The New Solo Timpanist: An Analysis of Selected Compositions from the 20th Century Featuring the Timpanist

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Indiana University of Pennsylvania

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THE NEW SOLO TIMPANIST: AN ANALYSIS OF SELECTED COMPOSITIONS FROM THE 20TH CENTURY FEATURING THE TIMPANIST

A Thesis

Submitted to the School of Graduate Studies and Research in Partial Fulfillment of the Requirements for the Degree Master of Arts

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August 2012
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The purpose of this thesis is to explore the new and innovative ways in which three 20th-century composers scored the timpani in their works. This is done through simple formal analysis of three pieces of music that feature the solo timpanist: “Canaries” from Elliot Carter’s *Eight Pieces for Timpani*, the *Concerto for Timpani and Percussion Ensemble* by John Beck, and the *Concerto Fantasy for Two Timpanists and Orchestra* by Phillip Glass. Analysis of the timpani parts of each piece will show how the development of the timpani as a solo instrument, both within an ensemble and standing alone, has undergone remarkable advancement in the last century.
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CHAPTER ONE
INTRODUCTION AND HISTORICAL RETROSPECTIVE

The purpose of this study is to show the emergence and development of the timpani as a solo instrument during the 20th Century. This emergence will be highlighted in three pieces of music from the 20th Century, each representing a different ensemble genre. Solo timpani music is represented by Elliot Carter’s *Eight Pieces for Four Timpani*, in particular the seventh of the eight pieces, entitled “Canaries.” John Beck’s *Concerto for Timpani and Percussion Ensemble* is representative of the timpani solo with chamber ensemble accompaniment, while Philip Glass’s *Concerto Fantasy for Two Timpanists and Orchestra* illustrates the timpani solo with large ensemble accompaniment. These three works were chosen and programmed as part of a semester’s worth of recitals and performances, culminating in a lecture recital. Each composition represents a unique approach to writing for the timpani, and each has helped to promote the timpani as a solo instrument in the 20th Century. Before discussing each piece in greater detail, a brief history of the timpani as a solo instrument will help to set the stage for the developments to come.

The origin of the timpani occurs long before the 18th century, but in the years approaching 1700 the timpani began to play a more significant role in the burgeoning orchestral ensemble. Prior to the Classical period (pre-1750), the timpani were often “support” instruments, scored in a similar way to the trumpet in chamber settings or as an effect meant to incite fear in military engagements. This combination of timpani (or as they were more commonly known – kettledrums) with the trumpet in orchestral
ensembles is reminiscent of their relationship as cavalry instruments on the battlefield,\(^1\) and this relationship would stay true in compositional style throughout most of the Classical Era. The introduction of “Janissary”\(^2\) instruments (including the timpani) into the European Continent during the 15\(^{th}\) and 16\(^{th}\) centuries saw the nobility of the time pursuing large collections of these instruments, particularly the timpani. It can be said that the first “ensemble”\(^3\) usage of the timpani occurred in the courts of these very same noblemen, even while the kettledrum still served as a military instrument. It is in this setting that the rise of the timpani as an orchestral instrument had its early beginnings.

Stylistically, timpanists of the Baroque Era played with flair and a soloistic quality, even as the literature they played did not always call for solo timpani. Timpanists, along with trumpet players, learned their craft for performance in guilds. Their studies included various techniques and styles of playing timpani as well as specific rhythmic ornamentations that were exclusive to guild members. These ornamentations were not exclusive to the ensemble use of the timpani, as the instrument was still in use as a weapon of war:

\(^{1}\) Early usage of the timpani comes from the Middle East, in which armies would be accompanied by trumpeters and kettledrummers, meant to incite fear in the opposing army with their thunderous sound.
\(^{2}\) The term “Janissary” refers to the Janissary Corps, created in 1326 as the royal guards for Ottoman rulers.
\(^{3}\) Ensemble here is used to refer to the presence of instruments other than only trumpet and timpani.
He then goes on to describe the timpanist (*Timbalier*), who must be a brave man who will gladly risk death in battle, which he can enliven with his timpani. He must have graceful movements with his arms and a true ear...There is no instrument that can produce a more martial sound than the timpani, especially when they are accompanied by the sound of several trumpets.\(^4\)

To further control the exclusivity of the guild, players were often taught by rote, and this practice led to a lack of written parts for many of the ornamentations and other rhythmic additives.\(^5\) In spite of these ornamentations and their setting, the timpanist was restricted melodically in ensemble repertoire to the confines of the written part as well as the physical limitations of the instrument, and therefore had very few opportunities to play a significant solo role. Composers such as Johann Sebastian Bach and George Frederic Handel scored the timpani modestly in a few select sacred works, and while the presence of the timpani was exciting in itself for the listener of the 17\(^{th}\) Century the part-writing was much more reserved.

Mechanically, the timpani originated as a cleaned animal skin pulled over a small to medium size resonating chamber (bowl), originally wooden and later metallic in nature. The precursors of modern timpani are thought to be the Middle Eastern *naqqara*\(^6\), drums which ranged in size from three to four inches in diameter up to nearly three feet, the latter of which was far rarer and predominantly ceremonial.\(^7\) The timpani of the Baroque Era were descendants of these early instruments, and the course of time proved valuable in its development. Major advancements to the

\(^6\) In English, these are more often known as Nakers.  
\(^7\) Ibid., 26
construction of the timpani in the years before the Baroque Era include the enlargement of the bowl from 8-10 inches in diameter to 18-28 inches, the introduction of metallic elements such as copper to the bowl of the drum, and the use of a “flesh hoop”\(^8\) -- a more advanced method of applying tension to the skin head to create uniform pitch. This last innovation is possibly the most important achievement of the centuries prior to the Baroque Era, as without specific pitch ability the timpani would have most certainly faded from significance in being not nearly as useful to an orchestral composer. The flesh hoop replaced the ages-old practice of counter-lacing, in which the head was fastened to the resonating body (kettle) by cord interwoven into the head itself and pulled taut to create tension and thereby pitch.\(^9\) This method was inaccurate and difficult to manage, as the player could not be assured of even tension across the head and had little to no way to rectify this unevenness.

The art of screw tensioning – as it would come to be called – began in Germany at the start of the 16\(^{th}\) Century. In this method of tuning the flesh hoop acted on the head by means of “side screws” which were passed through holes in the skin head and attached to the drum at threaded brackets. As the screw turned within the bracket, downward pressure was exerted on the head. This created tension on the head and allowed the player of the kettledrum the option of adjusting the tension at each “lug” to create more uniform pull and more accurate pitch. Even with this new ability to define a more accurate pitch, the instrument was still arduous to adjust. Therefore timpanists

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\(^8\) A flesh hoop is the term used to describe a skin head that has been tucked into the frame of the hoop.  
\(^9\) In later years a wooden hoop would be placed on top of the flesh hoop, and it is through the wooden hoop that the lacings would be strung to adjust the tension of the drum head.
were limited to one pitch per drum per piece, and in most cases two drums were the
standard set-up for the player. It would not be until much later in the Classical Era that
the instrumentation would be forced to change by more innovative timpani writing.

In the year 1675, the noted Baroque composer Jean-Baptiste Lully scored for the
timpani in his opera Thésée, a moment considered by most historians to be the first
“orchestral”\(^\text{10}\) appearance of the instrument.\(^\text{11}\) The Tymbales (as Lully referred to them)
were written at the interval of a fourth, a practice which would remain common over
the next 200 years, and scored in rhythmic unison with the trumpets and strings. Two
decades later the role of the timpani in the ensemble began to change, possibly with
Henry Purcell’s opera The Fairy Queen. Purcell used the “Symphony” to Act IV to
feature the timpanist as a solo instrument, an ensemble musical role that the timpani
had yet to play.\(^\text{12}\) While the Purcell’s timpani part was solo to the ensemble, the
timpani were still instruments that played a more “supporting” role melodically.
Rhythmically, however, the timpani were still allowed many liberties and the player was
expected to choose those rhythmic improvisations to ornament and not supplement the
surrounding music. An excellent example of these rhythmic associations comes from
the music of Johann Sebastian Bach, in his Christmas Oratorio. Here the timpani are
used to augment the choir’s written joyfulness through a precise obbligato passage:

\(^{10}\) Orchestral here refers to a more sizable ensemble, usually including stringed instruments as well as
wind players.
\(^{11}\) James Blades, Percussion Instruments, 236.
\(^{12}\) Ibid, 244.
While the pitches of D and A (transposed from written C and G)\(^ {13} \) do not change, the function of the written part allows the timpanist to play a rhythmically soloistic role. The excerpt also includes a roll, notated as a tremolo, which could have been played as a closed-beat roll or possibly as a metered open roll.\(^ {14} \) There is even some possibility that the tremolo could have been ornamented rhythmically even further, but no evidence survives to this point. Bach and his contemporaries used the timpani soloistically as an effect, mirroring a dramatic theme occurring in the text or supplementing a fanfare alongside the brass and other wind instruments.

Near the middle of the 18\(^{th} \) Century the timpani had a brief appearance as a melodic soloist – and even as a soloist in front of the orchestral ensemble. Two works in particular; a Concerto Grosso by Barsanti published in 1743,\(^ {15} \) and a Sinfonia for 8 timpani from J.W. Hertel in 1748,\(^ {16} \) provided the timpanist with an opportunity to step outside the confines of two drums and become more melodic in nature. In the Barsanti, a work made up of ten movements has the timpani scored in three different keys – two movements in F, five movements in D, and three movements in C. While the two drums

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\(^ {13} \) Composers in the Baroque and Classical Era often composed the timpani as transposing instruments, expecting the timpanist to adjust the pitches of the drums in relationship to the pitches played by the trumpets.

\(^ {14} \) A Closed-Beat roll is a roll with an indeterminate number of beatings, whereas a Metered Roll implies a specific amount of beatings per note within the confines of the measure.

\(^ {15} \) Blades, 257.

\(^ {16} \) Ibid., 258.
were tuned to intervals of fourths and fifths, the innovation comes in the fact that up until this point in musical history no composer had scored for a pitch change within the confines of a piece of music. This would have been a difficult task for the player, as he would have had to adjust each drum to the specific pitches quickly while being mindful not to create a scene with overt amounts of head tension noise and other clatter. In the second example, Hertel scored for eight timpani and included a cadenza for the drums alone – possibly the first written observance of a timpani cadenza in the orchestral repertoire. The use of eight drums allowed Hertel the opportunity to compose more melodically, and the timpanist would have had full liberty to accentuate the performance with all manner of flair and personal style.

Just as quickly as more innovative ideas in timpani composition appeared, they were swiftly supplanted by a more traditional compositional practice – the “support” system of tonic and dominant pitches. Nearly 50 years would pass before more innovative writing for timpani returned, this time in the compositions of Franz Joseph Haydn. Haydn, a one-time student of the timpani, composed for the drums in a virtuosic manner, and demanded from his timpanist both a melodic and rhythmic mastery of the instrument. In 1796 Haydn composed his famous Mass in C (Paukenmesse), and in the Agnus Dei the timpani perform a ten-bar solo culminating in a dramatic crescendo. The rapid beatings of the solo passage would have certainly required a skilled player as well as an instrument of superior quality to convey both the

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17 Ibid., 258.
18 Ibid.
19 Haydn, in return for his services as chorister while in school, was educated in the rudiments of music, and replaced the school orchestra’s timpanist when he died.
rhythmic and melodic function of the writing. The mechanical confines of the timpani were no boundary to Haydn, and as early as 1799 Haydn composed multiple tuning changes within a single work (The Seasons). He is also the author of one of the most significant solo moments for the timpani up to its point in history.

Figure 1.2. Opening of Haydn Symphony No. 103.

The excerpt in figure 1.2 is from the opening movement to his Symphony No. 103, known as Paukenwirbel or Drum-roll. The roll is played solo and is in fact the very first sound of the entire symphony. While not virtuosic by any standard, the fact that Haydn placed as important a task as opening a symphony in the hands of the timpanist speaks to Haydn’s nature as an innovator. He was certainly not the first composer to write for a tremolo in the timpani,\(^{20}\) but no roll was more famous in the symphonic repertoire.

Haydn’s compositional technique for the timpani centered on not only the simple melodic and complex rhythmic abilities of the instrument, but also the dramatic nature that the timpani can provide through dynamic contrast and skillful performance. If it can be said that Haydn brought the timpani to a new level of prominence in the young orchestra, it was Ludwig van Beethoven who developed the instrument into a true soloist.\(^{21}\)

\(^{20}\) Composers such as Bach and Handel had already written rolls or tremolos into their pieces nearly 100 years earlier.

\(^{21}\) Blades, 268.
As Haydn was composing his final symphonies, Beethoven was just beginning his notable compositional career. The early compositions of Beethoven that included the timpani rarely strayed from convention as the timpani, scored most often in fourths and fifths, rhythmically doubled the trumpet and provided impact to the *forte* moments of each symphony. The first inkling of new ideas in timpani composition began to show by the Fourth Symphony (1806). The first movement of the symphony begins in a usual manner for the timpani, scored in Bb and F, as the drums help to punctuate the important *forte* moments for the first half of the movement. Just past halfway through the movement Beethoven inserts what may be the longest timpani roll to this point in the history of timpani composition.

Figure 1.3. Extended Timpani Roll, 1st Movement of Beethoven Symphony No. 4.

![Timpani part is the top line, strings just below it. This is the middle portion of the extended roll.](image)

This roll, at just over 24 bars, is continuous for the most part and occurs as a tool to increase the drama of an extended dominant passage (the final dominant before the
coda) that is seeking its tonic arrival. The use of the timpani in this way – as a dramatic tool – is, as mentioned before, an important innovation of Haydn that Beethoven uses and eventually claims as his own.

In the second movement of the symphony Beethoven goes further in placing the timpani in a place of importance by giving the instrument the primary rhythmic motive in important solo passages.

Figure 1.4. Rhythmic Motive from 2nd Movement of Beethoven Symphony No. 4.

*Timpani part is the top line, strings just below it*

The pitches of the drum (Bb and Eb) also encompass the notes of the melody when the aforementioned rhythm is played, so not only is the timpani a rhythmic soloist here but it is also the vehicle of the main melodic idea during its solo sections. Listening back to the compositions of Hertel and Barsanti, in which as many as five drums were used to create melodic solo opportunities for the timpanist, it is easy to see that Beethoven’s
mastery in writing for the timpani sets him apart from his ancestors – his skill allows him to respect the tonic-dominant conventions of his time while being innovative and creating melodies in which the timpanist can play a starring role.

The years 1808 - 11 proved to be an important period with respect to Beethoven’s timpani composition. The finale of Beethoven’s Emperor Concerto (1808) features the timpanist playing solo alongside the piano player.

Figure 1.5. Timpani duet with piano in Beethoven’s Emperor Piano Concerto.

The rhythm of the timpani part in this moment is the fundamental rhythmic motive of the entire piece, which is played by all instruments at one time or another within the Concerto, but during one of the more important moments in the piece Beethoven assigns this crucial motive to the timpanist. Rhythmic motives for the timpanist are not unusual to the typical compositional style of Beethoven or his predecessors, but the courage to compose for an instrument whose tuning can be very imprecise and dependent on natural elements during performance is extremely rare.

The later compositional years of Beethoven furthered his new uses of the timpani. Beethoven’s timpani parts had always been challenging for the performer, but none more so than his Ninth Symphony. The second movement of the symphony, the
Scherzo, is a wonderful example of how Beethoven transformed the timpani into the soloistic instrument we are familiar with today. Within the first four bars Beethoven gives the timpanist not just a one measure solo, but a solo featuring the melodic/rhythmic motive that will define the movement.

Figure 1.6. Opening Passage from 2nd Movement of Beethoven’s Symphony No. 9.

This motive seems simple and innocuous in its construction and its scoring. This, however, is far from the truth. Firstly, Beethoven has scored the drums in octave F’s. 20 years before this piece was written the high F would have been nearly impossible to score for, as drums of the size and shape that could achieve the tension necessary to produce that note were very rare. 22 Secondly, throughout the course of the movement the timpanist will play this measure as a solo 12 more times, spanning a dynamic range from ff to p. This is not counting the numerous times during the movement that the timpanist plays this rhythm as the underlying pulse while the melody rises and falls

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22 Ibid.
above it. While the motion required to move from high drum to low drum in the second movement is not as difficult, the timpanist must take care to get an even sound from the lower pitched drum on both notes. Performed with correct emphasis on all three pitches this moment is tremendous for the timpanist as well as the entire orchestra.

This innovative nature of composition for timpani is what makes Beethoven’s writing so important – the timpani for Beethoven was more than a tonic and dominant emphasis: it was the melody, the harmony, and the most effective instrument for delivering the ethos and pathos of his music.

By the time of Beethoven the timpani were more consistent instruments but were still governed by the skin heads they used, meaning that depending upon the temperature and moisture level the instrument would respond differently. In the year 1812 a German man named Gerhard Cramer created a device in which the turning of a single screw caused all screws in tension on the head to turn at the same time.23 This afforded the player the ability to more rapidly change pitch, yet the task of adjusting the pitch was still arduous at best. By 1837 more innovative ideas came from the use of a cable tuning system, created in England by instrument maker Cornelius Ward.24 In this creation the head would be adjusted by cables attached to pulleys within the body of the drum. While interesting in composition, the ability of the timpanist to create a clear and precise pitch was still inconsistent and often unmanageable. The first pedal model timpani arrived in 1843, and while it and its predecessors in innovation were often poor

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23 Ibid., 277.
24 Ibid.
sounding or inconsistent, each paved the way for more successful adaptations of the instrument.

With the advent of the Romantic Era of music, composers began to place more emphasis on the ability of the timpani as a melodic instrument, and instantaneous tuning became more important in many cases than rhythmic precision. It is in this era of music that a shift can be seen from the rhythmic timpani soloist to the melodic soloist, and no composer exploited these new melodic characteristics more than Hector Berlioz. Berlioz is credited with the addition of a third (and sometimes fourth) drum to the traditional two timpani set-up of the orchestra.\footnote{Ibid., 283-284.} In fact, Berlioz often scored for many players and many drums, as the parts from his *Grande Messe des Mortes* (1837) reveal—ten players, playing 16 kettledrums. In his original manuscript, Berlioz called for 16 pairs of kettledrums to be used but it is likely that the availability and sheer difficulty of logistics prompted the smaller size timpani ensemble. Berlioz continued the efforts of his predecessors in creating dramatic moments through the timpani, using dynamics as well as the extended drum roll. He did go one step further in this process by requesting specific types of sticks and mallets to be used when playing his timpani parts. In his *Symphonie Fantastique*, Berlioz not only indicates the type of mallet to use, he also describes the sticking to be used as well as the muffling that will give the quality of sound he is looking for. While not a traditionalist in the same style as Beethoven, Berlioz understood the need for a powerful and precise timpani sound and through the
novel art of stick control he created a new and interesting method of contrast and drama in the timpani.

After Berlioz, few composers did more to carry the timpani as an instrumental soloist than Richard Wagner. By 1847 Wagner had reinvented another concept in the writing of timpani music – multiple players. Berlioz had before used more than one timpani player (*Symphonie Fantastique*), but its use was merely an effect. Wagner composed for two players, each with two drums, and his part writing suggests that each player was important to the structure of the whole part.
The relationship of the two players in his “Funeral March” from *Götterdämmerung* (1874) is precise, as the performance of both parts in time creates unique composite rhythms. While the players share the same key center for the majority of the excerpt, by the conclusion the second (lower) part has moved to E-flat while the first part continues on F and C. Wagner also composed for multiple players to create melodic passages. In his opera *Parsifal*, the two players each contribute two notes of the main
bell motive, E-C-G-A. The low E is particularly interesting, as it would have required a rather large drum (29 inches or more) to create the sounding pitch.

As with Beethoven, Wagner's use of the timpani capitalizes on new ideas in the construction of the drums. By the end of the 19th century pedal mechanisms had become more standard on the timpani, and while they could be considered more effective than those of the early 1800's they were by no means perfected. The turn of the century (1900) saw the playable range of the timpani spread to 2 full octaves, and composers used multiple drums more often to create melodic opportunities for the timpani. Methods for teaching a new style and technique for the timpani were also being introduced, some of which survive to this day. New compositions continued to push the accepted conventions of timpani writing forward – Gustav Mahler often scored for a low D-flat, a note which would only sound clear on a drum of at least 30 inches, and Johannes Brahms and Jean Sibelius wrote passages in which the timpanist played precise chords by simultaneously striking two or more drums. A composition from 1914 by Walford Davies shows the first use of glissandi on the timpani, in which the timpanist gradually slides from one pitch to another. This technique would later be made more famous by Béla Bartók in his Music for Strings, Percussion, and Celesta (1937).

With the appearance of the first timpani concerti (Alexander Tcherepnin's Sonatina for Two Timpani and Orchestra as well as Werner Thärichen's Concerto for Timpani and Orchestra, both composed in 1954, and Robert Parris's Concerto for Five

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26 Ibid., 317.
27 Ibid., 324.
28 Ibid., 412-413.
Kettledrums and Orchestra, premiered in 1958) the idea of the timpani as a stand-alone solo instrument became more of a reality. Compositions for unaccompanied solo timpani can be traced back to the late 17th century, including a piece entitled March for Two Pairs of Timpani by the Brothers Philidor, yet many of these compositions were unpublished. By the 1950’s solo timpani music had become more popular, thanks in part to a growing awareness of the soloistic capacity of the timpani. The timpanists of major symphony orchestras such as Cloyd Duff (Cleveland Orchestra), Saul Goodman (New York Philharmonic), Fred Hinger (Philadelphia Orchestra), and Vic Firth (Boston Symphony), epitomized this idea of soloistic timpani playing within the ensemble. Their contributions to promoting the timpani as a solo instrument are just as valuable as the composers whose music they performed. More so than most other instruments in the orchestra, the timpani grew exponentially from the 18th century well into the 20th century, and the innovative nature of the composers and performers mentioned here created an environment of experimentation that led to the timpanist becoming an established solo performer.

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29 Ibid., 431. Tcherepnin’s orchestral piece is an arrangement of his Sonatina for Timpani and Piano, written in 1939.
30 The Brothers Philidor refers to André Philidor and his brothers Jacques and Alexandre. All three were court musicians of Louis XIII and played many instruments. The piece was performed in 1685 in the court of Louis XII, and has experienced a great resurgence in the early 20th century. (Ibid., 430).
CHAPTER TWO

ELLIOT CARTER’S EIGHT PIECES FOR FOUR TIMPANI - “CANARIES”

Elliot Carter’s Eight Pieces for Four Timpani represents one of the most substantial musical creations for the solo timpanist in the 20th Century. The piece features eight “movements”, each with a different name. Six of the eight pieces were composed in the year 1950, and these six pieces were part of an unpublished collection known as Six Pieces for Kettledrums. Carter’s original intent for the six pieces involved using them as early studies for his String Quartet No. 1, and even after their premiere in 1952 Carter was less than convinced of the solo capabilities of the instrument. He stated in reference to the pieces, “I couldn’t distinguish the pitches of the drums and they all seemed very boring because there was all this unclear, swimming sound.” In 1960, with the help of Jan Williams and at the behest of other interested percussionists, Carter began revising his compositions, adding two new pieces to the collection in the process. This revision helped to enhance the timbral variety of the pieces, and included changes to the place of attack on the head of the drum, as well as more specific instructions for mallet choices. Even after the collection was revised and completed, Carter was still uncertain that the work was one body of music. The order that the pieces are given in the published edition is not the order that Carter intended, stating in the Performance Notes that accompany the pieces that, “The printing order of these eight pieces was chosen largely to facilitate page turns, hence this order is not meant to

33 Meyer and Shreffler, 96.
suggest the order of performance.” Carter also goes on to say that no more than four pieces should ever be played at the same time, and that the tunings of each piece can be changed to avoid having the same pitches from piece to piece. This paper will follow a similar approach to Carter’s wishes, and will focus on the analysis of one of the eight pieces, entitled “Canaries”, while discussing the importance of the collection to the 20th century timpani repertoire.

“Canaries” is the seventh piece in the published collection. It is part of the original six pieces, composed in 1950. The titles and supplemental information for all eight pieces are shown below.

I. Saeta (1949/1966) – Al Howard – An Andalusian song of improvisatory character sung during an outdoor religious procession, usually at Easter; said to be the descendent of a rain ceremony during which an arrow (saeta) was shot into the clouds to release the rain.

II. Moto Perpetuo (1949/1966) – Paul Price – A rapid patter of notes of equal length, broken up into phrases of constantly changing accentuation, played with special, small, light drum sticks.


IV. Recitative (1949/1966) – Morris Lang – Short contrasting phrases, one of which is condensed into the irregularly repeated major third in the latter part and punctuated by another phrase that disintegrates.


VI. Canto (1966) – Jan Williams – Uses pedal tuned timpani played by snare drum sticks in a line that slides from one pitch to another.

VII. Canaries (1949/1966) – Raymond DesRoches – A dance of the XVI and XVII centuries, ancestor of the gigue, supposedly imported from the “wild men” of

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the Canary Islands; in 6/8 time with dotted rhythms—here fragmented and
developed.

VIII. March (1949/1966) – Saul Goodman – Two march rhythms of different
speeds are superimposed, one played with the butts, the other with the heads of
the drum sticks. These produce musical ideas expanded in the middle section.35

Each piece is dedicated to, in Carter’s own words, “…a performer who showed an
interest in the works in their early days”36. “Canaries” dedication is to Raymond
DesRoches, a percussionist and a founding member of The Group for Contemporary
Music. “The Group”, as they have come to be known, was created in New York in 1962
and featured the works of contemporary composers such as Milton Babbitt and Elliot
Carter, amongst others. It is possible that Carter and DesRoches may have met before
this point, as the composition date of “Canaries” would suggest. It is also possible that,
through Carter’s interaction with “The Group” and its percussionists, that when the
revised collection of eight pieces was published in 1966 Carter then dedicated this piece
to DesRoches. This piece, along with the other five pieces composed in 1950, received
its premier performance by Al Howard in 1952.37

Carter was quite particular about what sounds he desired to hear from the
timpani in his work, as shown by the meticulous performance notes. Carter made
specific suggestions regarding the mallets to be used in each piece while still allowing
the timpanist room to make decisions, stating that “Sticks…should be chosen to bring

35 G Schirmer Inc, “Elliot Carter: Eight Pieces for Four Timpani”,
February 21, 2012).
36 Ibid.
37 Meyer and Shreffler, 96.
out the character of each piece”38. In a few of the pieces he has the timpanist switch to playing with the backs of the mallets, using the term “Butt” to signify the change. He also discusses in great detail one of the more crucial indications in the entire piece – the playing area considerations. In each piece Carter uses different playing areas on the drum to create unique sounds. Three areas are specified: N for normal playing area, C for the center of the drum, and R for the area very near the rim of the drum. Playing near the center of the head will produce a dry, articulate sound that is not terribly pleasing to the ear. Conversely, playing near the rim of the drum will create a sound with more ring, yet the tone will be thin-sounding and full of high overtones. Carter includes a diagram to assist the player in determining the correct locations for each specific area.39

![Playing Area Diagram for Carter’s Eight Pieces.](image)

The timpanist is also given specific instructions on how to strike the head, with Carter occasionally asking for a “Dead-stroke”, in which the head of the mallet is left on the head of the drum after striking. This produces a sharp sound that includes a brief rise in pitch followed by a rapid decay in volume. Other special effects that Carter uses will be

38 Carter, 2.
39 Ibid.
discussed later in the chapter, and many of these examples will be used to show how Carter’s approach to composing for the timpanist furthered the role of the timpani as a solo instrument.

Carter’s “Canaries” is a brilliant example of innovative composition for the timpani. The piece is scored for four drums on the pitches E2-B2-C#3-F3 and is written in many meters though it begins in 6/8. Carter’s pitch selection represents the all-interval tetrachord 0146\(^40\), a chord structure he would later use in his String Quartet No. 1\(^41\). The style of the piece is derived from the Baroque Era dance of the same name, closely related to the more modern “Gigue”. These changes in meter, which are often accompanied by strategic changes in tempo, are referred to as metric modulation\(^42\), a key element in the structure of at least six of the eight pieces.

The six from 1949, besides being virtuoso solos for the instrumentalist, are studies in the controlled, interrelated changes of speed now called “metric modulation,” and generated ideas carried further in my First String Quartet begun at the same time and completed shortly afterwards.\(^43\)

The term metric modulation was first used by Franko Goldman in 1951 to describe Carter’s Cello Sonata, and Carter himself was influenced in the idea for a more structural approach to tempo from an article written by Rudolph Kolisch entitled “Tempo and

\(^{40}\) There are two, 0146 and 0137, and their significance lies in the fact that they contain all six interval classes.

\(^{41}\) Meyer and Shreffler, 98.

\(^{42}\) See quote below for definition, in Carter’s own words, of metric modulation. Also defined by David Schiff as “a proportional change in tempo effected by the renotation of a metronomic speed as in the instruction ‘new half note equal previous dotted quarter.’

\(^{43}\) G. Schirmer Inc., 1.
Character in Beethoven’s Music. In the article, Kolisch illustrates the myriad ways in which Beethoven used tempo indications as well as tempo changes to direct structural elements of his music. Carter was the first composer to use this structural approach to tempo in the writing of solo timpani music, and he thoroughly explores this compositional technique in his *Eight Pieces*. The key signature of “Canaries” is most intriguing as it is only represented by a C#. Although the intervallic relationship between the notes is likely more important than the pitches themselves, it is likely that this key signature is a shortcut – instead of each written C having to be accompanied by a sharp sign, Carter (or his publishing company) created a key signature which allows for an easier printing of the piece. While the form of the piece is difficult to discern, it includes elements of sonata form, with a discernible Exposition, Development, and Recapitulation. These elements of sonata form allow Carter to develop and augment his rhythmic motives. Figure 2.2 gives a general description of the form of the entire piece.

![Figure 2.2. Formal Structure of “Canaries”](image)

While the piece does not follow every aspect of the traditional sonata form, the terms which represent its parts can be used to guide the player through the work. The

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45 As stated by Carter in his Performance Notes, in performances when more than one piece is played the pitches of the drums may be changed to keep from having unison pitches between the pieces.
opening 24 bars represent a two-part Exposition which features two separate melodic ideas around one general rhythmic motive. Carter begins the Exposition with the timpanist playing that rhythmic motive in the center of the drums.

Figure 2.3. “Canaries” Primary Rhythmic Motive, m. 1-4.

The staccato markings indicated on each note are redundant, as playing in the center of the head already produces a staccato sound. By the end of the third bar the timpanist is moving to the normal playing position on the head, notated by the broken line above the part. A focus on the lower three pitches signifies an avoidance of the tri-tone and creates a key area that seems to confirm a major key, possibly E Major. Measure five and six find the timpanist softly echoing the previous rhythmic motive, and then Carter brings the full sound of the timpani back in bars seven through ten, split between the normal playing area and the center of the head. Bar ten signals a dramatic change in the piece thus far.

Figure 2.4. Metric Modulation Example, m. 9-12.
In a technique that is used repeatedly in the piece, Carter changes tempo here by using the rhythm from the previous measure to create a metric pivot point to a new tempo, a technique that would come to be known as metric modulation. In Figure 2.4, the tempo of the dotted 16th notes from measure ten becomes the tempo of the 8th notes in measure eleven, and causes the tempo to jump from 90 beats per minute to 120 beats per minute. In this faster section, which can also be described as the second theme of the Introduction, Carter also introduces the pitch of F on the high drum and uses it on nearly every dominant beat in the next seven bars.\textsuperscript{46} The rhythm of this section is similar to that of the previous section with fewer uses of the dotted 16th note. Carter also continues to change the playing area of the timpanist on a nearly measure-by-measure basis, focusing on the locations in the center of the drum as well as the normal playing area. In measure 18, Carter increases the tempo again, this time by changing the time signature.

Figure 2.5. Second Metric Modulation Example, m 17-21.

\begin{music}
\includegraphics[width=\textwidth]{figure2_5}
\end{music}

By keeping the 8th notes in strict time between 6/8 and 3/4, the tempo instantly jumps from 120 beats per minute to 180. In fact, the tempo is steadily rising from measure 18 through the dotted half notes which end the section in measure 23 and 24. Formally,

\textsuperscript{46} Dominant beat (also called downbeat) referring to the first and fourth beat in 6/8 and 5/8 time.
this cadence in measure represents the end of the introduction, but the Exposition itself is not quite complete.

The original rhythmic motive and tempo (as seen in fig. 2.3) return in measure 25, this time with the timpanist playing near the rim of the drum. The statement of the rhythmic motive in the introduction lasted for four bars – here, Carter extends the statement to 19 bars and introduces some new ideas to the structure of the motive. Figure 2.6 shows how Carter moves the timpanist from the rims to the center of the drums and creates an interjection of sorts.

Figure 2.6. Space-Effect Rhythm Example, m. 30-31.

While on the surface this rhythm is simple and direct, Carter is subtly creating space that he will later use to influence another metric modulation. This space-effect rhythm occurs again in bar 38 and 39 with a slight increase in length, and soon after Carter moves the timpanist to the restatement of the second theme in bar 44. Unlike the original second theme (the first two bars of which can be seen in fig. 2.4) the timpanist is playing entirely in the normal playing area, and the rhythmic material rapidly moves away from the original triple feel to a distinctly duple time signature. This is a stark contrast in terms of length from the beginning of this section when the theme was

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47 I use the term “space-effect” here to describe how this particular rhythm creates the effect of space surrounding these three notes, as the rhythms which occur before and after this motive are much faster and more syncopated.
lengthened by 15 bars – here, the second theme is shortened by roughly 8 bars. This change is illustrated in figure 2.7.

Figure 2.7. New Material from the End of the 2nd Theme Restatement, m. 46-49.

Measures 47-49 represent new material that, while focusing on a similar method of pitch use as the original second theme, bears little resemblance rhythmically to the Exposition. This is the bridge material that figure 2.2 speaks of, connecting the Exposition to the Development. There are three specific motives which are expressed in the bridge section, each of which shares some relationship with statements from the Exposition of the piece.

Figure 2.8. Bridge Motive Examples, Carter’s “Canaries”.

The first example in figure 2.8 is the 16th note idea, taken in part from the dotted 16th note rhythms in the introduction and subsequent restatement. This idea is played in the normal playing position on the head, and is repeated once with a slight variation. In the example above, only three drums are used, but in the restatement of the idea in bar 54-
55 all four drums are sounding. Idea number two is an 8th note rhythm that follows the 16th note idea. It is played four times over the 10 bars of the bridge section, and each time the same three pitches are used though the dynamic may vary. This idea is also played in all three playing areas of center, normal, and near rim. The final idea above is the space-effect rhythm used earlier in the piece. It is repeated three times in this section, each time on the same pitches and in the same dynamic range. The only change to the idea comes in the form of the playing area – above it is on the normal playing area, and in its repeat it is played in the center. These three motives function as a bridge from the old music to the new in multiple ways. First, they represent rhythmic ideas that have previously occurred in the piece. Second, they foreshadow the coming rhythmic changes. Lastly, the rapid playing area changes as well as dynamic adjustments make these 10 bars an exciting close to the opening half of the piece.

Measure 60 begins the Development, as ideas from the previous sections are used and modified to create new ideas. This development can be divided into three parts, as shown below in figure 2.9.

Figure 2.9. Formal Structure of Development in “Canaries”.

The metric modulation section begins inauspiciously with the space-effect idea from the previous bridge section, this time being played in the center playing area on two drums simultaneously. The console of the timpani is split in two here (32’, and 26’, 29’and 23’),
as the right and left hand will soon perform very separate rhythmic applications. In measure 62 Carter begins the modulation by increasing the amount of notes being played by the right hand from two to three, adding an extra C#. With the meter change in the next bar (measure 63), Carter once again changes the right hand, this time coupling the part in groupings of two.

Figure 2.10. Duple/Triple Feel from Development, m. 62-63.

As seen in figure 2.10, the combination of duple and triple feel helps to separate the hands in terms of their rhythmic roles. These polyrhythmic groupings will continue throughout the metric modulation section, but with some slight changes. In fact, the tempo of the right hand will continue to increase over the next 13 measures; however, the left hand will still maintain its original rhythm in time. Carter does this by changing the rhythmic structure of the part to compensate for the modulation as well as the tempo adjustments, an example of which can be seen in figure 2.11.
Figure 2.11 shows the complexity of this section of the Development. As the tempo increases due to the metric modulation, the right hand follows the tempo changes while the left hand stays in the original triple feel from the Exposition. The rhythms of the left hand become more complex as the modulation moves to its conclusion, however the actual part experiences only slight change from measure 60 to measure 76. That change is timbral, as the left hand moves from the center playing area to the normal playing area in measure 70 while the right hand stays in the center playing area until measure 77. The significance of this constant left-hand rhythm lies in its role as the dominant rhythmic feature in the 6/8 Gigue, the style from which the whole piece derives its name. Allowing the left hand to continue with the dotted quarter note rhythm maintains the idea of the dance structure of the piece.
Upon reaching the close of the metric modulation in measure 77, the timpanist proclaims the most bombastic moment of the piece thus far. This section of the Development, which I have termed color and contrast, is important in its juxtaposition of loud and soft dynamics. Carter writes the dynamic of ff in measure 78, followed just two bars later with the dynamic of pp. This compositional style is made possible by Carter’s use of alternate playing areas.

Figure 2.12. Playing Area Example from Second Part of the Development, m. 81-84.

As the timpani are large, vibrating instruments it is not unheard of for sound at high dynamic levels to continue long after the part is complete. The use of the rim playing area seen in the pp sections of figure 2.12 allows the change from ff to be perceived. Carter also cleverly writes in his music where he desires the performer to mute the drums by writing smaller notes with x-shaped note heads. Examples of these markings can be found in figure 2.7 and 2.8, side-by-side with the sounding notes of the measure. It is interesting to note that Carter does not mute the F drum, and in the measures marked as pp he does not use the F drum as well. By changing the playing area on the drums as well as the dynamic markings, Carter is creating a “melody” dominated by the pitch F. This melody is surrounded by rapid rhythmic features, both in 8th notes and triplet rhythms, played at first delicately on the rim playing area and later more aggressively in the center playing area. This in a small way continues the method he
first introduced in the previous metric modulation section of the development, in which
two distinct ideas flourish within each other.

By measure 95 the final section of the Development has arrived, a section which
I describe as old and new. So far Carter has structured his Development sections around
the idea of contrast – polyrhythms in the metric modulation section, color and playing
area changes in the color and contrast section – and in this final section Carter contrasts
old motivic ideas with new and interesting techniques for playing them. Carter begins
the final section of the Development by returning to an old rhythmic motive with a new
and innovative sound, an effect known as a dead-stroke\footnote{The term dead-stroke refers to the technique in which the head of the mallet is left on the head of the drum after striking.}.

Figure 2.13. Dead-Stroke Example, m. 95-98.

In figure 2.13 Carter begins this section with the primary rhythmic motive, also seen in
figure 2.3, and he immediately changes the color of the motive by adding the dead-
stroke effect. This technique creates an abrupt, almost abrasive sound which is a stark
contrast from the three playing areas that Carter has used thus far to exhibit contrast.
He notates the return to a normal stroke by using the indication NS (normal stroke).
The final bars of this example show that the piece has moved back to the original
rhythmic motive, and Carter will use this effect in this very same manner once more in
these final stages of the Development. One of the final rhythmic motives in the old and new section of the Development is just that – both old and new.

Figure 2.14. Motive Comparison from m. 104-105 and m. 143.

![Motive Comparison](image)

The example on the left of figure 2.14 is from the “old and new” section of the Development. Its structure mimics that of the Exposition, specifically found in measure 7 and 8 of the piece. Its augmentation can be seen in measure 143, the penultimate measure of the piece. Each rhythm is played in the normal playing position, each written to crescendo as well. Carter is “setting-up” the listener for the 16th note pattern by composing this variation in the close of the Development. By using this rhythm in such a way Carter has also created a motivic connection between the Development and the Recapitulation, further identifying this last section of the Development as both old and new.

In measure 109 Carter begins returns the piece to its original tempo, albeit in a different timbral style. This begins the Recapitulation, which typically brings stability to the piece at the end of the Development section. Carter’s recap is brief and has little relationship to the original rhythmic motive of the Exposition. In this case, however, what creates this Recapitulation is the structure of the tempo, which has been a major
focus throughout the piece, both in metric modulations as well as regular, unchanging passages. By measure 118 Carter has finished his restatement, and he begins to draw on themes and motives from both the Exposition and the Development to create new melodic material.

Figure 2.15. “Melody” Example from Recapitulation, m. 116-120.

Carter once again is creating melodies with contrast, just as is shown in figure 2.12. This time, however, Carter is using more than just the pitch of F to create his melody. In between the rhythmic motives played in the center playing area Carter brings out one drum at a time, moving the playing area to the normal range. The unique three 16th note pattern in bars 118 and 120 returns three more times in this section, five times in total, and shares some similarities to the dead-stroke effect from the Development in that it breaks up the rhythmic process of the section into smaller pieces, almost acting as a cadence point in some cases. More importantly, as there is no metric modulation in this section this pattern helps to offer some movement to the piece, increasing the speed of the rhythm and creating more tension as the music moves towards its resolution. The final use of this motive actually overlaps the Recapitulation into the coda, providing a fitting end to this rhythm’s use.
The final 19 measures of the piece function in several different ways; most importantly as a coda, but also as an opportunity for the timpanist to end the piece with power and precision. While the tempo of the piece does not increase to the end, nor does the meter modulate in any way, Carter’s use of the drums simultaneously helps to give the coda a concluding sound.

Figure 2.16. Simultaneous Pitch Example, m. 134-141.

As shown above Carter tightens the pitch gap between the drums, first using the wider intervals of E-F and then moving to C#-F before closing with B-C#, and this melodic process gives the listener a sense of finality in the music due to the increase in musical tension. This happens both tonally and rhythmically, as the quarter notes give way to syncopated rhythms which cross over the bar lines of measures 139-141. Measure 142 is the most distinctive measure of the entire piece, as it is the only measure of rest that Carter composes. This is an important measure, though, as the space helps to clear the listener’s palate of the loud, simultaneous pitches from before. It is no coincidence that the measure following the rest is scored on the rim playing area at a dynamic of $p$, emphasizing the importance of the rest. The final four bars exist in two worlds – the first two bars represent the rhythmic motive from the opening of the piece, albeit played in a different playing area. The final two bars represent what the piece has become, showing a more powerful sound while outlining the contour of the pitches.
used throughout the piece. The final note is played with both hands as loud as possible, and as the pitches of E-C#-F ring out over the listener the effect is one of massive space, not just harmonically but physically as well.

Performance Practice

In terms of performance practice, several questions can be derived from the study of “Canaries”. Firstly, what technique in terms of body position is necessary to perform the required alternate playing areas of the piece? Simply put, should the timpanist sit or stand in the performance? With the increase in demand for instantaneous pedaling in the last century, timpanists have taken more to a “tripod” approach, in which the player sits on a stool or raised chair and places the feet on the pedals or on the floor. While sitting during the playing of “Canaries” is possible, it may not result in the most accurate performance of the piece. By standing, the timpanist is able to move closer to the drums while allowing for a greater range of movement from side to side (high drum to low drum). This allows the center playing area to be accessed more easily on each head than from a sitting position. With the absence of tuning changes in this movement, the standing timpanist has a better chance at performing the playing area changes in the manner in which Carter intended.

After the timpanist has determined whether to sit or to stand, the question of mallet selection must be approached. In choosing mallets for each piece, Carter suggests that the player focus on the character of the piece. In the case of “Canaries”, the rhythmic nature of the piece is its primary characteristic. Therefore, a cotton-covered mallet with a hard core is the best choice. This harder mallet will allow the
player to accurately perform the articulations that Carter demands, while the softer head on the mallet will help the timpanist to address the more subtle dynamics with control.

After addressing the complete physical and logistical considerations, the performer must evaluate the most significant musical issues in the piece. In the case of “Canaries”, the plethora of metric modulation sections places a high demand on the timpanist for attention to tempo and rhythmic consistency. There are a few ways to practice these sections – in the first option, the performer can disregard the marked tempo and attempt to connect the rhythms from one meter to the next. This option works well when the primary subdivision of the beat is connected from one meter to the next, similar to the modulation in figure 2.4. The second option is to begin practicing the modulation by focusing on the specific tempo before and after its occurrence, and once confidence has been gained playing each section individually and at the prescribed tempo the sections can then be combined and the modulation achieved. The Development section of the piece, as mentioned before in figure 2.11, is best perfected with this technique. As with the preparation of any piece of music, slow and steady practice in the early stages of the learning process will provide the timpanist with the best chance to perform “Canaries” as Elliot Carter intended.
Highlights From Eight Pieces -- “Moto Perpetuo”, “Adagio”, “Canto”, “March”

While “Canaries” presents the timpanist with new and innovative methods of playing the timpani, it is not the only piece in Carter’s collection that has those characteristics. In fact, many pieces in Eight Pieces for Four Timpani have something new to offer the anthology of timpani literature. In his “Moto Perpetuo”, Carter calls for the use of special “cloth-covered rattan sticks” which he then uses to create new sounds through alternative articulations. He achieves these articulations by using different parts of the mallets (such as the tip, head, etc...), a technique that has very little use prior to Carter’s time. The “Adagio” uses an even more innovative technique – harmonics.

Figure 2.17. Harmonic Example from “Adagio” by Elliot Carter.

In a technique never before used on the timpani, Carter instructs the timpanist to play harmonic glissandi. Specific instructions are given in the performance notes on how to perform this special effect, using the fingers pressed on the head of the drum halfway between the center and rim while the drum is struck on the rim. Carter also uses the vibrational tendencies of the instrument to create controlled “background” sounds, evidenced in the example below.
The numbers contained within the squares in figure 2.18 represent the drum that Carter wishes the player to play each note on, and the lower staff represents the sympathetic resonance that should occur on a different drum. This effect exists very subtly, and Carter even instructs the performer to “assist” the resonance by playing lightly if the effect cannot be heard.

The “Canto” of the suite features the use of snare drum sticks as playing implements. This is not a new technique, as Berlioz used these sticks famously in the fourth movement of his *Symphonie Fantastique*, nearly a half century prior to Carter’s work. Carter expounds upon this technique by using the snare sticks to play rim-shots\(^{49}\) on the timpani, a novel technique and also a dangerous one for the head. If an aggressive downward force is used by the player the impact of the stick can dent the head or the rim. This type of imperfection affects the ability of the drum to play in tune.

In the final piece of the eight, the “March”, Carter features the technique of multiple implements, as the timpanist must rapidly switch between using the normal playing side

\(^{49}\) The term rim-shot refers to the technique of striking the rim of the drum and the head of the drum simultaneously with only one stick.
of the timpani mallets and using the backs of the mallets to beat the drums. Each of the
aforementioned techniques show a unique and innovative concept in timpani
composition, and through the passage of time Carter’s brilliance in the writing of these
eight pieces has come to help the progress of the timpani as a solo instrument.
CHAPTER THREE

JOHN BECK’S CONCERTO FOR TIMPANI AND PERCUSSION ENSEMBLE

John Beck’s Concerto for Timpani and Percussion Ensemble is a fine example of the timpani as a solo instrument in a chamber ensemble setting. Beck, unlike Carter and Glass, is a percussionist by trade, specializing in the art of timpani performance. Beck has served on the faculty at the Eastman School of Music from 1959 to the present, and in spite of his retirement from the position of Professor of Percussion in 2008 he continues to teach at the school. He received his Bachelor’s and Master’s degree in Music from Eastman, as well as a Performer’s Certificate. Beck began his playing career in the “President’s Own” Marine Band from 1955-1959, after which he returned to Rochester and became principal percussionist of the Rochester Philharmonic. In 1962, Beck became the principal timpanist of the orchestra and he held that position until the year 2002. He has made numerous solo appearances around the world with many different ensembles, performing his own compositions as well as pieces in the percussion solo repertoire. His contribution to the education of percussionists is nearly as extensive as his published works list, and it is this legacy as a composer, performer, and educator that has helped Beck to promote the timpani as a solo instrument. Beck’s own words describe his feelings about percussion, stating “I do like teaching and I do like playing, and I don’t think I could do one without the other.”

The concerto’s supporting ensemble is made up of both melodic and rhythmic instrumentation. The melodic aspect is covered by the marimba, xylophone,

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vibraphone, bells, and chimes. Rhythmically the participants include the snare drum, bass drum, tom-toms, wood block and bongos. A metallic element is represented as well, with its members being the gong, triangle, and brake drums. Figure 3.1 shows how Beck disburses these instruments amongst the ensemble.

1st Percussion – Marimba, Xylophone, Brake Drums
2nd Percussion – Vibraphone, Concert Toms (Chimes and Bongos)
3rd Percussion – Bells (Chimes and Bongos shared w/2nd Percussion)
4th Percussion – Snare Drum
5th Percussion – Bass Drum, Woodblocks, Claves, Gong

Figure 3.1. Instrument Assignments for Ensemble Players, Beck Concerto.

In the piece Beck goes to great lengths to incorporate both the rhythmic and melodic aspects of the supporting ensemble to produce a full accompaniment for the timpanist. When the scope of the entire work is measured, however, the role of the percussion ensemble is significant in that it not only provides accompaniment to the solo timpani but it also defines the role that each section of the piece is going to play – be it rhythmic, melodic, or a combination of the two. Beck utilizes the ensemble in many ways over the breadth of the work, serving at times as a unison rhythmic voice, a composite structure of rhythm, a carrier of the melody, and even an ethereal background for the solo timpanist. There are few chamber ensemble pieces which feature the timpanist that are so carefully scored for the supporting ensemble, and its importance in the repertoire of the solo timpanist in the 20th century cannot be overlooked.
Formal Structure

The work can be divided into three specific sections, with an introductory passage at the start of the work and a brief concluding statement at the end of the piece.

![Figure 3.2. Formal Structure of Beck Concerto.](image)

Figure 3.2 illustrates the large-scale form of the entire concerto. Each major section contains elements of both rhythmic and melodic solo material, although they do not always share motives or ideas. Melodically, each section can be defined by the pitches of the timpani. Beck’s concerto is composed for timpani in four drums with two major key sections, the first being Section A with the pitches A-D-E-G, and the second being Section C under the pitches G-C-D-F. Each section shares an intervallic relationship as well as specific rhythmic relationships. Section B is unique in that it shares pitches from both Section A and C, although the majority of the material is based around the pitches of Section A. The Introduction of the piece is diverse in tempo and scoring, and features the timpanist as a soloist in multiple passages. The Coda is brief but powerful, and provides a fitting conclusion to the concerto. The total performance time of the piece is nearly 12 minutes, and the timpani is active throughout save for 12 measures in the middle of the work. While the timpani part will be discussed later in the chapter, it is important to note here that the ensemble plays a crucial melodic and rhythmic role in
support of the timpanist. More evidence to this fact will be presented and demonstrated in the analysis of the concerto.

In performing the concerto the arrangement of the timpani and ensemble are crucial to the success of the piece. Figure 3.3 illustrates the set-up of the timpanist:

*Beck Concerto Set-Up*

29’  26’  32’

The standard complement of timpani is represented here in the 32”, 29”, 26”, and 23” drums. The performance of the concerto also requires two separate mallet stands, one on each side of the timpani console. The addition of the 21”piccolo timpani is optional, but its presence can serve to improve the tone of certain pitches on the timpani console. On many 29” timpani the pitch of D is difficult to reach, as the note is just above the standard range of the drum (defined as F-C). The addition of the 21” drum allows the performer to place the pitches of A-D-E-G in more comfortable ranges on the 29”, 26”, 23”, and 21” drums respectively, enabling successful performance of the concerto. The positioning of the ensemble is not as specific as the timpani, and Beck does not specify the position of each member of the ensemble in relation to the
timpanist. In performance I found that the best structure to incorporate involves placing the ensemble in a semi-circle behind the timpanist, with player one (marimba et al) to the right of the timpanist and player five (bass drum et al) to the left of the timpanist. The other players (two through four) follow in numerical order behind the timpanist from right to left (from the timpanist’s point of view). Each ensemble percussionist should experiment with their own individual set-ups to allow for the most efficient use of space as well as ease of movement between instruments during the piece. Finally, the ensemble and soloist should take great care to set up as close together as possible to allow for opportunities to listen and communicate with each other during the performance of the concerto.

**Use of Timbres and Extended Techniques**

Stylistically, Beck crafts multiple opportunities for the timpanist and ensemble to use unusual timbral effects to create new sounds. Many of these effects occur in Section B of the concerto (see fig. 3.2 for clarification), although other opportunities occur elsewhere in the piece. The result of these timbral changes is a style which sounds distinctly Asian and mimics techniques of the Eastern Gamelan ensemble. Figure 3.4 shows an example from Section B of these timbral effects in the written parts of the supporting ensemble.

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51 The term Gamelan refers to the Indonesian/Balinese ensemble of the same name, made up of metallophones, xylophones, drums, and gongs.
Both the marimba (1st Part) and chimes (3rd Part) have turned over their mallets to play with the rattan shafts, producing a delicate sound that becomes more sporadic as the *ad lib* part continues. This technique mimics the sound of the metallophones found in a typical Gamelan ensemble. The vibraphone creates sound through the use of a contrabass bow, and as the player moves the bow along the edge of the bar the nature of the instrument is dramatically changed from primarily attack to sustain without attack. The “fluttering” sound of the brushes on the snare drum provides an excellent parallel to the timpani, which at this point in the section is using fingers to create sound. The triangle beater on the gong reflects Beck’s intent to promote contrast between the sustained sound of the vibe and gong and the articulate sounds of the marimba and chimes.

The timpanist also has many opportunities to express unique sounds through the use of extended techniques. Just as with the ensemble, many of these opportunities occur within the extended cadenza section of the piece (Section B). The section is made
up of four cadenzas, each using a different implement to create sound on the timpani.

Cadenza number two (ensemble parts shown in fig. 3.4) has the timpanist using fingers on the drums, a technique which mimics that of a conga drum player. When playing the timpani with fingers a few specific considerations for sound production must be addressed. Two schools of thought emerge – in one, the tips of the fingers are used to create the sound, in the other the head is played much like a conga drum and the hand is used along with the fingers. While no specific instructions are given, some logical thinking can affect the answer, as using fingertips alone may not produce the required volume in certain parts of this cadenza. Therefore, a balance between fingertips in the soft passages and conga-like technique in the louder passages is the most likely solution.

Cadenza number three introduces snare drum sticks to the instrument, a technique that Beck could have borrowed from composers such as Bartók and Berlioz. The use of snare drum sticks creates a brittle sound in the solo timpani, and the fingers and rattan shafts being used by the supporting ensemble help to reinforce that timbre. It is in this third cadenza that Beck introduces a new style of playing the timpani by pressing the left hand stick into the head of the drum while striking it.

Figure 3.5. “Press” Effect Example from Timpani solo, 3rd Cadenza.

This is not a new concept in the world of drumming, as the application of pressure to the head of the drum helps otherwise non-melodic drums to achieve a small sample of pitch. On the timpani, though, its intention appears less melodic and more as a “special
effect” sound. Nevertheless, this effect coupled with the normal stroke of the right hand does raise the pitch slightly and creates a semi-tone sounding relationship between the two hands. There are pitfalls to this technique, however. If the player focuses too much on the pressing after the drum is struck then the sound will be perceived more as an accent, creating an unbalanced sound between the hands. To counteract this inconsistency the right hand can be played with more force, helping to match the volume levels of the hands. Care must also be taken not to allow the stick to buzz too much on the head. The desired effect here is the change of pitch, and the harsher sound of a long buzz can cover that change of pitch.

Beck’s use of timbral change throughout the piece is not an afterthought. Looking at the implements used to play the timpani in Section B, Beck goes from a more melodic general mallet to the distinctly rhythmic fingers and snare drum sticks. The ensemble follows suit, as the instrumentation of cadenzas one and two are more melodic in structure (using the marimba, vibes, and chimes) while cadenzas three and four are constructed on a more rhythmic ensemble (using brake drums, tom-toms, and bongos). While each cadenza is unique the combination of the four brings back an important thematic concept – the juxtaposition of the melodic and rhythmic forces within the piece.

Soloist-Ensemble Relationship

The relationship of the ensemble to the timpanist is just as important to the overall structure of the concerto as the relationship between the melodic and rhythmic solo ideas. While the ensemble’s primary role is to accompany the solo timpanist, Beck
carefully constructs the concerto to allow the ensemble opportunities to be a soloist.

Conversely, the timpanist’s part occasionally “accompanies” the ensemble in these solo passages. Figure 3.6 describes one such passage where the ensemble and the timpanist create a unique composite structure.

Figure 3.6. Full Ensemble Composite Rhythm, 6 measures before Rehearsal Letter D.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{image3.6.png}
\caption{Full Ensemble Composite Rhythm, 6 measures before Rehearsal Letter D.}
\end{figure}

The bars in duple time (4/4) are populated by consecutive sixteenth note groupings, expressed in every voice except for the bongos over the course of the nine bars. In the 3/8 and 7/8 bars, Beck outlines the 8th note subdivision in the timpani. This is also an example of a rhythmic solo section, and it is interesting to note that all parts are solo in this section. The composite solo effect is staggering – the 4/4 bars act as a “motor” which leads the listener into the 8th note feel of the 3/8 and 7/8, and while the meter gives the effect of displacing time the listener never loses the pulse of the piece.

In another example of ensemble as soloist, the timpani and supporting ensemble work together to create distinctive solo moments, shown here in figure 3.7.
The first two bars of figure 3.7 are timpani solo as the ensemble punctuates the spaces around the timpani part. In the third bar the timpanist steps aside and members of the percussion section take short solos, creating a full bar of solo material for the percussion ensemble. The ensemble solos are more rhythmic than melodic, unlike the more melodic structure of the timpani part. This is a clear attempt by Beck to continue the process of combining the rhythmic and melodic solo ideas he is creating. Two bars later this process begins again, and after exposing the listener to these solo combinations the section continues into a more traditional arrangement of solo and ensemble construction.

While ensemble solos similar to the ones shown in figure 3.6 and 3.7 can be found elsewhere in the piece, Beck does not stray far from the established structure of ensemble as accompaniment to the timpanist. There are, however, interesting

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52 Evidence to this point can be seen in figure 3.7, as the pitch C is written to vibrate over the bar line.
ensemble parts that contribute to the idea of rhythmic versus melodic solos. Figure 3.8 shows how the accompaniment can affect the perception of the solo part.

Figure 3.8. Timpani Solo with “Motor”, 3 measures after Rehearsal Letter D.

(Parts in Figure: Top Line-Timpani, 2nd-Brake Drums, 3rd-Tom-Toms, 4th-Bongos, 5th-Snare Drum, 6th-Wood Block)

The same “motor” effect shown in figure 3.6 is now recast in the accompaniment of figure 3.8. Both the timpanist and the ensemble have retreated to their specific roles as solo and accompaniment, but the heavily rhythmic parts of the ensemble define the nature of this section of the piece. It is clear that Beck’s intention throughout the concerto is to allow the accompaniment to play a significant role -- even when not playing solo passages, the ensemble is cleverly constructed to reinforce the idea of the rhythmic or melodic solo, even so much as to define where each idea can be found.
Rhythmic and Melodic Solo Writing

It can be said that the most significant quality of composition in the concerto centers on the juxtaposition of melodic and rhythmic solo ideas, found in both the ensemble and the solo timpanist. The melodic solo ideas are just that -- melodies, played by the soloist and often accompanied by the ensemble. One such melodic solo is found in Section A of the piece, shown here in figure 3.9.

Figure 3.9. Timpani and Marimba Melody Excerpt, Section A - Rehearsal Letter B.

(Timpani is the top line, Marimba is the lower line)

The melody shown in figure 3.9 is created from the pitches assigned to the timpani (A-D-E-G), and the manner in which Beck places the pitches in his melody creates an almost pentatonic sound. Once again a reference can be made here to the Asian style of the concerto, though this particular section bears no resemblance to the Gamelan-like sounds found in the extended cadenzas (fig. 3.4). Interestingly, Beck scores the marimba in roughly the same octave as the timpani in this first incarnation of melodic solo ideas. In figure 3.9 you can see the written instruction $8\text{vb if possible}$, which signifies that the marimba player should play their part one octave lower than written. If played as Beck desires, the marimba can be overpowered by the timpani as it has
much more sustain and depth than the marimba. One suggestion to alleviate this issue involves the marimba playing in the written octave as well as the lower octave simultaneously. This serves to support the timpani while coloring the overall sound of the melody with the subtle smoothness of the marimba.

Opposite from its melodic motivic counterpart, rhythmic solo ideas can be found much more often in the concerto. Examples of rhythmic solos have already made appearances in this chapter, specifically in figure 3.6 and 3.8. Yet Beck was not satisfied to create just separate rhythmic and melodic solo moments. A glance at figure 3.10 shows a melody that relies heavily on a driving rhythmic structure, this time within the part of an ensemble member.

Figure 3.10. Rhythmic Melody in Xylophone part, Rehearsal Letter H.

Shown in figure 3.10 is the xylophone part at letter H, important because it best describes Beck’s approach to composition at this point in the piece -- a solo part which is both melodic and percussively rhythmic. This melody makes its appearance in Section C of the concerto (see fig. 3.2 for formal structure), and up to this point in the piece all melodies had been legato and never used the sixteenth note as the dominant rhythm. Not only has Beck created a melody which is both melodic and rhythmic in its solo function, he has also structured the entire ensemble as both melodic and rhythmic. The brief melodic motives, which the xylophone shares in part with the snare drum, function almost as melodic punctuations around the steady rhythmic pulse of the tom-toms and
bongos. For roughly 12 bars an alternate chamber ensemble is created as the timpani, xylophone, and snare drum engage in a call-and-answer session using similar rhythmic melodies.

Figure 3.11. Call-and-Answer Example, Rehearsal Letter H.

(Parts in Figure: 1st - Xylophone, 2nd - Tom-Toms, 3rd - Bongos, 4th - Snare Drum, 5th - Woodblocks)

The full synthesis of melodic and rhythmic solo ideas can be seen in figure 3.11, and shortly after this section of the concerto the work begins to move towards its conclusion. The entire structure of the concerto is influenced by the melodic and rhythmic solo relationships; in so much as the culmination of the piece is the combination of these two ideas. Just as in the use of the ensemble and soloist, the melodic and rhythmic activity of the piece show how Beck constructs seemingly opposing forces to create unique moments of brilliance within the confines of a piece of music.
Timpani as a Virtuosic Soloist

John Beck’s timpani writing in his Concerto is at the same time structured and improvisatory, subdued and extravagant, quiet and loud. If nothing else, the timpani part is virtuosic. As stated before, one of the most important features of the work is the use of the timpani as both a melodic and rhythmic soloist, tools that have been in use in some form or another over the past 300 years. This role will be discussed at length here, as well as the technical issues raised by performance of the work. Suggestions for more creative and unique performance within the guidelines of the composition will also be explored.

Beck begins the piece with a quiet melodic passage that quickly develops into dual “fanfares” for the timpanist.

Figure 3.12. Fanfare Examples from Introduction, Timpani part.

Each “fanfare” is marked dynamically from soft to strong, $p$ to $ff$, and indications are given to dramatically increase the tempo over the course of the written rhythm. If the player were to take Beck at his dynamic word, the $p$ which starts each section would be too soft for the rhythm to be defined due to the resounding sound which precedes each statement. Unless tremendous care is taken to muffle quickly or wait an extended period of time for the sound of the performance hall to die away, a better practice

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53 Fanfare in this case indicates a short musical outburst with bombastic quality.
would be to begin at a dynamic level of *mp* or even *mf*, and wait to crescendo each statement in the last two beats. This will provide a remarkable dynamic surge while enabling the audience to hear each fanfare’s entrance. The *molto accelerando* can be effective alongside the dynamic surge in generating energy into the final note, but great care must be taken to be “rhythmic specific” – that is, the timpanist must be sure to play each rhythm exactly as it is written so that the punctuation at the end of each fanfare by percussion ensemble can be played together and in time. Increasing the tempo too dramatically can disrupt the perception of time and cause an inconsistent attack in the ensemble. This is also true two bars before rehearsal letter A, as the *accelerando* must not be so quick at the start as to disrupt the composite rhythm created by the timpanist and the ensemble. These two bars before rehearsal letter A show how important the combination of the timpanist and the ensemble will be to the nature of the piece, and that interaction is another example of the innovative nature of the work. Simply put, this piece is not just a timpani solo, but a chamber ensemble piece that features the timpani.

The first cadenza of the piece begins the measure before rehearsal letter B and is marked *ad libitum*, the only such cadenza of its kind in the entire work. Several options for virtuosic performance of this cadenza can be explored, and here is one such example:
In my own performance of this cadenza I attempted to exploit two important ideas previously stated by Beck. First is the four note pattern that opens the piece, three grace notes into a dominant downbeat, and the movement of this short motive around the drums creates a few interesting effects – for one, the rapidity of the beatings allows the performer to use some dramatic flair when playing each note by way of crescendo, decrescendo, and even the elongation of the rhythm. Also the motive can be used to create space in the solo, a trait adopted from such great improvisatory Jazz artists as Miles Davis and John Coltrane. The second idea comes from the rapid body movement of the timpanist that is expressed in the fanfare statements just before rehearsal letter A. As the soloist is asked to descend from the high drum to the low drum a dramatic aesthetic effect is created in the motion of the performer. Difficulties can arise in this type of motion, some of which include inconsistent contact with the best playing area on each drum, as well as the danger of striking a portion of the drum other than the head. Lastly, it is important to remember that this cadenza occurs very early in the piece and therefore it is not necessary for the performer to “give away” the biggest solo possible. In only about ten seconds the above cadenza serves to restate thematic elements and draw attention to the stylistic nature of the timpanist without overstating either. The more dramatic cadenzas are yet to come.
More virtuosic timpani playing can be found in other locations throughout the concerto. In figure 3.14, the written rhythm allows the performer to serve as a visual soloist.

Figure 3.14. Sextuplet Rhythm with Practice Part, 5 measures before Rehearsal Letter F.

![Original Rhythm (above)](image1)

![Practice Part (above)](image2)

This sextuplet rhythm written by Beck is a fantastic visual and aural effect. Just under the excerpt in figure 3.14 a recommended practice part is given. This part allows the player to “slow down” the rhythm and focus on the position of the hands as the part moves around the timpani. To accentuate the effect of the part a crescendo may be added to each sextuplet into the eighth notes that follow.

As the piece draws to a close Beck composes for the timpanist one final solo passage that reunites some of the rhythms and melodies created in the piece. While not the most dramatic writing of the piece it is still bombastic and represents an ultimate statement in character. The penultimate measure announces this final passage.
– a brief cadenza outlining the key area of C major which has dominated the last section of the piece.

Figure 3.15. Final Cadenza (with Adjusted Tunings), Beck *Concerto*.

Beck has notated two separate pedaling moments for the soloist, shown here in figure 3.15, but the special notation regarding the drums that should be used may not be useful to all players. Beck has written the piece with a large drum of 30 inches in diameter, making the B natural just before the final C an easy note to play in its topmost range. However, most modern timpani have a diameter for their large drum of 32 inches, and the B natural can be out of range. This is solvable in two ways: in one, the timpanist must raise the tuning of the entire 32 inch drum while taking great care not to lose the ability to play a good-sounding low D natural (used in the first extended cadenza). The second method involves the adjusted tunings shown above in the cadenza example. By playing the A and B natural 8\textsuperscript{th} notes on the 29 inch drum the pitch issue can be solved, although another may occur – pitch accuracy. As with any solo concerto much practice is involved, and careful attention should be paid to this final moment of the piece if the drum changes are made. Adding in the fact that this is an *ad lib* cadenza, the timpanist will have as much time as necessary to attempt the most accurate performance of this final progression. It is recommended that the
timpanist slow the tempo as much as possible throughout the course of the cadenza to
add as much drama as possible to each note. The slackening of the tempo will also give
the timpanist time to perform the ffp crescendo roll to the last note of the piece with as
much enthusiasm as possible.

Through analysis of both the ensemble and timpani parts, the significance of
Beck’s *Concerto* can be seen. The combination of rhythmic and melodic ideas that
permeate the body of the piece result in sections defined by one (or more) of these two
specific musical personalities. In the end, though, it is the combination of these two
musical ideas that brings unity and importance to the structure of the work. Beck also
shows uniqueness in his scoring of the soloist and ensemble, as each part works
together with the other while still allowing the timpani to be the front-and-center
soloist of the piece. Finally, Beck’s virtuosic timpani writing features the performer as a
soloist of both high visual and aural quality. It is these structural components that make
the *Concerto for Timpani and Percussion Ensemble* exhilarating and important to the
repertoire of the 20th Century timpanist.
Philip Glass’ Concerto Fantasy for Two Timpanists and Orchestra is a remarkable work, written to showcase the ultimate diversity of the timpani – rhythmic and powerful, but also melodic and compelling. The work was commissioned by a consortium of orchestras, including the American Symphony, the Milwaukee Symphony, the Peabody Symphony, the Phoenix Symphony, and the St. Louis Symphony. The concerto’s primary soloist is Jonathan Haas, and it is at his behest that Glass composed the work. Glass himself even remarked of his reluctance to compose the work at all, saying “I put off the timpani concerto for about ten years because I just couldn’t imagine how I would do it, and Jonathan Haas was so persistent that I finally did it. He was a complete nuisance until I wrote it.”

The idea that the concerto feature not one but two timpanists reportedly came from Catherine Cahill, then the general manager of the New York Philharmonic who suggested that it would be easier to take the work on tour if Haas could invite the principal timpanists of the orchestras he was performing with to join him as co-soloists. That is exactly what has happened, as Haas has performed the concerto dozens of times all over the United States and abroad.

Glass composed the piece in the year 2000, and made corrections and revisions over the course of the following year.

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55 Ibid.
The work consists of three movements, with an extended cadenza for the timpanists and percussion ensemble following the second movement. The structure of the piece corresponds to the traditional concerto form of fast-slow-fast, and the tempo of each movement influences its style and character. For the cadenza between the second and third movements, the timpanists can choose between two different cadenzas, one composed by noted percussionist Ian Finkel and the other composed by Glass himself. Further analysis of these cadenzas will be presented later in the chapter.

The orchestral instrumentation includes flutes, oboes, clarinets, bassoons, horns, trumpets, trombones, and tuba, as well as piano, harp, and the full complement of strings. The percussion section for the work is particularly demanding, including seldom-used instruments such as the marimba and vibraphone and the usual quota of percussion that includes the snare drum, bass drum, triangle, and tambourine. A simple look at the instrumentation requirements would suggest that the percussion will play a significant role in the support of the two solo timpanists, similar in many ways to the aforementioned John Beck chamber concerto. In all, the three movements plus extended cadenza push the piece to just under 30 minutes in total performance time, and this does not count the additional time needed to prepare the ensemble setup for the timpani.

The parts for the timpanists are quite demanding throughout the work. Almost cruelly, the timpanists rest for less than twenty measures over the course of the entire

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56 Ian Finkel is a xylophone virtuoso who has collaborated with Glass on many works. It is also important to note that Finkel is responsible for the additional editing of both the full score as well as the timpani parts.
piece. Glass’s use of the timpanists as both melodic and rhythmic soloists is carefully calculated, as the presence of two timpanists serves to increase the complexity of the scoring for the instrument. Glass must navigate traditional constraints such as drum ranges and pedaling realities, while also accounting for the interaction of the two soloists, taking care not to score the timpanists too thick so as to cover each other entirely. Each timpanist plays on a console of no fewer than 7 drums, and each movement includes significant pedaling excerpts alongside intense obbligato passages. While the demand on each player is high, the combination of the two timpanists creates many opportunities for Glass to showcase the immense potential that the timpani have a solo instrument. The focus of this paper will be the interaction of two timpanists, with attention also paid to specific interactions of the soloists and the ensemble. This will be shown through an analysis of the first movement, as well as an analysis of the first of the two cadenza versions. Due to the massive nature of the piece, the second and third movements will not be involved in this paper, although elements of each may appear in the analysis of the first movement where they pertain to the music.

The first movement of the concerto can be easily divided by the rhythms of the timpanists. There are three specific rhythmic motives, used often by Glass over the course of the movement, and the ensemble parts correspond to the rhythmic statement being played.
This first rhythmic motive is six measures long, with the first three measures scored thinly in the winds and strings while the second three measures find many members of the ensemble playing the entire 8\textsuperscript{th} note rhythm of the 10/8 time signature. The timpani parts reflect this, as the opening three bars feature more notes and rhythms than the second three. In this first motive the timpanists share only two pitches – D and E, both of which can be found in the staff. The timpanists play a wide range of pitches, requiring seven drums for the first player and at least six drums for the second player. The first timpanist uses the pitches D-E-F-A-B over the course of the motive, focusing on the diminished triad of B-D-F in the second part of the motive. The second timpanist helps to clarify the pitches of the first timpanist, at least in part. The second timpanist begins with the pitches E-G#-Bb-D-E, nearly creating an E major seventh chord. By the fourth bar the part has settled on G, which coupled with the first timpanist creates a G major/minor seventh chord. What is occurring here is less functional harmony and more of an emphasis on harmonic structure. The combination of the pitch E to the G chord creates a chord that is built on the interval of a third, E-G-B-D-F. This tertian chord, which has the appearance of E minor, is derived from the usable pitches of the
timpanist. Glass also divides the timpanists by range, where the 1st timpanist plays in the upper range of the drums while the 2nd timpanist focuses on the lower range of the instrument. The rhythm of this motive also creates concerns in the method of playing the drums, as the combinations of drums can become physically complex. Therefore, the set-up of each timpanist is directly related to the success of these and other rhythms within the piece.

Figure 4.2. Diagram of Set-ups for Both Solo Timpanists, Glass Concerto.
The setup shown in figure 4.2 is adapted in part from performances featuring Jonathan Haas, as well as the physical and logistical constraints of the timpani. The above combination of drums is not the only method of scoring the pitches, but due to the specific instruments available to this performer certain exceptions were made. The first timpanist has a more traditional setup of five drums, augmented by two smaller drums placed above the 23 inch and 21 inch timpani to facilitate the rhythms Glass has composed. The second timpanist may also use this setup, but in many cases the combination above provides a more appropriate usage. The addition of a second 32 inch drum provides a better range for the placement of the G pitch – on a typical 29 inch drum, the G pitch is lower on the drum’s range and can therefore sound “flabby” and inconsistent due to the looseness of the head – while the addition of the second 26 inch drum gives the timpanist more options in the lower ranges of the instrument, as Glass has given the second timpanist that role. While there are certainly more ways to construct this setup there is a better sense of continuity and structure in this particular configuration. It is these techniques of scoring and of part construction that keep the timpani sounding melodious and rhythmically functional, as opposed to thunderous and without organization. As with many musical statements in the piece, this first motive is repeated, lengthening its function to 12 measures in total.

The second motive begins at rehearsal number 2, and features the timpanists almost exclusively. It is twice as long as the first motive, and is much more rhythmically driven as well.
Here we have the first pitch change for the timpanists, as both players have added a C to their complement of pitches. This may force a need to pedal in the second timpani part, although it can be alleviated by adding another drum. However, this particular change is not difficult and the player has ample time to adjust the drums accordingly if the additional drum is not available. With the addition of the pitch C the second timpanist has moved from a collection of pitches focused on the key area of E major to a key area more suited in C – albeit, an augmented C major triad. The ensemble provides little clarity here – in the first four bars of the motive the ensemble plays only on every other beat, accenting the pitch E. This creates the awkward collection of E-G-G#-B-C, in which the G and C appear to function as neighbor tones more often than not.

By rehearsal number 3 the violins and violas have joined the ensemble and their role follows that of the right hand of the first timpanist. The pitches that their parts contribute to the scoring return the listener to the tertian E-G-B-D-F chord from the first motive, albeit with new neighbors G# and C. Rehearsal number 4 is the final section of the second motive, and the ensemble has taken over the role as the primary vehicle for rhythm and melody. The upper woodwinds, trumpets, and horns move rhythmically in
the same 8\textsuperscript{th} note pattern as the first timpanist, and their pitch structure creates movement in thirds similar to the tertian chord of the first motive. The 20 measures of motive number 2 show a wide variety of scoring for both the ensemble and the timpanist.

Following the second motive there is a full and exact repeat of the first and second motives, which provides an excellent opportunity to discuss the form of the movement. As stated above, the movement is made up of three rhythmic motives. Glass sets these motives into the work to create a larger form, similar to that of a large binary form.

<table>
<thead>
<tr>
<th>Motive 1</th>
<th>Motive 2</th>
<th>Bridge (interlude)</th>
<th>Motive 3</th>
<th>Motive 3 w/var.</th>
<th>Ens. Motive 3</th>
<th>Motive 3 w/var.</th>
</tr>
</thead>
</table>

Figure 4.4. Diagram of 1\textsuperscript{st} Movement Form in Glass \textit{Concerto}.

Visible in figure 4.4 are the first and second motives, along with the third motive which will be discussed next. After multiple variants of the third motive the ensemble and soloists return to the first and second motive, although the musical material in each motive is slightly different. This leads to a third motive which is truncated and a subtle coda which uses themes from the third motive as its genesis. This structure is minimalistic in its roots in that it features little melodic material and focuses more on
rhythmic structures to drive the piece. There are very melodic passages however, as an analysis of the third motive will in part serve to describe.

Motive number three is preceded by a short bridge section, which begins at rehearsal number five. This interlude features brief pedaling excerpts for both timpanists, as well as a passage in which the timpanists work to create a repetitive composite rhythm.

Figure 4.5. Composite Rhythm in Solo Timpani, Bridge Section.

(First timpani is the top part, second timpani is the bottom part.)

In an interesting combination of old and new, the timpanists in this passage are playing the tonic and dominant pitches of the current key area of B Major. As stated in the historical retrospective, composers often scored the timpani in the tonic and the dominant in the early orchestra. The written syncopated rhythm of each player creates a constant, steady 8\textsuperscript{th} note pulse. This same pulse been the focus of the work to this point, but this is the first situation in which the combination of the two solo parts presents the pulse. After a transitory ensemble passage, the 8\textsuperscript{th} note pulse continues in the form of motive number three.
Unlike the previous two motives, motive three is open-ended – that is, the structure of the motive has no specific phrasing nor does it appear to have any repetitive pattern whatsoever. The single constant for the motive is the 8th note pulse, which is played in unison at first and later varied between the two players. The 16th notes which accompany the 8th notes act almost as ornamentation, serving to add rhythmic variety to the section. The ensemble functions in this section purely in support of the timpanists, having no melodic content of their own. The majority of the melody comes from the pitch changes in the timpani, shown by the diagram in figure 4.7.

This motive is the most diverse motive in terms of key areas used, with a focus on C Major, E Major, and a few bars which highlight an F Major Dominant 7th chord. By rehearsal number 12 the motive has changed, and a five measure statement combining
elements of motive three with new rhythms leads the ensemble into a melodic variant of the same motive.

Figure 4.8. Melodic Variant with Motive No. 3, 1st Movement of Glass Concerto.

The timpanists diverge from each other to allow for the creation of a passage that is both melodic and rhythmic in its function. The second timpanist takes over the task of continuing the 8th note pulse, and the key areas traced by the part are the same as those from the opening of the third motive. The first timpanist plays the melody, assisted by the upper winds, strings, and melodic percussion. Glass specifically requires the timpanist here to pedal each note, beginning on the pitch F in the upper range of the timpani and going as low as a D below the staff. This range covers the majority of the instrument, and suggestions for the best drums to place each pitch are included in the variant example above. This section is played three times, the first time featuring the first timpanist, the second featuring the full ensemble without the soloists, and the third featuring the second timpanist playing a similar version of the melodic variant. In the second playing of the section the ensemble adopts some of the rhythms of the timpani, as the upper winds perform a more melodic version of the original second timpani rhythmic motive.
The scoring shown in the woodwind obbligato in figure 4.9 is necessary to continue the rhythmic pulse of the piece, as without the timpani parts the driving 8th note feel is significantly lessened. The upper woodwinds continue this rhythmic approach even after the timpani return to the texture of the piece, with the melodic line being performed by the second timpanist. Due to the pitch constraints of the instrument, though, the first timpanist does not play the same notes as the second timpanist in the rhythmic section of the motive variant. Rehearsal number 17A represents the thickest scoring of the entire piece, as every instrument is playing either the rhythmic motive or the melodic variant for the final 19 bars of the section. The texture provides an excellent climax to the first half of the piece.

The arrival of rehearsal number 21 represents the return to the first motive of the piece, this time in a slightly different key area and with subtle differences in the overall rhythmic structure. Instead of an emphasis in the key of E Major, the timpanists now outline the F Dominant 7th chord seen in small part during motive number 3.
length of this new first motive is similar to that of the primary motive, and in spite of a few changes in instrumentation the ensemble parts are also similar. The second motive has also undergone some change, although only melodically. This variation on the second motive features the pitch Eb, just as in the first motive variation. Unlike the beginning of the piece, there is no repeat of the first motive following the second motive. The piece moves immediately into a bridge section, similar in form to the bridge from the first half of the piece but void of the same rhythmic and melodic variance that made the first bridge truly imaginative. There is some sense of stability, however, in the arrival of the third rhythmic motive. The 16 measures from rehearsal number 29 to 33 are almost an exact repetition of the melodic variant of the third motive, found at rehearsal number 17 to 21. The timpanists return to the 8th note pulse, but this time there are more unison rhythms and less ornamentation from the earlier third motive. Also important to note is that the melodic variant is gone from the timpani. It is carried by the harp, violins, and violas. The final 12 measures of the piece begin in the style of the third motive, but quickly the rhythms die away and the ensemble scoring diminishes. The timpanists fade away as they play rolls, a technique of scoring which allows the players to easily decrease their sound without having to sacrifice rhythmic quality. The 8th note pulse of the piece continues in the lowest voices of the ensemble up to the final beat, even as the tempo slows down significantly. The timpani close the movement with a soft roll in the key of C Major, allowing the pitches to ring as the 8th notes in the Cello fade away the last remnants of the 8th note pulse.
Finkel Cadenza Analysis

As stated previously, an extended cadenza section follows the close of the second movement. Interestingly, the soloists are offered two different options for performance of the cadenza. In the performance of the entire concerto, only one of the two cadenzas should be played. Personally, I find the cadenza by Ian Finkel to be the most appropriate cadenza for performance. Compared to the cadenza written by Glass himself, Finkel’s cadenza is the best combination of virtuosic playing and thematic material. The primary theme of the cadenza is built on the first theme from the first movement:

Figure 4.10. 1st Movement Theme from 1st Cadenza, Glass Concerto.

Stripped of its 8th notes, the accent pattern from motive one of the first movement is visible in the opening timpani parts of the 1st cadenza, shown in figure 4.10. The pitches here do not correspond to those of the first movement, however. Even before the entrance of the timpani in this cadenza the first movement is clearly visible in the parts of the supporting ensemble, in this case a small percussion section.
In a similar style to that of the Beck *Concerto for Timpani*, Finkel's supporting ensemble represents a strong rhythmic component which helps to complement the melodic nature of the timpani. The rhythms in the Tenor Drum at rehearsal B are the same rhythms played in the second half of motive one in the first movement, and the Snare Drum 16th notes in rehearsal letter C mimic those played by the first timpanist in the first half of motive one. By rehearsal letter E the first timpanist has moved from the original accent pattern to a new pattern of 8th notes, echoing the strong 8th note pulse which makes up the majority of the first movement. Three bars later that 8th note pulse is adopted by the second timpanist in a solo passage of visual as well as aural quality.

Figure 4.12. 8th Note Solo in 2nd Timpani, 1st Cadenza from Glass *Concerto*.
The rapidity of movement around the drums in this brief solo passage is quite dramatic visually, as the timpanist must navigate a full 180 degrees from left to right and back again. Often in passages such as these the timpanist must be careful to practice creating a good quality sound on each drum, obtained by vigilant attention to the specific playing area of each drum. Both the first and second timpanists alternate these 8th note solo passages up to rehearsal letter H, in which both timpanists play the 8th note solo in unison followed by one measure of the accent rhythm from earlier in the cadenza. What follows is the only moment of pure improvisation for the timpanists in the whole piece. Each timpanist performs a cadenza on pitches given by Finkel which may last as long as the player wishes. An example of the cadenza for the first timpanist can be found in the appendix C of this paper. Although unwritten in the physical score and parts of the music, each timpanist has many themes from the first movement to draw upon, as well as unique abilities in performance which allow the soloist to add their own flair to the moment. It is also important to note that since there are two cadenzas, the first timpanist must take care to vary their solo so as not to mimic too closely the solo of the preceding second timpanist. After each improvised cadenza is complete, the ensemble plays the accent rhythm one final time before closing on a measure which is very remarkable in its construction.
In a final act of closure, Finkel brings back nearly the full complement of pitches used by the timpanists in the first movement and connects them together in two separate melodic lines. Each part begins chromatically, and as the bar progresses the lines move in contrary motion towards the Bb downbeat of the third movement. Finkel is also clever in his dynamic scoring, as the subtle decrescendo allows the listener to more easily hear the changes in pitch even in the closest of intervals. This particular pedaling excerpt poses little difficulty to the seasoned timpanist, as the whole of each part can be accomplished on a single drum and the nature of the rolls allow for a small amount of glissando to occur between pitches.
CHAPTER FIVE

CONCLUSION AND RELEVANCE

In assessing the significance of these three works by Carter, Beck, and Glass to the development of the timpani as a solo instrument in the 20th Century, it is of the utmost importance to consider what each piece offers the repertoire that few have before or after it. Each of these three pieces is significant in that it promotes the timpani as a solo instrument and brings out the soloistic possibilities of the instrument, both rhythmically and melodically. In the case of Elliot Carter, a composer whose primary area was not timpani, his composition promoted musical timpani playing in a truly solo genre. Carter’s use of alternate playing areas on the head of the timpani is not a revolutionary concept, but the way in which he used the alternations makes his work unique. The analysis of “Canaries” shows how the timbre of the timpani affects the style and musical direction of the work. These timbres are created not just from the playing area used, but also from the dynamics that accompany those changes. Carter also advanced the timpani as a solo performer by adding techniques that appear only in other instruments, such as harmonics and the use of sympathetic resonance. In Carter’s work the timpani are not only bombastic, rhythmic instruments; they are also melodic, controlled, and full of musical depth.

John Beck was also skillful in his composition, although the timpani are undoubtedly his area of expertise. His work in the Concerto for Timpani and Percussion Ensemble is most significant in its interaction between the timpanist and the supporting ensemble. Just as Elliot Carter promoted the idea of the timpani as a melodic...
instrument, Beck also substantiated that claim. Passages such as the opening theme of rehearsal letter B show that even without changing the pitch of the drums the timpanist can be the primary vehicle for the melody. Beck also showed how the timpanist can use the complementing rhythms of the ensemble to be both a solo performer as well as a section member, giving a more significant role to the ensemble performers. And with his extended cadenza, Beck gave the timpanist an opportunity to be both a rhythmic and melodic soloist, full of excitement and flair.

The significance of the *Concerto Fantasy* written by Philip Glass is heralded by its title – no one had written a concerto for two solo timpanists before Glass. Many composers have used two timpanists in their works, as was referenced in the historical retrospective chapter earlier, but none have given the entire work as a solo to the timpanists. But this superficial distinction is not the only soloistic dimension of the instrument that Glass reveals in his work. Glass continued the work shown in the Beck *Concerto* by including the timpani as both a melodic and rhythmic soloist, and often both at the same time due to the use of two separate timpanists. Glass also increased the role of the timpanist as a melodic soloist by creating melodies such as the first timpani part at rehearsal number 13, in which the timpanist leads the ensemble in a beautiful diatonic melody situated above a steady 8\textsuperscript{th} note pulse. Physically, Glass pushed the boundaries of the timpani by scoring for many drums – at least 14, not counting pitch changes and personal preference. Lastly, the Glass concerto placed all of these innovative ideas in the most visible musical vessel in the modern world – the large orchestral ensemble. Its presence in the repertoire of orchestral literature, in spite of its
logistical considerations, helps the *Concerto Fantasy* to promote the timpani as a soloist in the largest musical format offered to it.

These three pieces alone are not solely responsible for changing the view of the timpani from a support instrument to a legitimate solo instrument over the course of the 20th Century, as there are many pieces which have contributed to this development in the same time frame. It is appropriate, though, to say that each piece dramatically increased the process in which the timpanist has become not just a percussionist but also a soloist that can stand alone, both in a chamber setting or in front of the largest ensembles in the musical world.


Longyear, Rey M. “Altenburg's Observations (1795) on the Timpani”. Percussionist 7 no. 3 (Spring 1970): 90-93.


Schweizer, Steven. *Timpani Tone and the Interpretation of Baroque and Classical Music.*
APPENDIX A

GLASS CONCERTO FANTASY IMPROVISED SOLO
from 1st CADENZA
Glass Improvised Cadenza

Brett Landry

Timpani

rubato

\begin{music}
\StaffClass{timpani}
\newStaff
\tieq2
\newTime
\time 4/4
\newKey
\key d\major
\newScore
\newStaff
\tieq1
\newTime
\time 4/4
\newKey
\key f\major
\newStaff
\tieq1
\newTime
\time 4/4
\newKey
\key c\major
\end{music}
Glass Improvised Cadenza

end of cadenza
APPENDIX B

LECTURE RECITAL PROGRAM
College of Fine Arts - Department of Music
Proudly Presents…

Brett Landry
Graduate Percussion Lecture Recital

with Guest Performers…

Ethan Markowski - Timpani

Jill Ferri, Troy Fitchette, Jay Hoffman, Dakota Kaylor, Ray Nevling, Danielle Stoffer, John Weldon, Philip Wyant - Percussion

DiCicco Room - Cogswell 121
April 17, 2012  6:30pm
Program

This recital is presented in partial fulfillment of the requirements for the degree Master of Arts

Welcome

Historical Retrospective of the Timpani (ca. 1700-1900)

Analysis and Performance of “Canaries”
from Eight Pieces for Four Timpani..................Elliot Carter (b. 1908)

INTERMISSION

Analysis and Performance of 1st Cadenza from Concerto Fantasy for Two Timpanists and Orchestra....................Philip Glass (b. 1937)

Analysis and Performance of
Concerto for Timpani and Percussion Ensemble...............John Beck (b. 1933)