical reference of Dragonetti shows, the double bass repertoire was not a part of the mainstream during his time.

¹⁵ Vincent Novello, and Mary Sabilla, *A Mozart Pilgrimage, the travel diary of Vincent and Mary Novello in the year 1829*, transcribed and compiled by Nerina Medici di Marignano, ed. Rosemary Hughes (London: Novello and Company, 1955), 335, 338.

¹⁶ Brun,

Giovanni Bottesini

The Italian-born composer and performer, Giovanni Bottesini (1821–1889), is the most well-known composer of solo bass repertoire, and vastly contributed to the genre. From an early age, Bottesini learned to play violin and this strong background led him to write great works not just for solo bass, but his famous duo for violin and bass.¹⁷

One of the representative and idiomatic stylistic features of Bottesini is his use of harmonics, which he used as a central device in nearly every piece. This created the possibility for the bass to project high pitches, producing different timbres outside the usual double bass sound. Bottesini wrote an arpeggio that goes through the harmonic series, well planned in its logic, but difficult to execute successfully (Figure 1).



Figure 1. G-string harmonics series for double bass

Another stylistic approach of Bottesini was his use of *bel canto* technique, a nineteenth-century vocal technique. Like Dragonetti, Bottesini had close relationships with great composers of his time, one of whom was Verdi. From this relationship and the

¹⁷ *Grand Duo Concertante* (1880).

popularity of Italian opera, Bottesini was inclined to create a similar singing effect on the double bass. His singing lines seem impossible to play even today, but his use of harmonics, and the rich harmonic and melodic language of the Romantic era allowed the double bass to cross over a line into a soloistic role.

Bottesini's Double Bass Concerto No. 2 in B minor is undoubtedly considered one of the greatest solo pieces for double bass. Characteristics of this piece are the high register and the technical difficulty. There are more technically demanding pieces from Bottesini, but this most-often played work is considered a big challenge. Bottesini's substantial understanding of the instrument and meticulous use of the high register were remarkable. He seemed not to emulate techniques of other instruments to develop the capability of the double bass. Instead, he devised specific techniques for double bass, so the instrument performs to its ability in its own way.

Despite the remarkable compositions of Bottesini for solo double bass and violin, his reputation as a composer is not at the highest level. His pieces brought little attention to the musicians who performed them during his time. Today Bottesini's value as a composer has not received as much attention as the attention given his music by double bass players. Again, this shows that taking the position of solo instrument is difficult, and that the double bass and interest in writing music for the instrument, according to the popularity of the public, affected major composers and their consideration to write for the instrument.

Serge Alexandrovitch Koussevitzky

Koussevitzky (1874–1951) is possibly the most renowned musician among double bassists. His fame was primarily as a conductor and bassist and developed throughout his career. He proved his standing as a bass player in auditions, competitions, and with a large following of listeners. Koussevitzky played double bass not because of a passion for the instrument, although his affection for it seemed to grow. His technique on the double bass was at an astonishing level over other players and he attracted many listeners this way. Also, he sought to change perceptions of the double bass as a solo instrument by perfecting his playing. Paul Brun remarks on Koussevitzky's great interest in promoting this recognition.

Though he had become an orchestral soloist and a professor at the Philharmonic Conservatory, Koussevitzky did not cease his efforts to perfect his playing. It was not enough to him that he had interested people by his performances on the double bass; that he had attracted attention to an instrument which had occupied a lowly place in the orchestra; that he had given it a serious significance and shown new possibilities of playing on it. He longed for more. He aimed at the impossible. He persevered in his resolution to put the double bass in the front rank of solo concert instruments.¹⁸

Koussevitzky's passion never raised the status of the bassist as high as his fame; but he brought a continued attention to solo double bass. As he pursued his career as a conductor, his efforts were directed toward the orchestra. Nevertheless, Koussevitzky participated in expanding the recognition of double bass in general by developing the double bass section in his orchestra. He built his career as a conductor in Russia, Europe, and the United States. Particularly, his appointment to the Boston Symphony was unprecedentedly long, at twenty-five years. As Koussevitzky's achievements show, his

¹⁸ Brun, 264.

musical talent was remarkable and, with that talent, he composed and transcribed many works for solo double bass.

He wrote the piece most favored by double bassists, his Concerto for Double Bass and Orchestra in F-sharp Minor, in 1902. Koussevitzky premiered the piece in 1905 with the Moscow Philharmonic, and he later performed in Boston in 1927. This piece entered the discourse among bassists, in which it was argued Gliere contributed orchestration of the concerto.

Koussevitzky's affection for Russian composers, such as Tchaikovsky, Glinka, Rachmaninoff, among others, also deeply influenced the Concerto. The listener might hear similarities in comparing it with pieces of these composers. Sadly, Koussevitzky's attempts to promote the double bass seemed not to be realized, even as he had a successful career as performer, composer, and conductor. He led in twentieth-century attention toward demonstrating the capability of the instrument, within a period of discoveries of new sounds and techniques, and his efforts should certainly be regarded as a turning point for solo double bass.

Nino Rota

One of the great compositions of double bass solo repertoire was written by Nino Rota (1911–1979), the composer and conductor. Rota composed his *Divertimento Concertante for Double Bass and Orchestra* between 1967 and 1971, working with Franco Petracchi, an Italian double bassist. His novel approach to the bass expresses the distinctive sounds of the instrument flawlessly, without overwhelming the player or the audience.

The best way to understand the piece is to accept that this piece should be played by double bass, and that no other instrument could deliver the disposition of the piece for listeners. Rota started writing the piece because Petracchi commissioned him while they were in residence at the Bari Conservatorie as teacher and director. The interesting story of how Rota was inspired for the piece involves Rota's office located below Petracchi's studio, so that Rota could hear how Petracchi taught his double bass students. Most of the musical materials in Rota's piece are based on technical exercises in double bass methods books. With such a compositional style, Rota's piece has an extremely difficult double bass part, but, at the same time, is surprisingly fun. The player discovers how "boring" exercises can turn into a great work.¹⁹

The difference between performing a supportive function in an ensemble and that as a soloist is a wide gap for double bass players. Consequently, the approach to performance practice in ensemble and as soloist, differentiated in exercises that Rota employed for *Divertimento*, was completely suited for solo double bass.

When a composer does not play the instrument, there can be difficulty capturing the characteristics of the instrument and reflecting these in the piece. However, when a composer works closely with a performer, the collaboration more often turns out a valuable work. With Rota's knowledge of the instrument gained from Petracchi, and his novel ideas in creating sounds in a new sort of genre, together they created an outstanding solo piece for double bass.

To a certain extent, *Divertimento* marks a moment when music history moved into a later period, where double bass solo works became idiomatic. This moment does

¹⁹ Francesca Petracchi, *Simplified Higher Technique* (London: Yorke Edition, 1982).

not seem to involve only specific instruments, although it brought dramatic differences to instruments with little or no solo repertoire. These changes are influenced by many factors, such as the change in tonal schemes, the development of new techniques, and the altering of approaches to how instrumental music should be engaged in evoking human emotion.²⁰

Major Composers before Elliott Carter

Perhaps there are many musicians unaware of the major composers who have contributed to double bass repertoire. The pieces written by those composers are few, especially in earlier western music history. As explained earlier in this chapter, the development of the double bass meant that there was less demand for solo double bass works.²¹ Even in the 19th century, when Bottesini wrote numerous solo works for the double bass, many composers were skeptical on the matter. The documented evidence of this reflects the frustration of composers and commentators who believed the double bass could and should be performed in its higher registers and play virtuosic passages as a solo instrument. These concerns seemed mainly about the strict concept of what solo instruments should be preferred, and which instruments could deliver the styles of the period most beautifully and effectively. Schubert reflected the perspective that caused this frustration about the double bass used in solo performance:

They did not produce a great effect; one could not but admire the endeavor but did not feel anything. Intended as a pedestal, this instrument will never become the monument itself... One should bear in mind that such an

²⁰ Classical and Romantic music emphasize the ability of music to evoke human emotion.

²¹ When the bass was solely functioning as the harmonic foundation and percussive rhythmic force that holds the group together.

enormous bass instrument is not made for solos. It sounds like mockery ... often becomes comically clumsy like a bear.²²

The low or bass instrument performing in the concert that prompted Schubert's harsh words was a Viennese violone, an instrument with distinctive features. Because of the constructional problems of the instrument, the strings perhaps would have rattled often, two strings sounding at the same time, and the tuning system may have made the pieces monotonous.²³

The 18th century, when the double bass played in a variety of music ensembles—such as the orchestra, ensemble, and trio sonata—brought attention to chamber music, and thus the Viennese school of double bass contributed more literature to the instrument in context of solo, chamber, and orchestral music.

Joseph Haydn, *Concerto per il Violone* (Hob. VII, 1)

The influence of Haydn on Western music history is enormous and undisputed. He composed the *Concerto per il Violone* in 1763, but the manuscript was lost in a fire. Only the first two bars remain, which are given through Haydn's catalogue of themes (Figure 2).²⁴



Figure 2. Haydn, *Concerto per il violone*, opening two measures.²⁵

²² Johann-Joachim, *Essai d'une methode pour apprendre a jouer de la flute traversiere* (Berlin, Chez Chretien Frederic Voss, 1752).

²³ Tuning in thirds brought limitations to composers for writing in various keys.

²⁴ *Entwurf-Katalog*, MS in Haydn's own handwriting, compiled 1765, Prussischer Staatsbibliothek Berlin, Mus.ms.theor. Kat.607, Folio 19.

²⁵ Brun, 103.

Although Haydn's Concerto per il Violone was destroyed, he used some solo passages for other solo instruments in his symphonies. The most-often played solo from these is that of Symphony No. 31 (1763), as the two opening measures of Haydn's concerto show a similarity with the double bass solo in Symphony No. 31. More interesting materials might have been presented in the violone solo concerto, thus the matter leaves the regret that he did not provide more for the double bass repertoire (Figure 3).

Finale.
Moderato molto.
Var. 7. Vel. Solo

The musical score is written for double bass in 2/4 time, key of D major. It features a 'Vel. Solo' marking and includes triplets and slurs. The score is divided into three systems, with first and second endings indicated at the end.

Figure 3. Double Bass solo from Haydn's Symphony No. 31, 4th movement, Var. 7.

We might consider a hypothetical situation for Haydn's Concerto per il Violone (Hob. VII, 1), had he written it for double bass and it had survived. In such a case, a major composer would have introduced the double bass as a solo instrument, and more attention and more vivid conceptualization might have been given to this. Unfortunately, this, and understanding how Haydn approached the concerto for double bass, is no longer possible.

W. A. Mozart, *Concert Aria for bass, "Per Questa Bella Mano," K.V. 612*

Mozart composed "Per Questa Bella Mano" in 1791, for solo bass voice and double bass obbligato. This aria is accompanied by orchestra and obbligato double bass, and usefully demonstrates how Mozart set music for the bass in a distinctive way, compared to works of other composers during his time.²⁶ This work is regarded, in part, as a solo piece for double bass player. Comparing to other solo compositions for double bass, Mozart's obbligato part shows much experimental writing for the instrument. In accompanying the voice, even on the modern double bass, the writing is technically demanding. Due to the low frequencies of the instrument, the part is also difficult to hear over the orchestra; therefore, the challenge is finding the balance between the obbligato bass and the orchestra.

Above all that "Per Questa Bella Mano" conveys, the value of this piece is that a major composer contributed to the development of solo double bass literature. With the recognition of how the part was written, even considering it as an accompaniment,²⁷ the aria is regarded as contributing to the development of double bass repertoire.

Paul Hindemith, *Sonata for Double Bass and Piano*

²⁶ Even Mozart's other pieces show a very different approach to writing for the bass. This obbligato part for double bass is regarded as one of the most difficult, even among solo works for bass.

²⁷ Historically, the double bass was considered an instrument for accompanying. While accompanying is the main task in "Per Questa Bella Mano," the difference between this piece and other accompanying parts for double bass is apparent.

Hindemith (1895–1963) composed his Sonata for Double Bass and Piano in 1949, thus great changes had taken place for the instrument.²⁸ As the historical background shows, the compositional development in writing for the double bass was much advanced. Hindemith utilized all possible features of the instrument²⁹ and he created a perfect fit for solo double bass. He set out to create a series of sonatas for every instrument. The end result of this project was that the solo repertoire for double bass gained in reputation, and major composers began writing solo works for double bass. Theoretical knowledge of Hindemith's three-voiced writing³⁰ thus became the backbone of future sonatas. Furthermore, his writing technique, using extensive theoretical principals developed in the twentieth century, meant that he wrote each sonata in a unique way, with a variety of forms and a consideration to portraying the instrument musically.

The sonata is problematic for both the bass player and piano accompanist. It is renowned for its difficulty for the latter, but, on the other hand, the accompaniment is perfectly balanced with the bass part. By writing the piano part in a very high register, Hindemith could create contrasts with the low register of the double bass; at the same time, the bass sound projects well over the piano. Hindemith's harmonic sources included compositional materials of the time: octatonicism, chromaticism, and specific intervallic material. He used these harmonic materials for creating themes and motives. According to the change of the genre, which employed different harmonic schemes and creative sounds of the instrument, the bass was not necessarily imitating or attempting to execute

²⁸ Statements of how superb the musical work might be are inherently subjective. The Hindemith Sonata for double bass is remarkable, and written by an established composer. His understanding of the instrument, as reflected in the piece, is outstanding.

²⁹ From the lowest tones to the higher register, without any extra force to imitate the sound of other solo instruments.

³⁰ The conviction that listeners can perceive no more than three voices sounding simultaneously with any degree of differentiation.

sounds other instruments could make. Instead, Hindemith wrote using the distinctive sounds of the instrument in a successful way that also delivered his intention of exploring theoretical music concepts of the day. Indeed, the double bass sound follows the nature of its shape and sonic elements, but retains the solo elements for solo double bass work.

Antonín Dvorák, *String Quintet No. 2, Op. 77*

Dvorák composed the *String Quintet No. 2* in 1875 and it featured an unusual instrumentation for string ensemble. By including the double bass, Dvorák achieved a particular sonority, giving the piece a deeper harmonic foundation.³¹ In addition to the unconventional setting for string ensemble, the difficult bass part is a remarkable feature of the piece. Although the piece explored, in many ways, new perspective for string ensemble, the role of double bass in this piece still remained as the harmonic and rhythmic foundation.

The double bass forms a beautiful part in a quintet; but as yet no composer has written an independent part for it; the performer, therefore, generally takes the second violoncello part, which produces a good effect, except when the parts cross (viz. the two violoncellos); then the harmonies become improperly inverted. Since the delicacies and refinements of this instrument have not been generally known or acknowledged, composers have not ventured to write an important part for it.³²

The bass in this piece mostly doubles the cello part. The understanding of technical capability of the instrument allowed the bass to double the demanding cello part, but the solo parts were allocated to the rest of the instruments in the

³¹ Patrick Castillo. Concert program notes, “Viennese Roots.” Atherton, CA: The Center for Performing Arts at Menlo-Atherton and Stent Family Hall, Menlo School, July 20 and 22, 2014.

³² Cipriani Potter, *The Musical World*, 5/61 (London: J. Alfred Novello, 12 May 1837).

ensemble. The bass takes on the normal cello harmonic foundation, allowing the cello to explore the higher register with violin and viola, but the bass does not take a solo role. The double bass contributes to the rich texture of the piece with the particular timbre of the instrument. Additionally, as seen in 18th century opera, the sound of bass is utilized for effect in the stormier moments of the piece. The piece is one of the main chamber music compositions for the double bass from the 19th century, and Dvorak's contribution to expanding chamber repertoire for double bass is significant. However, the conventional usage of the instrument was not changed much. Other noteworthy 19th century usage of the bass in chamber music can be seen in Schubert's Trout Quintet, D. 667, Schubert's Octet, D. 803, and in the two piano quintets Op. 30 and 31 by Louise Farrenc.

Summary

Such transformations in music in some way affected perspectives on solo double bass. However, the absence of acknowledgement of the double bass as a solo instrument by major composers, left questions concerning the instrument and its capability. Despite the effort of composers to develop the solo repertoire of double bass, it remained to a certain degree incomplete. For this reason, attempts were made to transcribe solo works of other instruments composed by established composers, and those works have become an important part of the repertoire for double bass solo performers.

Survey of Transcribed Works for Double Bass

J. S. Bach, *Six Suites for Cello Solo*

If solo performers of low stringed instruments must pick one solo work for their repertoire, they will usually, pick Bach *Six Suites for Cello Solo*. The amazing effect of Bach's sophisticated counterpoint allows the listener and performer to explore the cello's full sound spectrum without accompaniment. Bach made substantial use of the lower register of the instrument, thus featured this throughout the piece. Using the composer's meticulous compositional plan, and understanding the cello and its sound, the suites were transcribed for double bass, by Frederick Zimmermann, a renowned double bassist and teacher in the United States. Zimmerman made numerous transcriptions for double bass, contributing to expanding the repertoire of solo bass works.³³ Zimmermann's transcription has been edited by numerous musicians as the capability of the double bass developed further.

As much as it is demanding for a cellist to play these pieces, the technique and sophistication of performance are much more difficult for the double bassist. The Bach Suites have become standard repertoire for most double bass solo works. These pieces are used as a tool to evaluate bassists for their skills. There are more challenging pieces to evaluate these abilities, but the *suites* are the explanation for a most-often requested transcribed works.

Schubert "*Arpeggione*" Sonata

³³ "Frederick Zimmermann," Wikipedia, last modified on 23 November, 2019, https://en.wikipedia.org/wiki/Frederick_Zimmermann

Schubert's "Arpeggione" Sonata was transcribed for bass and is often performed. Familiarity with the original work and Schubert's beautiful writing definitely account for the appeal of the piece. Needless to say, bassists would want to have performances that impress both listeners and the players themselves. Because most double bass repertoire is not familiar to the public, meeting the desires of the public is on the whole nearly impossible with double bass solo works. In order for performers to establish themselves as soloists, bassists have created interesting programs for their concerts and transcribed works like the "Arpeggione" Sonata have had success.

The musical elements within the "Arpeggione" are various, for example, the beautiful melodies in the first and second movement of the sonata, the fast-moving third movement, and the simple surface elements, then elaborated harmony throughout the piece. While the bassist has a heavy responsibility in expressing the beautiful melodies of a 19th-century sensibility, with technical challenges imposed on a giant instrument, the piece also offers the opportunity to show the capability of the double bass as a solo instrument. Although audiences who have heard the sound of the original work for the arpeggione (known as a cello and viola piece) might think the sonic effect is less impressive, they could also observe the remarkable effects of this transcription. Familiarity of sound is basically why Stuart Sankey transcribed the work for double bass repertoire, and its performance proves that the capabilities of the double bass have been underestimated, and that the confined functions given to double bass as a non-solo instrument led to not getting the attention of major composers or the public.

CHAPTER 2

ANALYSIS OF *FIGMENT III* FOR CONTRABASS

Analysis of *Figment III* for Contrabass

The Musical Language of Elliott Carter

Elliott Carter brought much attention to composers, scholars, and performances, in particular due to his distinctive compositional devices. With his interest in overcoming limitations of pitch classes and discovering more possibilities, Carter developed his own methods of composition. Although he seemed in his own world devising his compositional system, he composed various types of music throughout his lifetime, influenced by many different composers and their styles. His distinctive compositional methods evolved from those influences.

Carter was influenced to some degree by old but familiar works of many composers with some of whom he had personal relationships with. Many of his works are either dedicated to or quote from those composers.³⁴ Carter's diverse cultural influence developed when he studied with Nadia Boulanger in Paris, and he realized it himself: "She was a very useful teacher to me. It was not something I would have ever learned if I had stayed in the United States."

Even though his relationships and interest in other composers' styles affected his works, Carter started emancipating himself from his earlier styles, as well as the twelve-

³⁴ For example, in his String Quartet No. 1, Carter used an excerpt from Ives' First Violin Sonata. Also, his focus on harmonic structural continuities impacted his works. There are also several small chamber works Carter dedicated to other composers, such as Petrassi, Boulez, and the author Italo Calvino.

tone and serial compositional trends of the time. In 1970, he criticized his own Second Quartet in a program note, in which strict allocation of instrumental characters constrains innovational exploring of their possibilities in range.³⁵

To a certain extent, the instruments [in the Second Quartet] are type-cast, for each fairly consistently invents its material out of its own special expressive attitude and its own repertory of musical speeds and intervals. In a certain sense each instrument is like a character in an opera made up of “quartets.” The separation of the instrumental characters is kept quite distinct throughout the first half of the work but becomes increasingly homogenized up to the *Conclusion*, at which point the separation reemerges.³⁶

In an essay in 1967, Carter also showed his change of compositional aesthetic:³⁷

. . . I found myself in direct opposition to the static repetitiveness of most early twentieth-century music, against the squared-off articulation of the neoclassicist . . . musical discourse needed as thorough a rethinking as harmony had at the beginning of the century.³⁸

As his works developed, Carter seemed to deny his earlier premises on harmonic and rhythmic methods. Instead, his harmonic language got more ambiguous, and rhythmic variances became more complex. These elements of Carter disguise the form of the piece on the surface level, and Carter, interestingly, complicated the surface elements, creating unique structures. Carter’s approach to compositions allowed him to realize his musical ideas of expanding the possibility of pitch sets, while maintaining a sense of continuity and unity in a piece. Due to the complexity of his compositional manner, an understanding of his harmonic language should be considered apart from analysis of specific pieces.

³⁵ Marguerite Boland and John Link, *Elliott Carter Studies* (Cambridge, MA: Cambridge University Press, 2012), 35.

³⁶ Carter, String Quartets Nos. 1 (1951) and 2 (1959, 1970), in CEL, 234.

³⁷ Alan Theisen, “A Multifaceted Approach to Analyzing Form in Elliott Carter’s Boston Concerto” (PhD diss., Florida State University, 2010), 21.

³⁸ Elliott Carter, “Two Sonatas, 1948 and 1952.” Liner notes, Nonesuch Records H-71234 (H-79183-2), 1992. Compact Disc.

All-Interval Tetrachords (AIT): [0146] and [0137], the two four-note collection that contain all *six interval-classes*.³⁹

All-Trichord Hexachord (ATH): [012478] the unique six-note collection that contains all twelve three-note *chords*.⁴⁰

Aggregate: All twelve pitch-classes come into and fixed-pitch aggregate circulation is a common way for Carter to delineate the sections in his music.⁴¹

Harmonic Structure in *Figment III*

Main harmonic language of Carter, AIT and ATH are woven together throughout the piece and the formal structure of the piece can be traced with sophisticated layout of those harmonies with textural variety.

First section, until ATH in measure 11-13 is presented, Carter displays non-ATH harmonies while giving a hint to an emergence of ATH through interlocked AITs.

When the next section begins with C held over from measure 12, Carter's long aggregate contrasts previously occurred aggregate within three measures from 9 to 11. This section remarks the meticulously interlocked ATHs, keeping the harmonic flow of the piece.

Abrupt interruption with duple, sixteenth notes clearly distinguishes itself from the preceding triple rhythmic figure. This interruption does not form a key chord, but it takes a role as a 'linking gesture' that connects the two ATH. This provides harmonic unity that seemed to be broken by the rhythmic interruption on the surface level.

³⁹ David Schiff, *The Music of Elliott Carter* [Ithaca: Cornell University Press, 1998], 34

⁴⁰ Schiff, 34

⁴¹ Marguerite Boland, ['Linking' and 'Morphing': Harmonic flow in Elliott Carter's *Con Leggerezza Pensosa*], [p.34].

After the short interruption, the slow-moving gesture comes back in with another aggregate from measure 33 to 47.

Rhythmic complexity of duple and triple marks the coda section starting in measure 47. This section does not provide harmonic unity but the melodic descending line from B-flat to E (measure 48 to 56). When the harmonics on G in measure 56 is presented as the highest up to this point, the consecutive AITs are intensified with the double and quadruple stops in extreme range difference.

Last statement of two ATHs which plays the role of tonic as one considers do not reach to the end point. Instead, the simultaneous AITs in measure 64-65 wraps up the section, leading into where the expectation of ATH completing the piece setback.

Throughout the entire piece, a *pizz.* on a single note seems to demarcate the sections of this piece.⁴² Within this measure 2, the *pizz.* lies on G. When Carter intricately defines the structure on the surface level, it is relatively easy to identify both visually and aurally the structural division with small gestures. Another example of this, in measure 13, is the snap *pizz.* on C, which divides sections between different textures, as in the first beat of measure 29 (Figures 4-a and 4-b).

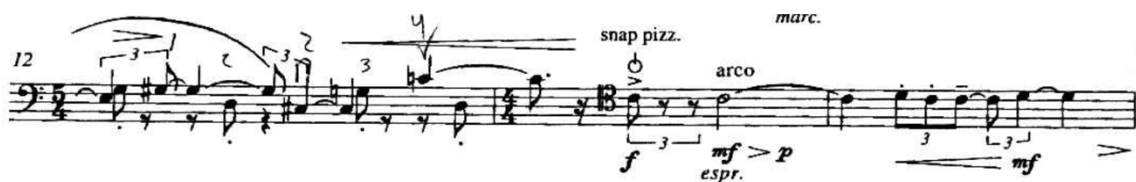


Figure 4-a. Snap *pizz.* dividing the section in measure 13.

⁴² Most of the cases, but not limited to every appearance of the figure.



Figure 4-b. Textural difference with *pizz.*

Following his two *Figment* pieces for cello, with the sophisticated use of AITs and ATHs,⁴³ and their great variety of intervals and trichords, Carter created a similar piece for double bass. Like most pieces created within certain musical systems in certain ways, Carter's music finds a larger concept of a compositional standard, only he used his own harmonic, structural system and methods.⁴⁴ He presented this harmonic language clearly at the beginning of the previous two pieces, *Figment for Solo Cello Alone* and *Figment II*.⁴⁵ One expects *Figment III* to start off with Carter's strong harmonic drive, an all-trichord hexachord 35[012478].⁴⁶ With its vast variety of intervals and chords, it certainly commands attention, as well as giving the impressive feeling of a crucial moment in it (Figures 5-a and 5-b) and (Figures 6-a and 6-b).



5-a. First measure of *Figment for Cello Alone*.

⁴³ All-Interval Tetrachord (AIT) and All-Trichord Hexachord (ATH). Elliott Carter, *Elliott Carter Harmony Book* [New York: Carl Fischer, 2002], 33.

⁴⁴ I mean ATH and AIT for the three *Figments*, for instance, to build the structure of the piece, creating the continuity and unity through this harmonic language.

⁴⁵ *Figment for Solo Cello Alone* (1994), *Figment II* (2001).

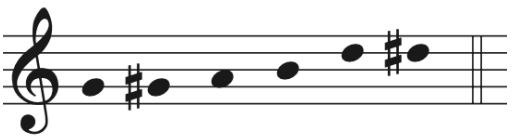
⁴⁶ Throughout this document, harmonies will be labeled using both Carter's numbering system and prime forms. See Carter, 26 and 40.



5-b. Six-note group hexachord in measure 1.



6-a. First measure of *Figment II*.



6-b. Six-note group from the first and second measure.

Instead, the first measure introduces *Figment III*, with a derived Hexachord 16 [012367]⁴⁷ (Figure 7).

Figure 7 consists of two staves of musical notation. The top staff is in bass clef, 4/4 time, and contains several measures of music. Annotations include: 'Hexachord 16' above the first measure; 'AIT 23' above a box containing two notes; 'AIT 18' below a circled note; 'Hexachord 15 ti4' above a later measure; 'Pizz' below a measure; and 'Pentachord 31' below a measure. The bottom staff is in treble clef, 4/4 time, and contains several measures of music. Annotations include: 'Hexachord 15 ti8' above a measure; and 'AIT 23' below a measure. The notation includes various note values, rests, and articulation marks like slurs and accents.

⁴⁷ John Link’s uses of Carter’s terms, distinguishing the ATH, in this specific analysis deriving from non-ATH harmonies that share two or three common tones with ATH. See John Link, “Harmony in Elliott

Figure 7. *Figment III*, Structure of Hexachords and Tetrachords.

While not one of the “key chords,”⁴⁸ Hexachord 16 [012367] has its function in Carter’s music: its strong harmonic structure, comprising two AITs (23 [0137] and 18 [0146]), which are subsets of AHT, offers much variety and coincides with a strong textural gesture, two powerful double stops, marked *sforzando*, and three consecutive *crescendo* markings within two measures. This creates the expectation for an ATH with similar musical material.

The triplet *legato* gesture predominant in this piece is first introduced after the burst of duple and quadruple stops. This gesture harmonically shares common notes with Hexachord 15 ti4 while creating another Hexachord 15 ti8, thus generating connection and fluidity of the harmony with previous measures. Carter creates harmonic continuity with a variety of captivating musical material. Shared notes and interlocking harmonic groups accounted for internally, are not clearly shown on the surface. Instead, Carter states AITs, one of his main harmonic devices, within the hexachord structure, creating the harmonic unity to the piece. The overlapping C-sharps, played both *arco* and *pizzicato* in measure 3, contribute another crucial statement, which not only generates a symmetrical layout with the B double stop in measure 1, but also creates the illusion that two instruments double the note. This illusion seems to signify another moment Carter planned, while he shows the duality of overlapped C-sharp between two iterations of Hexachord 15 ti4 and ti8, giving another false impression for an occurrence of ATH and with AITs as subchords.

Carter’s Late Music,” *Music Theory Online* 25, no. 1 (May 2018).
<https://mtosmt.org/issues/mto.19.25.1/mto.19.25.1.link.html#Beginning>

⁴⁸ Key chords or referential sonorities. See Boland, “‘Linking’ and ‘Morphing,’” 33-43.

The next statement of Hexachord 31 t9 [014679], which seems unrelated to ATH directly, contains Pentachord 31 [01367] and AIT 23 [0137].⁴⁹ Pentachord 31 maps into Hexachords 16 and 15 and AIT 23,⁵⁰ which form powerful connections with ATH is an important chord for Carter, creating the illusion of emergence of ATH again. Link calls these derived chords of the opening measures, “non-core” harmonies,⁵¹ and they provide contrast with and the expectation of “core” harmonies. These eight measures of introduction move into the next statement without reaching the central harmonic idea of *Figment III*.

In measure 9, a new set of pitches marked *pizz.* are stated, contrasting with the *legato* texture from previous measures. The seven-note figure in measure 9 forms Septachord 30 [0123678], as well as the next set of pitches starting in a new rhythmic gesture, sixteenth notes and the L.H. *pizz.* While Septachord 30 contains AITs, which connect the Septachord 30 to ATH internally, it can be considered as the initial movement to what Boland considers as the aggregate. Starting from G-sharp, in measure 9, to D in L.H. *pizz.*, in measure 11, the aggregate is formed throughout, leading up to a striking moment of the first statement of ATH (Figure 8).

⁴⁹ Rion Wentworth, “Twenty-first Century Works for the Solo Double Bass by Elliott Carter and Mario Davidovsky: Analyses of *Figment III* and *Synchronisms No. 11* and a Brief History of the Development of the Double Bass Since 1960” (PhD diss., Juilliard School, 2011), 31.

⁵⁰ Pentachord 31 shares subsets with Hexachord 16 and 15, and Tetrachord 23 is the subset of Pentachord 31.

⁵¹ Link, “Harmony,” [2] and [3].

The image shows a musical score with two staves. The top staff is in 4/4 time and contains measures 9, 10, and 11. A bracket labeled "All twelve pitch-class (aggregate)" spans measures 9-11. A bracket labeled "ATH" spans measures 10-11. A circled note "D" in measure 11 is labeled "Overlapped D". The bottom staff is in 5/4 time and contains measures 12 and 13. Brackets labeled "3" indicate triplets in both staves.

Figure 8. *Figment III*, Overlapped D between aggregate and ATH, mm. 11.

ATH [012478] (mm. 11-12) is emphasized with the aggregate built from the previous measures, and the meter changes from 4/4 to 5/4. The completion of the aggregate is accomplished with D as the last pitch, while the same D overlaps to form the starting pitch for ATH. The common note D functions as a linkage note between two different harmonic materials. At the end of the first statement of ATH, the C held over to the next group of pitches becomes the first note for another long process of aggregate forming (from C, m. 13, to F-sharp, m. 28). ATH, placed in the middle is part of two aggregating processes, happening symmetrically, allowing stability of the formal structure in Carter's complex musical structure. From measures 13 to 28, where highly chromatic groups of notes continue, the big picture of the entire section demonstrates the chromatic expansion, and that the expansion simultaneously contains Carter's harmonic materials within. (Figure 9).

Figure 9. The catalogue of the pitch classes as they accumulate into an aggregate, with the stems highlighting the pitch classes that actually sound in each measure, mm. 13 to 28.

During the long process of aggregation, an interesting construction of chords and the succession of ATH harmonies occurs. The texture of the held note C (from m. 12) changes distinctively from *legato* to *snap pizz.*, having some sort of sectioning function, and forms Tetrachord 1 t0 [0123] with the remaining notes. Measures 16 to 20 contain a five-note group, Pentachord 1 t11 [01234], created in a slightly longer span. These two pitch groups become references for the later part of the piece, confirming the unity of the harmonies in this piece (Figure 10).

Tetrachord 1 t0 [0123]

Pentachord 1 t11 [01234]

Figure 10. *Figment III*, Tetrachord 1 t0 from measure 13 to 16 and Pentachord 1 t11 from measure 16 to 20.

Here, interlocking groups of ATHs are stated five times. In measure 20, the F *pizz.*, marked *forte*, sets off the construction of ATH ti5. The next ATH t8 shares three notes with ATH ti5. A third occurrence of ATH ti11 shares four notes with ATH t8.⁵² The last statement of ATH t10 features a slight difference from previous statements of ATHs for its composition. Not only is it not woven together with the previous ATH t8, the F *pizz.* in measure 27 starts the ATH t10, which contains the completion of chromatic expansion in the middle of the chord construction. Also, the ATHs stated within this chromatic expansion are related to each other for its property of [0167] + major third composition for each ATH except for ATH t10 (Figure 11).

m. 20-22 m. 21-23 m. 24-25

ATH ti5 ATH t8 ATH ti11

⁵² The common tones highlighted here are also stated in the beginning of the piece in measure 3.

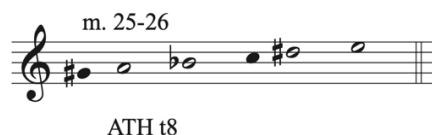


Figure 11. [0167] + Major Third construction of each ATH from mm. 20-26.

One perspective is to see note groups that create no ATH, thus to consider Boland's idea of the "linking gesture." For example, the intervening sixteenth-note rhythm in measure 29 seems to function as a 'linking' gesture between ATH t10 and ATH ti7.⁵³

Boland notes non-ATH harmonies in Carter's compositions. She analyzed Carter's *Con Leggerezza Pensosa*, essentially to find the role of non-core harmonies, linking and morphing as she calls it, to demonstrate how non-ATH harmonies contribute to the harmonic flow and unity of the piece:

In fact, the pitch and interval invariances between ATH and non-ATH material are central contributors to the sense of musical continuity across the highly active rhythmic and textural musical surface While from one perspective these pitch groups might seem to present an inconsistency in the pitch organization of the music, from another perspective they provide a key to understanding the sense of harmonic continuity and flow.⁵⁴

Non-ATH material, A, A-sharp, B, C, C-sharp, D,⁵⁵ and the G (mm. 29 to 31) play a role as linkage connecting ATH t10 and the next ATH ti7.⁵⁶ The pitches do not fit into one harmony, instead connect two ATH harmonies, contributing the flow of the harmonic progression. While the non-ATH harmonies seem to create harmonic

⁵³ Boland, 36.

⁵⁴ Boland, ['Linking' and 'Morphing': Harmonic flow in Elliott Carter's *Con Leggerezza Pensosa*], [p.34].

⁵⁵ This A-sharp, in measure 30, is a distinctive moment that occurs in the opening and the middle of the work. Instead of the placement of this figure comes at the moment where the core harmonies interlock, it happens where the 'non-core' harmony is formed, bringing a false image of core harmony. Shortly after, the core harmony is brought in with strong articulation and active rhythmic figures, in measure 32.

⁵⁶ This occurs in ATH ti7, in measure 32, until the first beat of measure 33.

discontinuity on the surface, an internalized linking role surrounding ATHs, they essentially assert the continuity of the structure. (Figure 12).

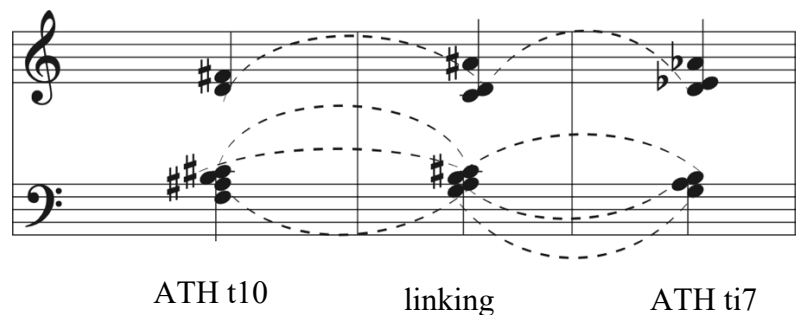


Figure 12. *Figment III*, Linking gesture of measures 29-31.

ATH ti7 contrasts in its texture the previous ATH t10. The strong articulation, *forte marcato*, for the sixteenth-note figure (m.32-33) brings attention to the ATH harmony and Pentachord 1 [01234] overlaps with ATH ti7, so Db at the end of the sixteenth-note gesture gets the value of the adjacent ATH, not disconnecting the harmonic flow accomplished up to this point.

The slow-moving figure comes back in measure 33. B natural is held for almost five beats, but is abruptly interrupted by three notes of a fast-moving gesture. Registral deviation maximizes the effect of the interruption. After the abrupt interference, the slow gesture continues in the same register of B in measure 33, as if it had never interrupted since. This figure represents the completion of the aggregate, once more from B to C-flat in mm. 33-47. As before, there are two interlocking ATH (35 t0 and 35 ti6) within the aggregate. In particular, ATH ti6 contains B-flat, the highest note up to this point, emphasizing the ATH harmony. Structural symmetry is achieved with the sixteenth-note gesture in measure 48. As in measures 32-33, the fast, active figure marks ATH

harmony, the *forte marcato* contrasting the preceding slow, soft figure also strongly articulated (Figure 13).

The musical score for Figure 13 consists of four staves of music in bass clef with a key signature of two flats. The first staff shows measures 33-34 with a dynamic of *p espr.* and trills. The second staff, starting at measure 35, includes a circled measure marked *f marc.* and continues with *p espr.*, *poco*, *mf*, *pizz.*, and *arco p molto espr.*. The third staff, starting at measure 40, features *mf* and *p* dynamics. The fourth staff, starting at measure 46, includes a boxed measure marked *f marc.* and ends with *mf*.

Figure 13. Figment III, aggregate and ATHs, mm. 33-47.

At ATH ti4, a rhythmically dense section sets off, where the continuity of the harmonic flow seems to be significantly interrupted. Constant change of texture and highly chromatic groups of pitches make it quite difficult to map its harmonic and textural correlation with the rest of the parts. Pitches in this specific section might be grouped into chromatic harmonies, but the section shows a thorough harmonic shape, connecting the two ATHs from both sides with linkage. A pattern of the rhythmic phrase offers clear partitioning of this brief section (Figure 14).

The musical score for Figure 14, titled "ATH ti4", is a single staff in bass clef with a key signature of two flats. It features a highly chromatic and rhythmically dense passage. The score includes a circled measure and a boxed measure, both marked with *mf*. The passage concludes with a dynamic of *f*.

The figure displays three staves of musical notation. The top staff, labeled '50', is in bass clef and shows a chromatic descending line with various ornaments and a circled note on the first beat. The middle staff, labeled '53', is in bass clef and features a circled note, a rectangular box highlighting a section, and markings for 'pizz.' and 'arco'. The bottom staff, labeled '56', is in bass clef and shows a circled note and 'mf' markings.

Figure 14. ATHs and partitioning of small sections with chromatic descending line, measures 48 to 56.

Based on this pattern, on the fourth beat of measure 48, B-flat begins the small partition shaping the chromatic descending line. B-flat is emphasized in a similar way but, more evidently, returns on the first beat of measure 50. Moving into the next small section, in measure 51, Carter creates a descending motion from B-flat to A on the first beat. Movement from A to A-flat follows on the first beat of measure 53, marked *subito forte* for emphasis. The descending line ends on the first note, G, measure 54, where ATH t7 is formed. ATH t7, the F-sharp *pizz.* contributes to the descending line in measure 55, until the E of AIT t3 (measure 56), appears and moves into the climax of the piece.

Across the long span of changing textures and harmonic sequences, these harmonic changes are smoothed out with a unifying gesture, the long melodic descending line, from B-flat in measure 47 to the downbeat of measure 56. Other material Carter utilized for a unifying idea reaching across this section forms a

symbiotic relationship between ATH and non-ATH harmonies. Aggregates through Non-ATH harmonies are completed with a pitch in the ATH harmony. The first aggregate in this passage begins on the fourth beat of measure 48, moving through measure 49, but the C is missing for the completion of the aggregate. The C, however, can be borrowed either from the preceding ATH triad on measure 48, or from measure 50 where the last note of the triplet figure on the fourth beat. Another complete aggregate occurs from measures 51 to 54. In order to create a complete aggregate, the non-ATH should borrow D-sharp and E from measure 54.⁵⁷

We would expect the climax of the piece to include a strong harmonic presentation of ATH, emphasizing the moment. Instead, Carter builds the tension toward the highly intensified climax using AITs. Three consecutive iterations of AIT [0146] appears, from the last beat of measure 55 to the second beat of measure 59. Although AITs are not the main harmonic language of *Figment III*, the almost limitless interval potential of these distinctive chords is strongly connected to ATH, and they are also intensified with the registral difference by the harmonics.

Natural harmonics on the double bass in this passage also contribute to the continuity. Using this distinctive process,⁵⁸ Carter successfully creates structural stability over the various materials mixed into one passage (Figure 15).

⁵⁷ By borrowing D# and E from adjacent ATH and non-ATH harmonies in order, this generates a flowing progression through the section, where the extremely disconnected section is presented on the surface level.

⁵⁸ Natural harmonics occur on G (m. 56), A (m. 58), and B (m. 63).

Figure 15. Natural harmonics that create structural continuity, measures 56 to 63.

Over the AIT-dominated section, on the third beat of measure 59, the strongly accented F and E in the bass's high register shift suddenly in measure 60, just before moving into possibly the highest note on the bass, the C-sharp.⁵⁹ The whole-tone harmony [0246] (F, E-flat, G, and C-sharp), in measures 59-60, contrasts the remaining highly chromatic harmonies, calling attention with the extreme registral change. The highest note, C-sharp, also prepares the climactic moment in measure 60. The lowest note of the bass, E⁶⁰ and the highest note, C-sharp, create AIT [0137] on a quadruple stop. This intensive moment of the section leads into the next double stop, which, with C-sharp heard in the previous measure, creates another AIT t1 [0146]. The climax built up to this point is punctuated by a snap *pizz.* on A-sharp. This punctuation introduces the last statement of the ATH (ATH ti11 and ATH ti10). These two ATHs do not overlap each other, but the overlapping AIT ti6 connects them (Figure 16).

⁵⁹ This depends on the length of the strings for each instrument, but usually C# is seen as the highest spot that the player can stop on the fingerboard.

⁶⁰ Not considering the extension on the bass, which has the lowest note C.

The image shows a musical score for a guitar. The top staff is labeled 'ATH ti11' and 'ATH it10'. The first part of the staff is marked 'snap pizz.' and 'arco'. The dynamics are *ff*, *f*, and *ff* *marcatiss.*. The second part of the staff is marked 'AIT ti 6 [0137]' and has dynamics *mf* and *f*. The score includes various musical notations such as triplets, slurs, and fingerings.

Figure 16. Last statement of ATHs with AIT connecting the two ATH, measures 62-63.

A significant moment of this piece occurs in measure 64, with Carter's denouement of the piece. Interlocking with ATH, G-sharp and the D double stop include the simultaneous occurrence of two AITs, with two other double stops, C and E, E-flat, and G. This forms a powerful statement of simultaneous AITs, strong enough to wrap up the climax without use of ATH (Figure 17).

The image shows a musical score for a guitar, specifically measures 64 and 65. The score is labeled 'AIT [0137]' and 'AIT [0146]'. The dynamics are *ff*. The score includes various musical notations such as triplets, slurs, and fingerings.

Figure 17. Simultaneous occurrence of AITs in measures 64 and 65.

The sonorities in the piece, the harmonics *glissando*, contrasts this preceding material in measure 66. The piece, in fact, ends with a *pizz.* on an

artificial harmonic, E, preceded by the F-sharp natural harmonic. This sonority not only distinguishes itself from the previous, but also creates a non-ATH harmony (Tetrachord 1 t4 [0123]) to finish the pitch class. Chromatic note groups can be mapped into a few places in the piece; however, because Carter never returns to the ATH, which might be viewed as functioning as the tonic, he leaves the ending of *Figment III* unresolved, though it seems he could have returned to the opening moment where expectations lead to surprise.

CHAPTER 3

PERFORMANCE PRACTICE

In 1828, the French critic François-Joseph Fetis raged about the bassist who neglected to play with energy in performance:

Besides physical strength, playing the double bass also requires an energetic willpower that is too rarely met, considering the want of vigor of most bassists in their attack of the string.⁶¹

In 1914, another critic, Cecil Forsyth, stated that such ragged comments on double bass players were too harsh.

Whenever composers have made calls for an extended technique, Bass players have always answered the call. In this country especially there have always been capable and earnest players. At the present day one may assert with confidence that our best orchestras owe their rich quality mainly to the exceptional powers of tone and attack which are to be found in the Bass-department.⁶²

Bassists in the ensemble provided a harmonic foundation, executing this function with percussive sound, playing fewer notes, and always staying in the lower register of the instrument. Creating a variety of sound with different techniques had been disregarded even by Haydn, Mozart, and Beethoven who wrote more interesting parts in ensemble music. The techniques required were not much different, but became more difficult.

Composers for the modern double bass have developed these techniques, together with the development of the instrument, and recognition of the sound of the bass in the

⁶¹ Francois Joseph Fetis, "Execution musicale" in *La Revue Musicale* [Paris: F. J. Fetis, 1828], p.228.

⁶² Cecil Forsyth, "Orchestration" [London: Macmillan and Co., 1914], p.454.

ensemble has improved, but confined within the ensemble techniques, despite attempts to make a variety of sounds in higher registers.

The development of double bass techniques also occurred with the shift of musical genres. Western European music historical studies have expanded to other cultures, changing compositional manners, tonal schemes, and performance practice. With the changes have become new attempts to experiment with performance techniques. New compositions written for double bass explore its possibilities as a solo instrument, discovering various sounds, including previously thought “unappealing” sounds. Some 21st-century pieces require entirely different techniques from instruments.⁶³ As bassists became open to understanding the theoretical background of music, and to expanding their techniques, the double bass has secured its position as a solo instrument in the modern age. Once parts for double bass were more well-written,⁶⁴ with a proper understanding of the instrument, bass players developed their technique further and met the demands of execution.

Carter’s techniques used for *Figment III* are quite distinctive and his unique theoretical statements sometimes relate to these techniques. In this chapter, I discuss performance techniques needed for playing *Figment III*, and how the analysis of the piece can emphasize the crucial moments of the piece with these techniques.

⁶³ Composers such as Gubaidulina, Penderecki, Schnittke, and Berio, have used completely different string techniques, while the Elliott Carter remains with unique in use of his own theoretical concepts.

⁶⁴ For example, Strauss’s orchestral writing for double bass parts is sophisticated as for his solo works, and it reveals that Strauss has an extensive understanding of the instrument, and he was most definitely not limited to the conventional approach to use the bass in the orchestra.

Performance Guide for *Figment III*

Many of the techniques used in *Figment III* are not far from conventional double bass performance practice. Reflecting Carter's distinctive harmonic language is one way of approaching modern music. The complexity of harmony in Carter's music creating structural complication, requires the performer to perform extra work to understand the new compositional matter. In this chapter, the performance guide will reflect my analysis of the harmonic structure of *Figment III*, in playing as well as studying unusual techniques used in this piece.

First, as noted in the analysis, *pizzicato* plays an important role marking sections of the piece. There are several manners where Carter uses *pizz.* In measure 3, in order to create an effect of two different parts are played, Carter marks the same note (C-sharp) *pizz.* and *arco* at the same time (Figure 18). This can be seen as a duality reflecting the two overlapping Hexachord 15s. The second time this occurs (measure 30) A-sharp is not a part of Carter's primary harmonies. However, the markings contribute to the linking gesture as an unusual technique, adding meaning to the passage (Figure 19).



Figure 18. Simultaneous *pizz.* and *arco* on C-sharp, measure 3.



Figure 19. A-sharp *pizz.* and *arco*, measure 10.

Both figures also show Carter's *espressivo* marking. With this marking he seems to emphasize the intensity of sound with this technique, giving extra attention to the moment. This specific technique requires a double stop even though it lands on the same note. As it actually sounds in both articulations, the double stop is necessary. While the double stop is a demanding technique for bass players, the left-hand *pizz.* is more likely to be unusual to them, especially because the C-sharp is played in the high register; thus the performer must have a strong left hand to deliver the proper sonority.

- Two C-sharps on the G and D strings, the thumb positioned on G and third finger on D, will allow the second finger, which is stronger, to project the *pizz.* sound, while the C-sharp on the D string is best held and vibrated for the *espressivo* in measure 3.
- As specific as the technique is, there is only one fingering available for both figures. In measure 30, use the A-sharp on the D and A strings. Play these with thumb positioned on the D string and the third finger on A.
- Rests before the figures should be placed for emphasis on this specific technique.

The *snap pizzicato* (mm. 13 and 62) is a different technique than the usual *pizz.*, particularly on double bass the effect produces a much stronger sound than on any other stringed instrument. Played on the actual note, the sonic effect is more percussive, with a

metallic buzzing sound. Coming at the end of the long *legato* phrase in *Figment III*, it is disparate itself from the textures before and after, while also highlighting the section once again (Figure 20).

Figure 20. *Snap pizz.*, measures 13 and 62.

- *Snap pizzicato* can be further emphasized by finding an appropriate part of the string. For the most part, this will be located within one octave, as appropriate to maximize the snapping sound.
- As in other *pizz.* techniques, the left hand should be secured to project the sound more.
- *Vibrato* is not needed for this specific technique.

Another left-hand *pizz.* technique appears from measures 10 to 12 (Figure 21).

This technique it rarely appears in the bass part writing as the thick strings make it hard to pluck while pressing the string.

Figure 21. Left-hand *pizz.*, measures 10 to 12

- While holding the notes in *legato* throughout, the left hand should play softly while also projecting the sound.
- *The marcato* on the *pizz.* (mm.10) stresses the projection of a clear sound. As the left-hand presses down, the tip of the finger should hook the string before plucking, so it can project a clear *marcato* sound.
- The player should prepare the finger position for plucking the string prior to the event, as the *legato* notes change constantly.
- As the *pizz.* notes all lie on open strings, the *legato* notes should not be stopped for the open-string pizzicato. Therefore, the fingering must be decided on meticulously.

A difficult technique on double bass is to change from *arco* to *pizz.*, or the other way around. As the instrument is gigantic, the bow is also bigger and heavier, thus demands more strength to switch back and forth quickly, especially if playing in a fast tempo. The difficulty grows if there is also a drastic dynamic change. After playing a *pizz.* marked *forte*, it is quite awkward to flip back to *arco* and play completely *piano*.

In *Figment III*, several moments demand this switching between *pizz.* and *arco*. For example, at measures 54 and 55, the complex duple and triple rhythmic break are marked *arco*, suddenly the *pizzicato* appears. The harmonic importance of the ATH and the rhythmic drive may make the performer feel a need to shift between the techniques even more quickly (Figure 22).



Figure 22. Quick shifts between *pizz.* and *arco*, measures 54 and 55.

- As the double bass has two different bow grips, the difficulty of the technique is varied. This might be even more demanding for German bow players for how they hold the bow for *pizzicato*. Playing *pizz.* for this type of fast figure, German bow players might consider holding the bow the same way they use for *arco* and use only one finger for the *pizz.*

Carter switches from *arco* to *pizzicato* back to back in measure 27. In this part, he adds a dynamic change to the technique, instead of rhythmic complexity. Still, it is difficult to create a delicate sound on *arco* and change the position of the bow from *pizz.* (Figure 23).



Figure 23. Quick switch from *pizz.* to *arco*, with contrast in dynamics.

Carter emphasizes his key chords of the harmonic language in dynamics, articulation, and texture notes to the performer. Those inputs are for the performers to deliver the intensity of the harmony to the surface when the harmonic structure offers ambiguous directions of the piece. One representative passage appears in measures 32-33. The duple rhythm sixteenth notes contrast with the slower triplet texture, drawing attention to that specific rhythm. This figure also creates an ATH, further emphasized with *forte* and *marcato* articulation. This duple and triplet contrast increases in measure 54 where, again, an ATH is formed. The rhythmic complexity goes further by having the contrasts occur within one measure (Figures 24 and 25).



Figure 24. ATH with strong articulation and rhythmic contrast, measures 32-33.



Figure 25. ATH with duple and triple contrast, measures 54.

- It is crucial to highlight the duple rhythm for the contrast and further to emphasize ATH. As the *forte* and *marcato* are written, engaging those articulations will highlight the duple rhythm.

- Measure 54 is problematic with the written slur obscuring the rhythm further. The slur is across a duple and triple rhythm. For this kind of figure, string players commonly start with an upbow to clearly mark the starting of the triplet, and for contrasting with the duple, ending up on the down bow for the accented E on the third beat. Instead, I would suggest starting with down bow following the slur mark. In that case, it will end up down bow on the accented E. This striking moment of the piece, measures 60-61, comes together with the registral contrasts, harmonic emphasis, and technical difficulty (Figure 26).

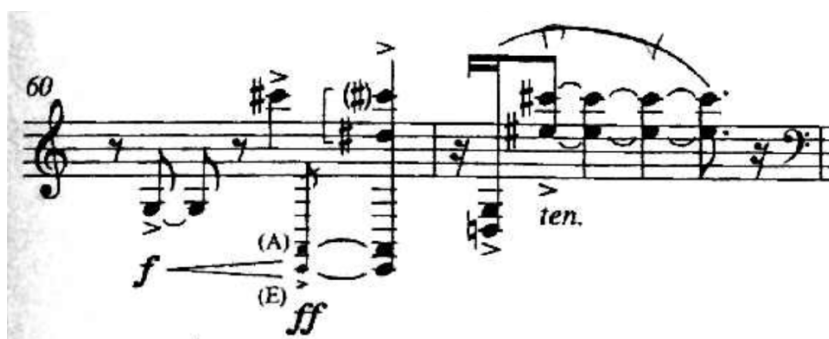


Figure 26. Double stop and quadruple stop in AITs, measures 60-61.

The quadruple stop here is infrequently written for double bass. Though it is rolled by double stops, the extreme registral contrast demands advanced technique for both left and right hands. The higher register of double stop gets easier for the narrowed position, but the action of the strings gets higher, always challenge for bassists. Due to Carter's massive registral contrasts, he puts the possible highest notes in the top voice in measure 60 and keeps notes for the adjacent measure (61) are also double stopped.⁶⁵ The sixteenth in the double stop (measure 61) are actually the most problematic.

⁶⁵ The highest note varies depending on the length of the instrument, especially when the instrument is big and therefore, the fingerboard is longer. Mr. Palma's instrument had C-sharp as the highest for his bass (I feel like this information is necessary as it might have been different note. Do you think I can keep this?) when Carter asked him for reference.

- The bow placement is important for double and quadruple stops as the player needs both strength and weight on the bow. They should be executed away from the fingerboard, closer to the bridge.
- A buzz can happen if the strings are not completely stopped, thus using thumb and third finger for the highest notes in measure 60-61 is the best fingering.
- Carter's understanding of the instrument comes alive in the double stop figure (measure 60) on open string A and E, and the open G and D adjacent to E-sharp from D#, for the purpose of approaching the bottom note of the higher double stop easily in measure 61.

Conclusion

In his forward to *The Contemporary Contrabass*, Bertram Turetzky explains the recognition of the double bass as a solo instrument from the bassists' perspective, and what Elliott Carter has established in terms of Turetzky's perspective on the recognition of the bass.

The first is to articulate the real musical image and potential of the noble, misunderstood contrabass [and to dispel] the myth that the contrabass is essentially an orchestral rather than a solo instrument . . . The second reason is to introduce this almost "unknown" instrument to composers and performers . . . [T]he third reason is to interest contrabassists in their musical heritage from this century before it ends and develop our future repertoire.⁶⁶

Whereas the struggle made by non-major composers, representative composers who have been recognized as established ones who contributed less to double bass repertoire.

Carter has expanded double bass technique further in *Figment III*, unlike conventional European music. With his unique harmonic language, which already contributes to distinctive arrangements of the pitch sets, the techniques used in *Figment III* create a different timbre than the conventional double bass sound. This approach explores different types of double bass timbre, both conventional and unconventional. Carter balances between keeping the natural sound of instrument that used to be only functional and putting new solo techniques. The

⁶⁶ Bertman Turetzky, *The Contemporary Contrabass* (Berkeley, CA: University of California Press, 1989).

balance of old and new combined together to create a challenging but meaningful piece is accompanied with his music theoretical approach perfectly.

There have been many solo pieces by contemporary composers, but Carter's *Figment III* brought attention to the double bass solo repertoire, especially with his distinctive harmonic language. With ATH as his main harmony, Carter employed AITs and derived chords for the unification of the piece. Harmonic continuity underneath the surface level is emphasized with the performance technique so it can be delivered on the surface level. The balance discussed above is also well kept in this matter by Carter as well. Therefore, understanding of Carter's harmonic language is particularly significant for performer.

Figment III as his third piece of the *Figment* series, distinguishes itself from the first two *Figments* by delaying the first appearance of ATH, while not meeting the expectation on a great piece by one established composer only for a proven solo instrument.

As much as he was dedicated to expanding the possibility of the pitches to nearly limitless, it seems that the difficulty of the pieces shows that Carter was also interested in expanding the capability of the instrument.

Double bass still lacks attention from major composers, who could continue to expand its repertoire. Nevertheless, it seems that the nature of the instrument no longer confines its capabilities.

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Appendix

Interview of Donald Palma on Figment III

1. How did you or Carter started working on this piece? How Carter started composing the piece for solo bass?

In 2006 we talked about a piece for solo bass. Carter mentioned when he was a student at Harvard, he had heard Koussevitsky play his Concerto. Carter did not like the piece musically but recalled how well it fit the instrument.

2. Did Carter ask you about bass writing in any sort of performance practice? If not, Carter already had much knowledge on bass?

While I was at a double bass workshop in Atlanta, GA, I received a hand-written fax from Carter of Measures 10-13 asking me if this was possible i.e. the 3/8 pizz of the open strings against the legato arco line. After taking it to my hotel room and figured out how to play it I responded that it was very possible. During an earlier phone conversation, he also asked me what the highest stopped pitch on my fingerboard was. At that time, it was a C#. Hence the 3 high C#'s in Measures 60-61.

Figment III was an extension of the way Carter approached the bass. You can hear this early on in A Mirror on Which to Dwell composed in 1975 for my

group *Speculum Musicae*. In the 2nd song *Argument* you can observe a similar approach composed some 32 years earlier. You can listen to it on YouTube.

In his later years Carter started recycling some of his earlier material. Measures 3-8 in Figment are directly out of the Asko Concerto a large ensemble piece composed for the Asko Ensemble in the Netherlands. Listen to the Tanglewood performance of Asko Concerto on YouTube. You hear my former student playing these measures at 3:15-3:30. Listen to minutes 3:15-4:40 and you can almost imagine a precursor to Figment III.

3. Did you play for him during his composition? Or Did you play for him after he had finished the piece?

*Not before, but I did play the finished work for him in August of 2007 at his apartment in NYC. I was playing it precisely at quarter note=96 and he said it was too fast. So, I think the **ca. 96** marking should be observed on the slower side, perhaps 88 or even 86.*

4. Was there any impact on the piece from your friendship with Carter?

I had known Elliott Carter for over 35 years. I loved his music and performed, conducted and recorded much of it over those years. He and his wife Helen became good friends. I consider it a great privilege to have worked so closely and over so many years with this great man and brilliant composer.

5. I heard that there is a wrong note in the piece. Could you explain me about the error?

At my meeting with Carter meeting in August 2007, I complained that the g-d double stop in Measure 60 was difficult because one had to lift the finger off of 2nd high C# in order to play these open strings. We agreed to change this to a-d open-string double stop so the performer could keep the finger down for all 3 C#'s. An assistant was there taking notes, but this change unfortunately never made it into the printed edition.

6. I remember you told me about the character that Carter took very important. Did he also focus on character in *Figment III* as well?

*Carter was always concerned with the drama in his compositions and his references were often literary (he was a Literature major at Harvard). I see him almost as a dramatist or playwright constructing characters among instruments (as in the String Quartets) or contrasting ideas in the solo works. In *Figment III* we have many such moments. A dramatic opening followed by an *espressivo legato* line followed by a brief contrapuntal section with a waltz in the left-hand pizz. Then a longer section on the note C from 13-26. Then the contrasts between the *forte marcato* lower register passages and the very high *espressivo* (even *molto espressivo*) lines. After the world premiere in New York Carter asked me to make a retard in Measure 50 perhaps signaling the end of that section and setting up the very dramatic coda. Which then ends with a gentle 4 note *afterthought*. He was never one for loud endings but rather would often want the energy to unwind or dissipate.*

7. Is there anything may people find interesting about the piece or Carter that you think crucial for understanding Carter and *Figment III*?

I think if one listens to a lot of his music, the style and language, particularly of the later period, take on a certain clarity and accessibility. It's like reading Proust or Joyce or Thomas Mann: difficult but the more energy one invests, the greater the artistic rewards. A few of my favorite works:

Penthode (1985)

Syringa (1978)

A Mirror on Which to Dwell (1975)

A Sunbeams Architecture (2010)

Triple Duo (1982)

Symphony of Three Orchestras (1976)

Night Fantasies (1980)

Sonata for Flute, Oboe, Cello and Harpsichord (1952)

Asko Concerto (1999-2000)

Boston Concerto (2002)

8. Did Carter have asked you about bass part for composing other pieces?

No, he did not. He was a brilliant orchestrator and had an uncanny understanding of how to write for all the instruments. His part writing is always challenging but ultimately very playable.