

William Kraft's *Concerto No. 1*, and Michael Daugherty's *Raise the Roof*:
A pedagogical and historical study of contemporary timpani concerti

by

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Abstract

This report presents an examination of the historical, pedagogical, and musical significance of two contemporary timpani *concerti*: William Kraft's *Concerto for Timpani and Orchestra, No. 1*, and Michael Daugherty's *Raise the Roof*.

By researching the composers and observing the compositional advancements written for timpani by each composer, the study explores how both composers have contributed to the advancement of timpani as a solo instrument and the expansion of the timpani repertoire in the 20th and 21st centuries.

The research investigates the stylistic and technical demands of each *concerti*, its historical genesis, and its role in modern timpani pedagogy. Through a detailed examination of the timpani parts, performance practices, and the author's individual notes from preparing *Raise the Roof*, this report aims to provide a comprehensive understanding of these works, highlighting their relevance in both academic and professional settings. The study also offers insights into how contemporary timpani *concerti* challenge traditional playing techniques, while offering pedagogical tools for the development of future timpani performers.

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Chapter 1

History and Techniques of Timpani

History of Timpani in the Orchestra

The integration of percussion instruments in orchestral settings maintains a rich and unique historical trajectory. When researching the history of instrumentation within the ensemble setting, one finds the employment of various percussion instruments to date as far back as the Renaissance era when composers first included them among military and ceremonial settings. The first percussion parts substantially composed for specific settings consisted of marches written for trumpets and kettledrums (timpani) by musicians of the Court of Louis XIV. Known as “The Brothers Philidor” (Andre Philidor, 1652-1730, Jacques Philidor, 1657-1708), these court musicians operated within French military circles of the seventeenth century and composed several solo pieces for the *side drum* (snare drum). Additionally, they served as contemporaries of another French composer, Jean Baptiste Lully (1632-1687),¹ who also wrote for specific percussion in this setting. However, composers did not consistently incorporate percussion into orchestral settings in the eighteenth and nineteenth centuries. Through its inclusion, the percussion section provided rhythmic drive, contributed to the evolution of dynamic contrast for the entire ensemble, and expanded the sonic palette of many musical ensembles, including the early settings of wind ensembles. Timpani comprised the most utilized and premiere percussion instruments of this time. Typically, composers scored for a pair of drums tuned a major fourth apart prioritizing the dominant note of the key signature (*sol*) below the tonic note of the key (*do*) but were treated as a transposing instrument being scored in C (notated by C and G) and

¹ James Blades, *Percussion Instruments and Their History*, new and rev. ed. (London: Faber and Faber, 1975), 236

notated desired pitches in the bass clef with note names indicated at the beginning of each piece.² Likewise, another common trait most composers found useful when composing timpani parts during this classical era (roughly 1720-1820)³ was to pair the timpani with the trumpets which contributed to the color, volume and brightness they liked in loud tutti sections, which eventually became a common practice in standard instrumental compositions of the eighteenth century.⁴

By the end of the seventeenth century, Henry Purcell (1659-1695), Johann Sebastian Bach (1685-1750), and George Frideric Handel (1685-1759), realized the instruments' musical significance in their church and theatrical performances during this period, firmly establishing the timpani as a standard orchestral instrument.⁵ Throughout the classical era of music history, composers typically pair timpani alongside the trumpets and chorus⁶, although there are select moments where the timpani serve as standalone instruments when striking the final note of a piece. Concurrent with this development, composers also include timpani in similar roles within early wind ensembles settings. Examples of this practice include pieces by both Purcell and Handel within both funeral music for Queen Mary II (Purcell) and "*Music for the Royal Fireworks*" (1749). However, the scope of each composer's instrumentation differed: Purcell combined trumpets, trombone, and timpani as a smaller unit, while Handel integrated the timpani into a significantly larger wind ensemble that included 40 trumpets, 20 horns, 16 oboes, 16 bassoons, timpani, and a side drum.⁷

² James Holland, *Percussion* (London: MacDonald and Jane's, 1978), 10

³ J. Peter Burkholder, Donald Jay Grout, and Claude V. Palisca, *A History of Western Music* (New York: W.W. Norton, n.d.).

⁴ Adam Carse, *18th Century Symphonies: A Short History of the Symphony in the 18th Century with Special Reference to the Works in the Two Series: Early Classical Symphonies and 18th Century Overtures*, Hyperion Reprint ed. (Westport, CT: Hyperion Press, 1979), 44, 48–49.

⁵ James Blades, *Percussion Instruments and Their History*, 9th ed., new and rev. ed. (London: Faber and Faber, 2014), 477, 594.

⁶ Ibid, 245

⁷ Frank L. Battisti, *The Winds of Change: The Evolution of the Contemporary American Wind Band/Ensemble and Its Conductors* (Galesville, MD: Meredith Music Publications, 2002), 4.

By the late classical era, Franz Joseph Haydn (1732-1809), Wolfgang Amadeus Mozart (1756-1791), and Ludwig Van Beethoven (1770-1827) all elevated the use of timpani in the orchestra by moving away from the restrictions of writing in intervals of only fourths or fifths. This practice allowed for a more prominent voice in orchestral compositions, while allowing for new responsibilities including serving as the principal timbre for the opening pieces, playing duets, and providing a powerful voice in select symphonies.⁸ It is this drastic shift in the timpani's role in the orchestra that dramatically affected the way composers orchestrated for timpani in their works in the Romantic era, which eventually led to larger roles within expanded personnel and instrumentation.

Given this expansion, several composers leveraged the power of the timpani to provide supporting soundscapes to the winds and strings as traditionally used. Hector Berlioz, a pioneer in this effort, paved the way for new trends and innovations for percussion instruments in the nineteenth century by highlighting numerous aspects of the use of percussion in the orchestra by experimenting with rhythmic patterns and tone colors through his curiosity to test the strength and diversity of percussion instruments.⁹ Through this experimentation (with gradual success), Berlioz greatly influenced the development of orchestral composition as a whole by featuring larger percussion sections and revolutionized how composers wrote for percussion in the latter half of the romantic era. Consequently, this paved the way for composers such as Richard Wagner (1813-1883), Pytor Ilyich Tchaikovsky (1840-1893), and Gustav Mahler (1860-1911) to find their own unique ways to make their percussion sections larger and more ingrained in their soundscapes while providing a unique color to their orchestral compositions.¹⁰ These composers

⁸ James Holland, *Percussion* (London: MacDonald and Jane's, 1978), 11

⁹ James Blades, *Percussion Instruments and Their History*, new and rev. ed. (London: Faber and Faber, 1975), 281.

¹⁰ James Holland, *Percussion* (London: MacDonald and Jane's, 1978), 13.

used timpani in many different and unique ways including: a) orchestrating for more timpani drums or more timpani players, b) providing more prominent (sometimes soloistic) voices in their compositions, and c) using the instrument to emphasize true romanticism through dynamic contrasts and rhythmic power.

In the late nineteenth century, as European orchestras expanded their repertoire, wind and brass bands grew in popularity across the Americas. Initially tied to military units, community bands soon became widespread, performing in concerts and parades.¹¹ Key figures like Patrick Sarsfield Gilmore (1829-1892), John Phillip Sousa (1854-1932), and Edwin Franco Goldman (1878-1956) helped shape American band traditions with repertory that included marches, dances, and transcriptions of classical works, typically featuring snare drum, bass drum and cymbals in their compositions.¹² While few major Classical and Romantic composers wrote original works for band, this paved the way for composers Gustav Holst (1874-1934), Ralph Vaughn Williams (1872-1958), and Percy Aldridge Grainger (1882-1961) to take on the role of providing the band genre with serious works that soon formed the core of a developing repertoire for band. Since the development of band literature, concert bands and wind ensembles have been promoted as serious performance settings for wind, brass and percussion players – mirroring the role of European orchestras – and often featuring percussion instruments such as snare drum, bass drum, cymbals, and timpani.¹³

As composers in the orchestral realm continued to push the boundaries for these large percussion sections moving into the twentieth century, there were still many factors in the

¹¹ J. Peter Burkholder, Donald Jay Grout, and Claude V. Palisca, *A History of Western Music* (New York: W.W. Norton, n.d.). 755

¹² C. Oland Summers, “The *Development of Original Band Scoring From Sousa to Husa*” (DMA Diss. Ball State University, 1986).

¹³ Peter Burkholder, Donald Jay Grout, and Claude V. Palisca, *A History of Western Music* (New York: W.W. Norton, n.d.). 774

construction of the timpani that prevented composers of the twentieth century from expanding the range of the instrument. By this time, the need for a wider range of tones, including those that were impractical on a single pair of timpani (two drums), led to the adoption of a three-drum set, commonly referred to as the “symphonic set of three.”¹⁴ Drums of this symphonic set comprised instruments consisting of diameters of twenty-four, twenty-five, and twenty-six inches. In total these instruments covered a range of one and a third octaves.¹⁵ While composers realized more creativity in their inclusion of timpani through both experimentation and innovation, performers remained constrained by hand-tuned timpani. The archaic construction of these instruments created significant limitations for both composers and performers in the twentieth century until improvements in technology emerged.¹⁶

Composers known as “*modernists*” including Carl Nielsen (1865-1931), Béla Bartók (1881-1945) and Igor Stravinsky (1882-1971) expected very rapid changes of pitch within a composition, which increased the popularity and essentiality of pedal timpani. Nielsen set himself apart in approach as one of the first notable composers to write glissandi passages for the timpani. An example of this technique is used in Nielsen’s Fourth Symphony, “*The Inextinguishable*” (1915), where he writes for two timpanists placed on either side of the orchestra and calls for glissandi in minor thirds between the two players.¹⁷ This technique influenced composers such as Bartók to realize the greater potential of pedal timpani in his compositions. Bartók set himself apart from contemporaries regarding the evolution of timpani writing by including subtle glissandi passages, moving bass lines, and multiple quick note

¹⁴ James Blades, *Percussion Instruments and Their History*, new and rev. ed. (London: Faber and Faber, 1975),

¹⁵ *Ibid*,

¹⁶ James Holland, *Percussion* (London: MacDonald and Jane’s, 1978), 13.

¹⁷ *Ibid*, 16

changes across multiple bars with several meter and time signature changes.¹⁸ An important example of Bartók's creative writing for timpani can be found throughout his composition, "*Music for Strings, Percussion and Celesta*" (1936). One of the premiere examples exists in the third movement where the timpani accompany the thematic material. Provided by the opening repeated xylophone excerpt, the timpani perform a *glissando* between F-sharp and C-Natural, which outline the two tonal poles of the movement.¹⁹

Significant Performance Techniques

The shift from using calfskin heads to plastic heads remains an important characteristic of the timpani throughout the twentieth century into the modern era. Plastic heads first appeared in Britain around 1960 and continued to rise in popularity among timpanists and percussionists alike with the combination of innovations in sound quality and availability compared to calfskin heads. Moreover, atmospheric changes that would drastically change the ranges of the timpani depending on the conditions of a performance hall or outdoor spaces created fewer issues when employing plastic heads.²⁰ Today, modern day timpanists in any venue can expect to perform on a set of four to five pedal timpani. The standard size of a set of five timpani are thirty-two, twenty-nine, twenty-six, twenty-three, and twenty inches in diameter, comprising a range of at least two octaves (D² to about D⁴).²¹ With these new sets of boundaries, performance technique and preparation required significant advancements to properly perform newer and more challenging music in the frequently emerging genres of large ensemble music. Regardless of the new advancements in timpani design during this time, historical and practical performance

¹⁸ Ibid. 16

¹⁹ J. Peter Burkholder and Claude V. Palisca, *Norton Anthology of Western Music, Volume 3: The Twentieth Century and After*, 7th ed. (New York: W.W. Norton, n.d.), 269.

²⁰ James Holland, *Percussion* (London: MacDonald and Jane's, 1978), 17.

²¹ Ibid, 18

techniques remained the same. The challenge presented to timpanists from the twentieth century to the modern day is to achieve a balance of understanding traditional performance techniques while consistently advancing with newer and more modern performance techniques.

Knowing the proper approach to playing timpani is a very important aspect of contributing to a large ensemble's quality of sound in each performance. From the twentieth century onward, timpani can be described as the most distinct of all the percussion instruments, almost being justified as not being part of the percussion section at all as it often plays a similar role in an ensemble as the low brass or string sections.²² The role of the timpani in twentieth century modern music is defined by the exploration of unconventional tone colors and sound effects, such as *glissandi*, stepwise ascending or descending passages, striking the center of the drum, and incorporating diverse implements like mallets, sticks, brushes, external materials, or even one's hands. These techniques are often combined with intricate rhythmic patterns that push the limits of a performer's technical ability.²³ The author believes that a well-rounded timpanist should have a foundational understanding of essential techniques and concepts for timpani to enhance proficiency. These include ear training, proper drum selection and ranges, understanding of pedal tuning mechanics, proper playing positions, grip and stroke types, mallet selection, and the differences between dampening, muffling, and muting.

Ear Training

A timpanist needs to know how to hear pitch and adjust intonation to blend well within an ensemble's sound, whether it be in an orchestra or wind ensemble. No timpanist is required to

²² Kevin Lucas, "Understanding Timpani and Technique," *School Band & Orchestra*, May 2019, accessed December 7, 2023. <https://er.lib.k-state.edu/login?url=https://www.proquest.com/magazines/understanding-timpani-technique/docview/2247532536/se-2>.

²³ Edmund A. Bowles, "Percussion Performance: The Timpani and Their Performance (Fifteenth to Twentieth Centuries): An Overview," *Performance Practice Review* 10, no. 2 (1997): 210.

have perfect pitch. However, one must have a concept of understanding ear training to find pitches and adjust intonation.²⁴

Proper Drum Selection and Ranges

A conventional set of timpani typically consists of four to five drums. A timpanist must understand the proper range of each drum and develop a strong sense of its tuning through the pedals.

On most models, pressing the foot pedal down away from the bowl (heel all the way to the ground) produces the drum's lowest pitch, while pushing the pedal upward towards the bowl (heel up, toes closer to the bowl) stretches the head, raising the pitch.²⁵

The playing range of a timpano is traditionally defined as a perfect fifth. This range was originally determined by calfskin heads, whereas modern plastic heads allow for a significantly wider interval range. The upper range of each drum can be extended by as much as a major second; however, pitches in the extreme high range tend to have a thinner tone and decay more quickly, while those in the extreme low range often sound loose, flappy, and lack clear pitch definition. For this reason, it remains most practical to tune and play notes primarily within the interval of a perfect fifth.²⁶

When selecting drums to ensure a comfortable playing range, it is best to choose a drum that allows the lowest note in its range to be played with the pedal down fully.²⁷ For example, if D-natural is the lowest note in the range of a thirty-two inch timpano, the pedal should be positioned at its lowest point rather than in the middle of the range of the pedal to reach the D-

²⁴ Kevin Lucas, "Understanding Timpani and Technique," *School Band & Orchestra*, May 2019, accessed December 7, 2023, <https://er.lib.k-state.edu/login?url=https://www.proquest.com/magazines/understanding-timpani-technique/docview/2247532536/se-2>.

²⁵ Ibid

²⁶ Gary D. Cook, *Teaching Percussion*, 3rd ed. (New York: Schirmer Books, 2005), 168.

²⁷ Ibid.

natural. Following this approach on all drums after knowing their preferred ranges helps achieve maximum range potential for the timpanist.

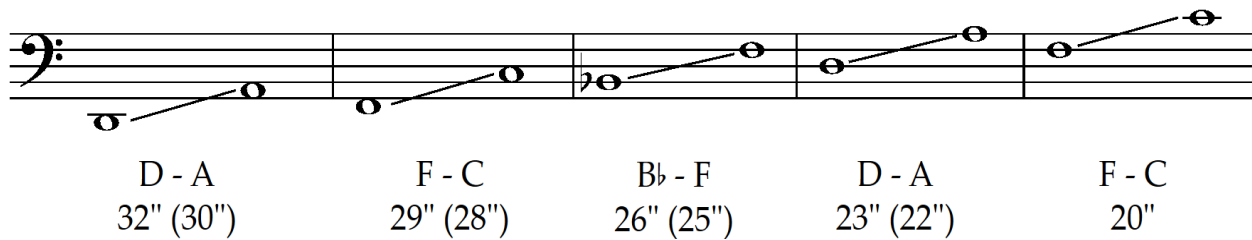


Figure 1.1The Basic Ranges for Conventional Timpani by Gary Cook

Understanding pedal and tuning mechanisms

Before playing on a timpano, some mechanical adjustments may be needed.

Understanding the instrument brand's specific pedal system and tuning mechanism is of upmost importance before making any mechanical adjustments to each drum.²⁸ The typically most used types of pedals used on conventional timpani sets include balanced-action (spring tension), ratchet-type, friction clutch, and ratchet-less pedals.

Balanced-action, or spring tension, pedals feature an ankle-operated, accelerator-type pedal with connecting rods between the tension rods and a post underneath the kettle. This system uses a spring to counterbalance the drumhead tension, allowing for smooth and fluid motion. Because the spring counteracts head tension, the pedal stays in position without the need for a locking mechanism, making tuning adjustments quick and seamless.²⁹

Ratchet-type pedals are another ankle-operated pedal with connecting rods between the tension rods and the pedal. The pedal is held at a set pitch by a foot-operated ratchet and pawl

²⁸ Ibid, 168

²⁹ Ibid

mechanism, which locks the pedal into position at specific increments. Drums with this mechanism often include a fine-tuning handle for small pitch adjustments, as the ratchet system itself does not allow for continuous tuning. This system is now mostly outdated due to its lack of smooth pitch transitions.³⁰

Friction clutch pedals feature connecting rods between the tension rods and a post underneath the bowl. The pedal moves along a rod, where a clutch mechanism engages or releases the rod to control tuning. The player must manually engage or disengage the clutch to adjust pitch. This system provides a more flexible alternative to the ratchet-type pedal but does not offer the continuous, smooth motion of modern counterbalanced designs.³¹

Ratchet-less pedals feature a pedal locking mechanism that operates using counterweights or hydraulic-like resistance, eliminating the need for ratchets or clutches. This allows for smooth, continuous pitch changes and fine-tuned adjustments without interruption. Often referred to as Dresden-style pedals, these are preferred by professional timpanists due to their precision and fluidity.³²

Understanding of environmental conditions

Whether timpani are placed indoors in a controlled environment, underneath stage lighting, or even in an outdoor storage room; temperature and humidity will always be the main enemy to a timpanist. Coming into a rehearsal or performance event early to perform common maintenance practices such as stretching the heads, re-tuning, or resetting timpani gauges is always a good habit for timpanists to have. Performing these steps while understanding the

³⁰ Ibid

³¹ Ibid

³² Ibid

surrounding environment where the drums are held will help prevent the timpani from spontaneously going off pitch during a performance.³³

Proper Playing Positions

When it comes to playing positions, the most common consensus amongst timpanists is to strike the drumhead approximately three to four inches from the edge of the rim. Striking the drumhead in this area generally produces the purest and clearest tone. Rarely would a timpanist strike the drum anywhere else unless the music calls for it, such as striking the drum in the exact center of the drumhead to produce a muddled sound.³⁴

Grip and Stroke types

There are three distinctive grips that can be applied when playing timpani: the German grip, American grip, and French Grip.

German grip is characterized by mostly forearm motion with some wrist rotation and a heavier or tighter grip in the hands against the mallet. This grip is similar to matched grip on snare drum where the palms face down, the thumbs are positioned alongside the mallet, and the fingers remain in contact with the mallet. The wrist mechanic in this grip involves *flexion* and *extension* motions³⁵ where the hand rotates towards and away from the forearm at the wrist. This grip produces a darker tone from the instrument as the overhand nature of the grip restricts the mallet from leaving the hand.³⁶

³³ Kevin Lucas, "Understanding Timpani and Technique," *School Band & Orchestra*, May 2019, accessed December 7, 2023, <https://er.lib.k-state.edu/login?url=https://www.proquest.com/magazines/understanding-timpani-technique/docview/2247532536/se-2>.

³⁴ Ibid.

³⁵ David Whitman, *The Daily Drummer* (USA: Troy Nelson Music LLC, n.d.), 6

³⁶ Robert Breithaupt, *The Complete Percussionist* (USA: C.L. Barnhouse Company, n.d.), 50

French grip (“thumbs up” grip) is characterized by a wrist motion similarly compared to the casting of a fishing rod.³⁷ This grip utilizes the fingers and a rotating motion of the wrist to produce the stroke, where the palms facing each other, the thumb is on top of the stick facing upwards, and fingers curling loosely under the mallet. The wrist mechanic in this grip specifically involves *adduction* and *abduction* motions³⁸ where one rotates the hands upwards and downwards towards the thumb or little finger at the wrist. This grip can produce a lighter tone due to the fulcrum being towards the front of the hand and less contact from the back fingers.

American grip is characterized as the “middle ground” of the German grip and French grip, more so affiliated with the grip used for playing snare drum. This grip utilizes a combination of finger motion and natural wrist motion. The thumb is set slightly to the side of the stick, maintaining the opening between the thumb and the side of the finger.³⁹ The wrist mechanics in this grip are the same *flexion* and *extension* motions used in German grip, and the tone produced is a happy medium between the dark tone produced with German grip and the lighter tone produced with French grip.

Ultimately, the author believes it is up to the timpanist to determine which grip is best to use depending on the style of music they are playing.

Mallet Selection

A timpanists’ mallet selection is a crucial decision when performing on the instrument. The nature of the composition and the role of the instrument should ultimately help determine

³⁷ Kevin Lucas, “Understanding Timpani and Technique,” *School Band & Orchestra*, May 2019, accessed December 7, 2023, <https://er.lib.k-state.edu/login?url=https://www.proquest.com/magazines/understanding-timpani-technique/docview/2247532536/se-2>.

³⁸ David Whitman, *The Daily Drummer* (USA: Troy Nelson Music LLC, n.d.), 6

³⁹ Robert Breithaupt, *The Complete Percussionist* (USA: C.L. Barnhouse Company, n.d.), 51

the choice of mallets one should use.⁴⁰ Typically, different types of mallets determine the articulation and timbre of the timpani,⁴¹ and are commonly categorized in terms of how “soft” or “hard” the felt material is used on each mallet.

- Soft – Made with thick layers of wool felt designed for rolls and longer notes.
- Medium – Made with less layers of wool felt designed for generalized playing, which can include rolls.
- Hard – Made of little layers of wool felt, flannel, or a wooden mallet designed for specialized effects or very articulated passages.

Softer mallets should be reserved for more delicate and quieter sections of the composition, as the pitch needs to be heard with no attack. Medium or harder mallets should be used in more aggressive or *staccato* sections of the composition. Finally, hard felt or wood mallets should be exclusive to situations where the timpani need to produce extremely aggressive, or the more prominent voice heard within sections of the composition.⁴²

Dampening, muffling, and muting

These techniques are essential for a timpanist to accurately control note duration and tonal clarity. The written note value on the page, and context of other parts in each moment help provide clues for how long each note should ring out to accurately play the proper note length.⁴³

⁴⁰ Kevin Lucas, “Understanding Timpani and Technique,” *School Band & Orchestra*, May 2019, accessed December 7, 2023, <https://er.lib.k-state.edu/login?url=https://www.proquest.com/magazines/understanding-timpani-technique/docview/2247532536/se-2>.

⁴¹ Robert Breithaupt, *The Complete Percussionist* (USA: C.L. Barnhouse Company, n.d.), 49

⁴² Kevin Lucas, “Understanding Timpani and Technique,” *School Band & Orchestra*, May 2019, accessed December 7, 2023, <https://er.lib.k-state.edu/login?url=https://www.proquest.com/magazines/understanding-timpani-technique/docview/2247532536/se-2>.

⁴³ Ibid.

A timpanist must be able to control when and how the drumhead stops vibrating, as well as modify the sound in given musical passages.

Dampening is the technique used to stop the vibration of the timpani head after a note has been played. This is done by lightly placing the fingers or side of the hand on the drumhead, typically near the playing spot or about four to six inches from the edge.⁴⁴ It is crucial to apply this technique with control to avoid “slapping” the hand onto the head that could produce unwanted sounds.

Muffling refers to a method of partially suppressing the drum’s resonance to alter its articulation.⁴⁵ While often used interchangeably with dampening, muffling specifically involves placing a felt material on the drumheads to subtly modify the sound rather than fully stopping vibrations from the drumhead. This technique can be used to achieve a more controlled articulation in certain musical passages.

Muting is a technique used to completely suppress or eliminate all vibrations from the timpani head.⁴⁶ This is done by placing felt in the center of the timpani head or completely covering the timpani head with felt while playing. This technique prevents sympathetic resonance from neighboring drums to sound while playing non-muted drums, or to achieve a deliberately muted sound specified by the composer in the music.

Timpani *Concerti* Written in the Twentieth and Twenty-First Centuries

As the writing for timpani continued to progress throughout the twentieth century, composers became more courageous with writing parts for the instrument with the newfound advancements made for the instrument. With the expanded range, addition of more drums, and

⁴⁴ Robert Breithaupt, *The Complete Percussionist* (USA: C.L. Barnhouse Company, n.d.), 53

⁴⁵ Ibid

⁴⁶ Ibid

advancement of the pedal system for the instrument brought about through technological progress, composers saw that timpani had become more effective in orchestral and wind band literature. Parts for timpani took on a far more active and soloistic role in ensembles. A few composers throughout the twentieth century began to further challenge and provide more advanced literature for timpani by actively composing timpani *concerti*, exposing the greater extension of the instrument from being a supportive, background instrument, to being the center of attention and a lead instrumental voice heard within an ensemble setting.

Among the few composers who featured the timpani as a solo instrument during the twentieth century was William Kraft (1923-2022). In 1983, Kraft composed his first timpani *concerti*, titled “*Concerto for Timpani and Orchestra*” which premiered on March 9th, 1984, with the Indianapolis Symphony with Thomas Atkins as the solo timpanist. The work is composed for five drums with a full orchestra, challenging the soloist to extend the classical performance practices covered in the next chapter.

Chapter 2

William Kraft's "*Concerto for Timpani and Orchestra*"

Brief Biography of William Kraft

William Kraft was born on September sixth, 1923, in Chicago Illinois after his parents of Russian descent immigrated to the United States. At the age of three, Kraft's family moved to San Diego, California, where he spent his youth listening to big band jazz music broadcasted from radio stations in Los Angeles, California, and began studying piano.⁴⁷ In his early adult years, Kraft devoted his studies towards percussion taking music courses at San Diego State University and at the University of California at Los Angeles, where he also had professional instruction from Murray Spivak.⁴⁸

In 1943, Kraft served as a pianist, arranger, and drummer for military bands after being drafted into the United States Army. While stationed in Europe with the armed forces, he was able to attend music courses at the University of Cambridge.⁴⁹ After being discharged from the military in 1946, Kraft made a living as a freelance percussionist in various jazz bands in San Diego.⁵⁰

In the summer of 1948 Kraft enrolled in the Berkshire Music Center in Tanglewood in Lenox, Massachusetts where he studied conducting with Leonard Bernstein (1918-1990) and composition with Irving Fine (1914-1962). The following year he entered Columbia University,

⁴⁷ Damion Edan Frigillana, "William Kraft's 'Concerto for Timpani and Orchestra': The History, Creation, and Performance" (DMA diss., University of Southern California, 2010).

⁴⁸ Theodore Baker, *Baker's Biographical Dictionary of Musicians*, vol. 3. (New York: Schirmer, 1940).

⁴⁹ Ibid

⁵⁰ Barry D Bridwell, "The Multi-Percussion Writing of William Kraft in His 'Encounters' Series with Three Recitals of Selected Works of Erb, Ptaszynska, Redel, Serry, and Others." (DMA diss., University of North Texas, 1993).

where he earned his Bachelor of Science (1951) and Master of Arts (1954) degrees, studying composition with the likes of Jack Beeson (1921-2010), Otto Luening (1900-1996), Seth Bingham (1882-1972), Vladdimir Ussachevsky (1911-1990), and Henry Cowell (1897-1965); all while studying percussion with Morris Goldenberg (1911-1969) and timpani with Saul Goodman (1907-1996).⁵¹

In the years after obtaining his bachelor's and master's degrees, Kraft accepted a position as a percussionist with the Dallas Symphony in 1954. The following year, he returned to Los Angeles to work as a session musician in Hollywood and joined the Los Angeles Philharmonic Orchestra's percussion section. He served as a percussionist for eight years before becoming principal timpanist, a position he held for eighteen years.⁵²

From 1969 to 1972 he also served as the assistant conductor for the Los Angeles Philharmonic Orchestra. His tenure with the orchestra continued from 1955 to 1985, during which he performed, conducted, and served as composer-in-residence from 1981 to 1985. He also organized the *First Percussion Quartet*, composed of members of the orchestra's percussion section. This ensemble performed regularly on the *Monday Evening Concert Series* providing numerous educational performances throughout the Los Angeles public school system dedicated towards performances of new music.⁵³

Notably, Kraft served as the timpanist, percussionist, and coordinator in charge of all percussion activities for Igor Stravinsky's performances and recordings in Los Angeles. Kraft was also a featured soloist in the American premiers of Stockhausen's *Zyklus* and Boulez's *Le Marteau sand Maitre*. Additionally, he recorded *Histoire du Soldat* under Stravinsky's direction

⁵¹ Theodore Baker, *Baker's Biographical Dictionary of Musicians*, vol. 3. (New York: Schirmer, 1940).

⁵² Barry D Bridwell, "The Multi-Percussion Writing of William Kraft in His 'Encounters' Series with Three Recitals of Selected Works of Erb, Ptaszynska, Redel, Serry, and Others." (DMA diss., University of North Texas, 1993).

⁵³ Theodore Baker, *Baker's Biographical Dictionary of Musicians*, vol. 3. (New York: Schirmer, 1940).

of the Los Angeles Philharmonic.⁵⁴ This ensemble included a core group of half-a-dozen musicians Stravinsky trusted from the Los Angeles Philharmonic, who came to be known as the “The Stravinsky Band.”⁵⁵

After his tenure with the Los Angeles Philharmonic, Kraft served as composer-in-residence for the Cheltenham New Music Festival in 1986⁵⁶ as well as serving as guest professor of percussion, conducting, and composition at the University of California at Los Angeles from 1988 to 1990.⁵⁷ Most of Kraft’s music from the 1960s through the 1970s can be described as serial music. As his life went on, Kraft began experimenting with electronic music. Starting in the 1980s, he began experimenting with rhythmic elements derived from jazz and absorbed impressionistic harmonies into his compositional style.⁵⁸

Throughout his lifetime, Kraft has received numerous awards including two Guggenheim fellowships (1967, 1972),⁵⁹ two Kennedy Center Friedheim Awards (1984 for *Concerto for Timpani and Orchestra*, 1990 for *Veils and Variations for Horn and Orchestra*), fellowships from the Hartford Foundation and National Endowment for the Arts, The American Academy and Institute of Arts and Letters Music Award, the ASCAP and NACUSA award, as well as two Ford Foundation commissions as well as commissions from the Library of Congress, US Air Force Band, St. Paul Chamber Orchestra, San Francisco Symphony, Spokane Symphony, Tucson Symphony, the Boston Pops, and Los Angeles Philharmonic.⁶⁰ After a successful ninety-nine

⁵⁴ “William Kraft,” *TEK Percussion Database*, accessed April 18, 2024

⁵⁵ David Hoose, “William Kraft // The Composer Speaks” College New Music, YouTube video, March 7, 2021, 16:00, <https://www.youtube.com/watch?v=3wIAp-BXIRM&t=671s>

⁵⁶ Stanley Sadie and George Grove, *The New Grove Dictionary of Music and Musicians* (London: Macmillan, 1980)

⁵⁷ Theodore Baker, *Baker’s Biographical Dictionary of Musicians*, vol. 3. (New York: Schirmer, 1940).

⁵⁸ Stanley Sadie and George Grove, *The New Grove Dictionary of Music and Musicians* (London: Macmillan, 1980)

⁵⁹ Theodore Baker, *Baker’s Biographical Dictionary of Musicians*, vol. 3. (New York: Schirmer, 1940).

⁶⁰ “William Kraft,” *TEK Percussion Database*, accessed April 18, 2024

years of filled with much success, Kraft died on February 12, 2022, in Glendale, California, due to heart failure.

Creation and History of Kraft's *Concerto for Timpani and Orchestra, No.1*

The genesis of Kraft's *Concerto for Timpani and Orchestra, No. 1* (1984), began as a commission from the principal timpanist of the Indianapolis Symphony Orchestra from 1965-1991, Thomas Atkins.⁶¹ When Atkins approached Kraft in 1983 to commission a *concerto* for Timpani, Kraft was initially skeptical that the instrument could sustain sufficient interest for a full-length *concerti*. Instead, he insisted on composing a five-movement suite.⁶² After their initial discussion, Kraft visited Atkins in Indianapolis, Indiana, to become acquainted with and study Atkins approach to the timpani. After meeting and observing Atkins, Kraft became far more confident in the concept of writing a three-movement *concerti* for Timpani and began writing.⁶³ The piece was premiered on March ninth, 1984, with Atkins as the featured soloist and John Helson as conductor with the Indianapolis Symphony Orchestra.

Leading up to the world premiere of the *concerto* with a clearer vision of the composition at hand and a greater understanding of the soloist, Kraft had several ideas of how the piece was to stand out amongst *concerti* written for common instruments featured in orchestras around the world. Kraft ultimately decided to begin the first movement with a *cadenza* which unfolds and grows from a single note played with the performer's hands wearing gloves; to which the movement grows from a single note to include other instruments until the entire orchestra is involved.⁶⁴

⁶¹ Bryce Marshal Craig, "Chance Encounters: The Percussion Music of William Kraft" (Bachelor's thesis, Kansas State University, 2012).

⁶² Ibid

⁶³ Damion Edan Frigillana, "William Kraft's 'Concerto for Timpani and Orchestra': The History, Creation, and Performance" (DMA diss., University of Southern California, 2010).

⁶⁴ Ibid

As the movement progresses and the music accelerates, the soloist begins to implement harder material on the fingers of the gloves being used leading up to the performer striking the drums with their whole hand before discarding the gloves for timpani mallets.⁶⁵ The soloist continuously switches to harder mallets throughout the remainder of the movement while playing faster rhythms with more intricate musical figures depicting the overall *timbre* of the drums to progress from soft, slow and indistinct to loud, fast and articulate.⁶⁶

Kraft's the second movement is based on featuring the timpani's ability to *glissandi* or slide between notes using the foot pedal.⁶⁵ This technique showcases the beautiful, mysterious, gentle, and expressive quality of the instrument. Kraft dedicated this movement to his mother, who passed away as he finished writing the movement.⁶⁷ Kraft exploits this technique throughout the movement and even features this technique by having the soloist perform simultaneous *glissandi* figures in contrary motion and even performing a melodic line solely on the top drum.⁶⁸

The third and final movement is described as the most energetic of the three, built on the first four-note motif depicted in the first movement. As the movement progresses, the theme is stated by the timpani and then passed through the orchestra, reaching its peak at the final *cadenza*. Kraft demonstrates all technical challenges presented throughout the *concerto* in this movement, showcasing the soloist's advanced technical understanding of the instrument.

One section of this third movement features the soloist performing a four-note chord by rolling with four-mallet marimba techniques (Stevens/Musser or Burton grip; the choice of grip

⁶⁵ Bryce Marshal Craig, "*Chance Encounters: The Percussion Music of William Kraft*" (Bachelor's thesis, Kansas State University, 2012).

⁶⁶ Ibid

⁶⁷ Damion Edan Frigillana, "William Kraft's 'Concerto for Timpani and Orchestra': The History, Creation, and Performance" (DMA diss., University of Southern California, 2010).

⁶⁸ Bryce Marshal Craig, "*Chance Encounters: The Percussion Music of William Kraft*" (Bachelor's thesis, Kansas State University, 2012).

is left to the interpretation of the soloist) while simultaneously pedaling between notes across all the drums.⁶⁹ In addition to this outlandish technical section, Kraft also displays two other abstract compositional techniques; “*run amuck*,” which indicates to the soloist to play carnivorous, wild, and outlandish improvisational figures; and instructs the soloist to mute the drums with miniature orchestral scores in order to play harmonics, an effect which is rarely called for in timpani literature at this time.⁷⁰

Such courageous and bold compositional techniques Kraft demonstrates in this *concerto* seemed to be “otherworldly” leading up to the performance, but with the creativity between Kraft and Atkins throughout the compositional process, they were able to awe audiences at the premier and inspire future generations of percussionists to perform this work and inspire future modifications to performing these techniques.

Significant compositional techniques

As a percussionist, Kraft had great insight into how to challenge Atkins as well as other percussionists with his compositional techniques in writing this *concerto*. Ultimately, Kraft and his *Concerto for Timpani and Orchestra*, became significant figures in the development of the Timpani *concerti* genre. As one of the first timpanists to compose for the instrument, Kraft’s deep understanding of the instrument and his talent as a composer⁷¹ are key reasons why this *concerto* holds such an important place in percussion literature and the genre.

Throughout Kraft’s *Concerto for Timpani and Orchestra*, there are clear examples that reflect Kraft’s experiences as a timpanist throughout his career. Observing the writing of the

⁶⁹ Ibid

⁷⁰ Ibid

⁷¹ Damion Edan Frigillana, “William Kraft’s ‘Concerto for Timpani and Orchestra’: The History, Creation, and Performance” (DMA diss., University of Southern California, 2010).

timpani part provides clear examples of Kraft's experience as a timpanist and his preferences for how timpani parts should be written. Each of the three movements is built around what are known now to be extended timpani techniques – some that were first becoming prominent throughout the nineteenth and into the twentieth century, while others were first explored during the creation of this piece. The first movement introduces the timpani as the central instrument with an opening *cadenza*, the second focuses on glissandi passages, and the third is built upon a four-note motif introduced by the timpani.⁷²

In examining the score and timpani part, we can identify these extended timpani techniques and unique compositional decisions made by Kraft. These ideas create significant technical and musical challenges, not only for the timpani soloist but also for the entire ensemble. Together, they help define the category of twentieth-century timpani *concerti*. The extended techniques that will be discussed primarily are the number of drums and preferred setup of the timpani, depiction of rhythmic freedom and the term “*run amuck*,” use of gloves in the first movement, glissandi passages in the second movement, four-mallet technique and use of harmonics on timpani in the third movement.

Number of drums and setup

Being a timpanist writing one of the first premier timpani *concerti* written in the twentieth century, Kraft was able to give clear indications on how to perform the technical specifications for the soloist which included drum ranges, tuning changes and mallet choices which were all carefully composed and edited in the score and part based off his prior knowledge of the instrument.⁷³ Previously, any *concerti* for timpani or piece of music that featured a wide

⁷² Ibid

⁷³ Ibid

range of notes on timpani written before the twentieth century would feature multiple timpani. For example, composers of the Baroque and Classical era would write for as many as eight drums, while in the nineteenth century some composers like Hector Berlioz (1803-1869), Gustav Mahler (1860-1911), and Carl Nielsen (1865-1931) wrote for up to eight individual timpani per part or two sets of four timpani in some of their larger works, including Berlioz's *Symphonie Fantastique* (1830), Mahler's Symphony No. 2, "*Resurrection*" (1895), and Nielsen's Symphony No. 4, "*The Inextinguishable*" (1916).

Kraft was able to succeed in writing this *concerto* by combining the use of modern twentieth-century timpani with his compositional style and knowledge of the instrument.⁷⁴ By the twentieth-century, timpani had fully transitioned from the previous design model of hand cranked tuning mechanics to the pedal tuning mechanics and began using a standard range and size of timpani ranging from thirty-two-inch drums to twenty-inch drums. Kraft was able to notate his preferred note and drum placement by providing Roman numerals for each drum as well as the notes and tuning changes throughout the score. The drums are numbered from low to high, left to right using Roman numerals I, II, III, IV, and V:

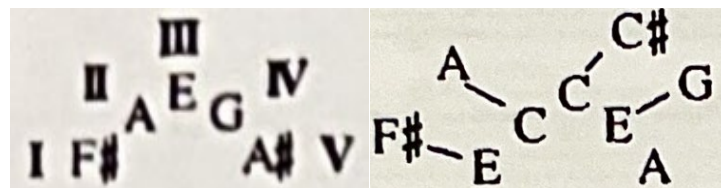


Figure 2.1 Above left, Kraft's notation regarding timpani setup; right Kraft's notation for pitch changes

⁷⁴ Ibid

Kraft indicates his preferred setup to be the drum with the lowest range (drum I) to be placed on the performers left side while the drum with the highest range (drum V) be placed on the performers' right side, filling the remaining three sized drums (drums II, III, and IV) in between.

In observing the range of notes used throughout the piece, one can assume that the sizes of the drums used were between thirty-two-inches and twenty-inches tuned at their absolute lowest sounding ranges.

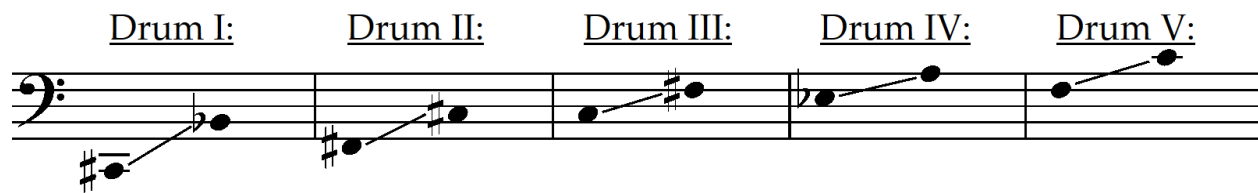


Figure 2.2 Tuning range for Kraft's Concerto for Timpani, No. 1

Whether Mr. Atkins used timpani with modern sizes and ranges at the premiere of the piece is still unclear. In looking at this range of notes per drum, the author assumes that to perform this piece, a timpanist must have a set of timpani consisting of 32-inch, 29-inch, 26-inch, 23-inch, and 20-inch drums.

Rhythmic Freedom and “Run Amuck”

There are two instances in this *concerto* in which Kraft gives the timpani soloist total rhythmic and creative freedom. The first instance of complete rhythmic freedom occurs in the first movement beginning at m. 114 where he writes “*Cadenza ad libitum*,” instructing the performer to “play independently; very free, with many contrasts of tempos and dynamics.”⁷⁵

⁷⁵ William Kraft, *Concerto for Timpani and Orchestra* (Los Angeles: New Music West, 1983).

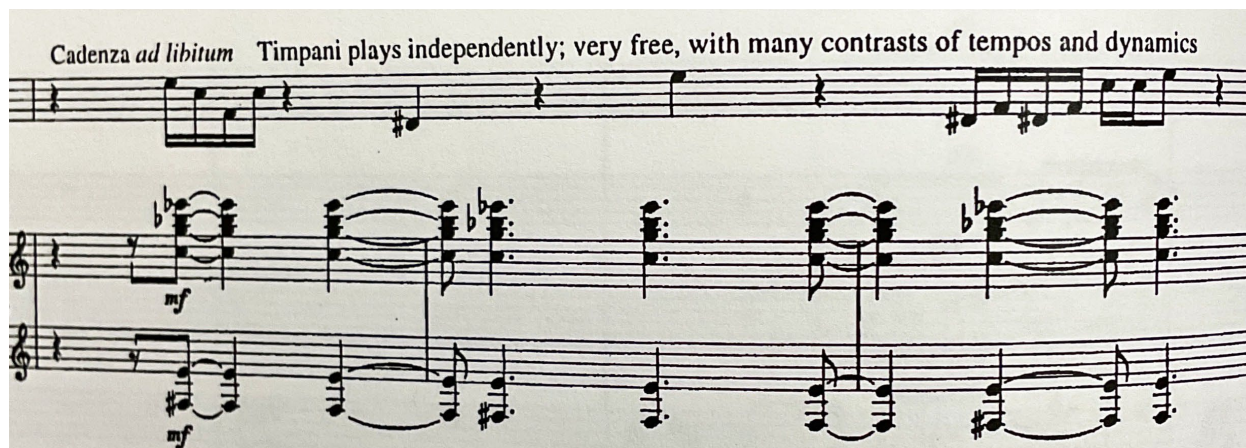


Figure 2.3 Kraft's notation of *cadenza ad libitum*. Movement 1, m. 114

This mini *cadenza* is written without bar lines to provide a visual aid to the performer to get creative. The performer continues to play the written passage freely for the next fourteen measures until m. 128, where Kraft notates when the timpani is to be cued back in time with the rest of the ensemble.



Figure 2.4 Kraft's cue for timpani. Movement 1, m. 128.

The next instance of rhythmic freedom comes during the third movement. Kraft writes an unusual description to the performer rather than a notated set of notes reading "*run amuck*." This descriptive notation has been seen in multiple compositions from Kraft including *Encounters III*

(1971), *Encounters IV* (1972), and a percussion sextet titled *Des Imagistes* (1974).⁷⁶ In the case for *Concerto for Timpani and Orchestra*, Kraft notates the “run amuck” passages by notating a collection of measures with a squiggly line indicating the duration of the passage. This passage appears three times in the third movement shared between the timpani soloist and percussion parts.

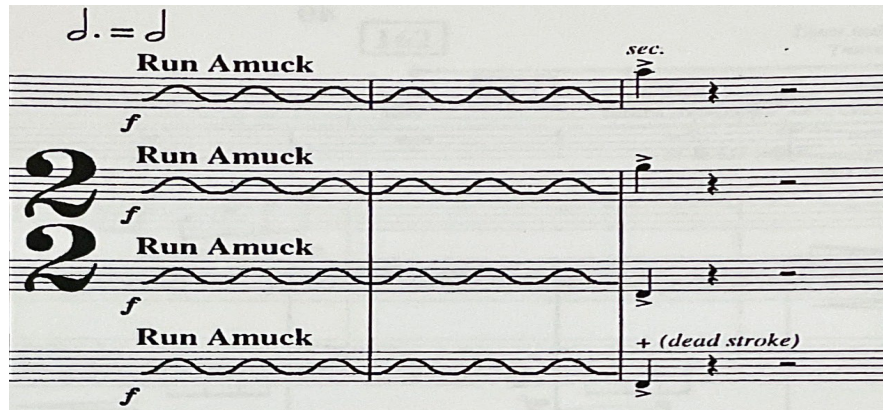


Figure 2.5 Kraft's notation for "Run Amuck." Movement, 3. m. 87-88

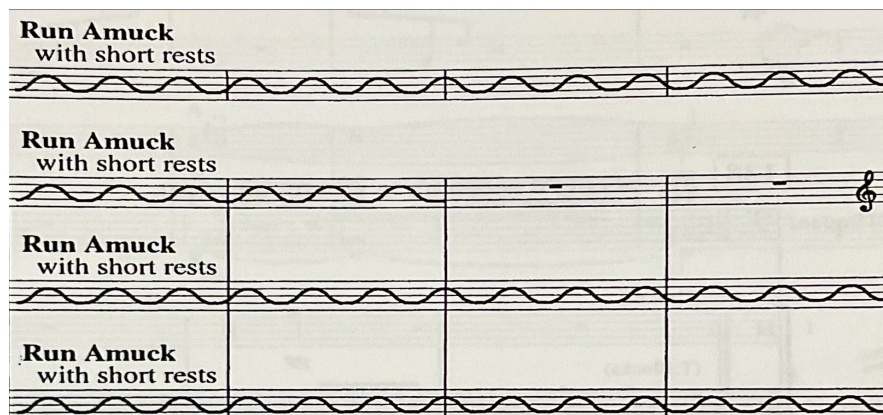


Figure 2.6 Kraft's notation for "Run Amuck." Movement 3, m. 6-99.

These passages are interpreted under the discretion of the performers. The “run amuck” sections have been noted to be treated as short, improvised *cadenza*, or to play a random series of notes

⁷⁶ Damion Edan Frigillana, “William Kraft’s ‘Concerto for Timpani and Orchestra’: The History, Creation, and Performance” (DMA diss., University of Southern California, 2010. 26.

within the notated timeframe. However, Kraft has been noted to give his advice to many percussionists who interpret this unusual instruction saying that the concept of “run amuck” is a compositional technique that is strategically placed to interrupt the material that has come before with abrupt and aggressive musical passages.⁷⁷

Gloves

The opening of the *concerto* begins with a solo timpani *cadenza* that grows from a single note into an interactive musical passage that begins incorporating more instruments throughout the orchestra. This opening *cadenza* is unique because Kraft instructs the performer to play the drums while wearing gloves, giving specific instructions in the score that give clues to the performer of which fingers to use and the type of material Kraft desired. The instructions from the score on how to understand the notation read:

F1 = Index finger soft surface (e.g. felt)

F2 = Middle finger hard surface (e.g. leather)

F4 = Four fingers

The idea Kraft had in mind for using gloves and different materials came from the idea that he wanted the *concerto* to start with the timpani playing as quietly as possible and progressively growing louder with different implements as the piece continued.⁷⁸ This compositional idea was new to timpani literature at the time and creates a surreal sense of dynamic growth. The performer moves from using gloves made of different material to a series of mallets with varying levels of hard felt progressing from staccato to hard wood. After the

⁷⁷ Ibid, 15

⁷⁸ Ibid, 34

gloves have been removed, they are not to be used again. However, Kraft asks the performer to play with F2 and F4 finger techniques in a later passage of the first movement with bare fingers.

Glissandi

The second movement of Kraft's *concerto* is titled "Poem for Timpani, Two String Orchestras, Celeste and Percussion," dedicated to his mother who passed away as he finished composing this movement. The title is reflected in the orchestration, with the strings divided into two groups labeled "Orchestra A," and "Orchestra B" in the score. The second movement is based entirely on glissandi patterns, showcasing the mysterious and expressive qualities of the timpani with the string sections. What makes this movement particularly distinctive is the way he doubles glissandi passages between the solo timpani and the strings, while utilizing the full pitch range of all five drums.

The distinctive way Kraft notates and doubles *glissandi* passages between the timpani and string sections is a defining feature that makes this movement a notable example of twentieth-century timpani *concerti*. Kraft notates the timpani *glissandi* as *tremolo* rolls on individual or multiple drums depending on if the passage is doubled in the strings or performed solely by the solo timpani part. An example of a doubled glissandi passage is found in mm. 23-25 of the second movement where the timpani soloist is rolling across drums two, three, and four and using the pedals to match the same glissandi passages found in the viola and cello parts.

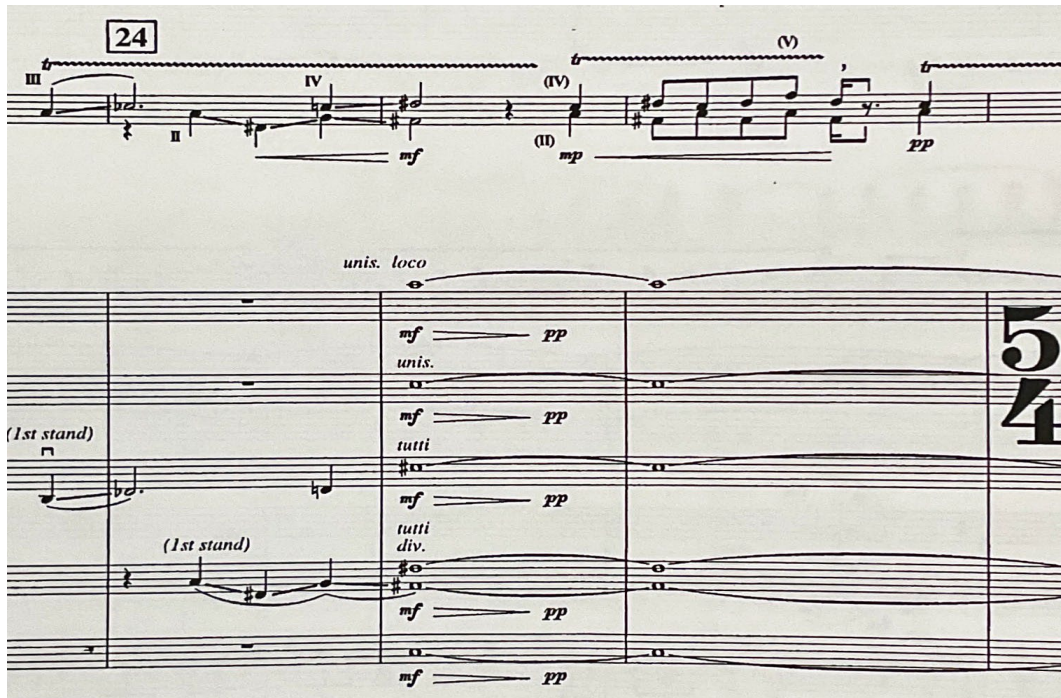


Figure 2.7 Kraft's doubled *glissandi* passage. Movement 2, mm. 23-26

In mm. 32-34, Kraft uses an arrow notation to indicate that a particular drum must play lower than the given range.⁷⁹ In this passage, we can see another closed roll where Kraft has the performer play the absolute lowest note on drum one and gradually glissandi across all the drums releasing on the roll on drum five on the downbeat of the following measure.

⁷⁹ Ibid, 35



Figure 2.8 Kraft's closed roll across all five drums. Movement 2, m. 32-34

Four-mallet technique

The third movement of Kraft's *concerto* features a unique passage in which the soloist rolls on four drums simultaneously. Occurring between mm.162-168, this section requires the performer to maintain rolling and glissandi on drums two and three while periodically adding rolls on drums one and four. This creates the application of four-mallet techniques commonly used in playing marimba to the timpani. This moment stands out as a significant characteristic of twentieth-century timpani *concerti*, as Kraft successfully adapts a technique typically reserved for keyboard percussion to the timpani.

Using a four-mallet technique on timpani naturally presents some challenges. The soloist must consider the type of mallet to be used in this section, whether it be marimba mallets or four timpani mallets of the same material and softness or creating specialty mallets for this specific section of the *concerto*. Another challenge needed to be considered is determining a way to set up the timpani where they are close enough together to have each mallet strike the drum in its preferred striking zone about two to three inches from the rim of the drum. Because of the limitations of how close the drums can be to one another; one might consider creating specialty

mallets that are longer than your typical marimba or timpani mallet to ensure striking each drum in its proper striking zone. The final decision the soloist must take into consideration is what four-mallet technique to use, whether it be traditional cross grip, Burton grip, or Stevens grip.

Harmonics

In the third movement, Kraft instructs the performer to mute the drums with miniature scores to produce harmonics. Specifically, he calls for small scores – such as the Haydn string quartet scores – to be placed at the center of each drumhead, allowing harmonics to be heard when the drums are struck.⁸⁰ What makes Kraft's approach to this unique is that he specifically asks to produce harmonics. Having achieved this with miniature scores instead of the circular felt mutes is truly a unique approach that Kraft experimented with. As an alternative, performers have chosen to use timpani mutes or other custom-made mutes made of thin circular pieces of plywood with soft cloth or felt to aid in producing this same effect.⁸¹

Kraft's approach to producing harmonics is a defining technique of the twentieth century. It is important to carefully consider the type of scores or mutes to be used, as those that are too heavy may alter the drum's pitch. Conversely, scores that are too light can shift around on the drum head, leading to unwanted noises from the drum's vibration. The same considerations should be taken for using mutes. Although using mutes are an effective way to dampen the drumhead, they may not be able to produce the same specific harmonic overtones that Kraft had in mind using miniature scores.

⁸⁰ William Kraft, *Concerto for Timpani and Orchestra* (Los Angeles: New Music West, 1983).

⁸¹ Damion Edan Frigillana, "William Kraft's 'Concerto for Timpani and Orchestra': The History, Creation, and Performance" (DMA diss., University of Southern California, 2010. 30

Chapter 3

Michael Daugherty's "*Raise the Roof*"

Brief Biography of Michael Daugherty

Michael Daugherty was born on April twenty-eighth, 1954, in Cedar Rapids, Iowa. Daugherty grew up in a musical household as the oldest of five brothers who all became professional musicians. Daugherty and his brothers were influenced by their parents. His father, Willis Daugherty (1929-2012), was a dance-band drummer, and his mother, Evelyn Daugherty (1927-1974), was an amateur music theater singer and tap dancer.⁸² Daugherty began studying piano at eight years old and later learned jazz and rock drumming from his father at age ten.

This early exposure to music led him to play percussion throughout high school, both in orchestra and with the Emerald Knights and Grenadier Drum and Bugel Corps, where he played bass drum and tom-toms. He also performed piano in cocktail restaurants and even formed a funk/rock band with his four younger siblings.⁸³ Through these musical experiences, Daugherty discovered a creative outlet in performance. Whether improvising percussion parts in orchestra or experimenting with unconventional chord progressions on piano during band gigs, he found joy in presenting his unique and offbeat ideas to an audience, and describes composition as a form of performing art.⁸⁴

⁸² Charles Hiroshi Garrett, *The Grove Dictionary of American Music*, 2nd ed. (New York: Oxford University Press, 2013), 549

⁸³ Ibid

⁸⁴ Ann McCutchan, *The Muse That Sings: Composers Speak about the Creative Process*, (New York: Oxford University Press, 1999), 173-174.

In his early adult years, Daugherty went on to study music composition at the University of North Texas (UNT) with Martin Mailman (1932-2000) and James Sellars (1940-2017) from 1972 to 1976. It was during his time at UNT after attending a concert of the Dallas Symphony, that he discovered his creative compositional style, blending his love for rock and jazz music with the instruments of the orchestra.⁸⁵ Continuing his compositional studies, his first work, *Movements for Orchestra* (1974), was premiered that same year, earning him a compositional scholarship.⁸⁶

After graduating from UNT with a bachelor's in music degree, Daugherty went on to earn a master's in music degree at the Manhattan School of Music studying serial techniques with Charles Wuorinen (1938-2020). During his time in New York, Daugherty was exposed to an abundance of opportunities to meet other popular composers including Milton Babbitt (1916-2011), Pierre Boulez (1925-2016), and Morton Feldman (1926-1987).⁸⁷ In meeting Boulez, who at the time served as the director of the New York Philharmonic; Daugherty was invited to study computer music at Boulez's *Institute de Recherche et Coordination Acoustique/Music* (IRCAM) under a Fulbright Fellowship from 1978 to 1980.⁸⁸ During his time at IRCAM, Daugherty was exposed to a diverse range of avant-garde composers, thinkers, and artists which encouraged him to push the boundaries of traditional composition. This opportunity allowed him to collaborate with prominent composers, explore the emerging field of computer music, and engage in

⁸⁵ Timothy Salzman, *A Composer's Insight: Thoughts, Analysis, and Commentary on Contemporary Masterpieces for Wind Band*, 1st ed. (Galesville, MD: Meredith Music Publications, 2003), 36.

⁸⁶ Charles Hiroshi Garrett, *The Grove Dictionary of American Music*, 2nd ed. (New York: Oxford University Press, 2013), 549

⁸⁷ Ibid

⁸⁸ Nicolas Slonimsky, *Baker's Biographical Dictionary of Musicians*, Centennial ed. (New York: Schirmer Books, 2001), 795

analytical classes across Europe, all of which played a significant role in shaping his artistic and intellectual development as a composer.⁸⁹

Upon returning to the United States in the fall of 1980, Daugherty began pursuing a Doctor of Musical Arts degree in composition at Yale University where he studied under notable composers Jacob Druckman (1928-1996), Bernard Rands (b. 1934), Roger Reynolds (b. 1934), and Earle Brown (1926-2002).⁹⁰ During his time at Yale, Daugherty continued his involvement with jazz, directing the Yale Jazz Band and assisting the renowned arranger, Gil Evans (1912-1988).⁹¹ In the summer of 1981, Daugherty furthered his compositional practices with Mario Davidovsky (1934-2019) at the Tanglewood Music Center (TMC), where he met Leonard Bernstein.⁹² After hearing Daugherty's music, Bernstein encouraged him to consider integrating American popular music with concert music.⁹³

That next year, Daugherty moved back to Europe to attend the *Internationale Ferienkurse Für Neue Musik* in Darmstadt, Germany; and was later admitted to the *Hochschule Für Musik und Theater* in Hamburg, Germany, for post-doctoral studies with György Ligeti (1923-2006) from 1982-1984.⁹⁴ It was Ligeti who encouraged Daugherty to combine his jazz and rock influences as a foundation for his future avant-garde and classical compositions.⁹⁵ In September of 1984, Daugherty returned to the United States where he began experimenting with

⁸⁹ Timothy Salzman, *A Composer's Insight: Thoughts, Analysis, and Commentary on Contemporary Masterpieces for Wind Band*, 1st ed. (Galesville, MD: Meredith Music Publications, 2003), 36

⁹⁰ Charles Hiroshi Garrett, *The Grove Dictionary of American Music*, 2nd ed. (New York: Oxford University Press, 2013), 549

⁹¹ Ibid.

⁹² Ibid.

⁹³ Tanya Muzumdar, "MASTERMIND: Michael Daugherty," *Second Wave Media*, June 30, 2010, <https://www.secondwavemedia.com/concentrate/features/michaeldaugherty0109.aspx>. Accessed January 8, 2025.

⁹⁴ Charles Hiroshi Garrett, *The Grove Dictionary of American Music*, 2nd ed. (New York: Oxford University Press, 2013), 550

⁹⁵ Timothy Salzman, *A Composer's Insight: Thoughts, Analysis, and Commentary on Contemporary Masterpieces for Wind Band*. 1st ed. (Galesville, MD: Meredith Music Publications, 2003), 36

improvisation with synthesizers for silent films and later finished his doctorate from Yale in 1986.⁹⁶ With musical instrument digital interfaces (MIDI), and electronic instruments being first introduced around this time, this new technology allowed Daugherty to experiment with new compositional ideas and have them played back to him where he discovered future potential in his compositional works.⁹⁷

After completing his doctorate in 1986, Daugherty's notoriety as a composer would begin to grow exponentially over the next five years teaching composition at the Oberlin Conservatory of Music in Oberlin, Ohio; with notable compositions for large chamber ensemble's including "Snap!" (1987), and "Blue Like an Orange" (1987), as well as "Mxyzptlk" (1988), "Oh, Lois!" (1989), and "Lex" (1991) which later became three of five movements of his "Metropolis Symphony" (1993)⁹⁸

In the fall of 1991, Daugherty joined the faculty of the University of Michigan, where he currently resides as a professor of music in the composition department. His national and international recognition as a composer has been upheld through the completion of notable works including the completed "Metropolis Symphony," (1993), and "Dead Elvis," (1993). Since joining the composition faculty at the University of Michigan, Daugherty has received commissions from major institutions and held composer-in-residence positions with the Detroit Symphony Orchestra from 1999 to 2003, as well as the Pacific Symphony in 2010.⁹⁹

⁹⁶ Charles Hiroshi Garrett, *The Grove Dictionary of American Music*, 2nd ed. (New York: Oxford University Press, 2013), 550

⁹⁷ Ann McCutchan, *The Muse That Sings: Composers Speak about the Creative Process*, (New York: Oxford University Press, 1999), 175.

⁹⁸ Charles Hiroshi Garrett, *The Grove Dictionary of American Music*, 2nd ed. (New York: Oxford University Press, 2013), 550

⁹⁹ Ibid

With over ninety complete works¹⁰⁰ for orchestra, opera, symphonic band and wind ensemble, as well as small and large chamber ensembles to name a few; Daugherty has earned numerous awards and fellowships including a Fulbright Fellowship (1977), the Kennedy Center Friedheim Award (1989), and the Goddard Lieberman Fellowship from the American Academy of Arts and Letters (1991).

He has also received fellowships from the National Endowment for the Arts (1992) and the Guggenheim Foundation (1996), as well as the Stoecker Prize from the Chamber Music Society of Lincoln Center (2000). In 2005, he won the Lancaster Symphony Orchestra Composer's Award, and in 2007, he was honored with the A.I. DuPont Award from the Delaware Symphony Orchestra and the American Bandmasters Association Ostwald Award for his composition *Raise the Roof* (2007). Additionally, Daugherty was named "Outstanding Classical Composer" at the Detroit Music Awards in 2007, 2009, and 2010.¹⁰¹ Today, Daugherty is on academic leave until May 2025, but continues to mentor many of today's most talented young composers at the University of Michigan while maintaining his career as a frequent guest composer of professional orchestras, festivals, universities and conservatories around the world.

Creation and History of Daugherty's *Raise the Roof*

Michael Daugherty's *Raise the Roof* (2003) is written in two versions: an orchestral version and a symphonic band version, the original version being the orchestral version followed by the symphonic band version. Daugherty was first commissioned to compose the piece by the Detroit Symphony Orchestra for the opening of The Max M. and Marjorie S. Fisher Music

¹⁰⁰ Ibid

¹⁰¹ Michael Daugherty, "Long Biography," Michael Daugherty's Website, accessed January 8, 2025, <https://michaeldaugherty.net/long-biography/>

Center (also referred to as “The Max”) in 2003.¹⁰² “The Max” was a brand new facility in 2003 for the Detroit Symphony Orchestra to host their future performances which combines the restored and modernized orchestra hall with additional rental spaces, initially designed for conferences, weddings, as well as concert performances.¹⁰³ The world premiere was performed by the Detroit Symphony Orchestra at Symphony Hall in Detroit, Michigan, on October 16th, 2003, conducted by Neeme Järvi, with Brian Jones on timpani.¹⁰⁴

The symphonic band version of *Raise the Roof* (2007) was commissioned by the University of Michigan Symphony Band while teaching at the University of Michigan in 2007. The premiere of the symphonic band version took place at Hill Auditorium, located at the University of Michigan in Ann Arbor, Michigan, on March 30th, 2007, for the National Conference of the College Band Directors National Association (CBDNA), conducted by Michael Haithcock, with graduate student Andre Dowell on timpani. Hill Auditorium has hosted world-class artists and is recognized regionally for its exceptional acoustics and deep musical community, and at the time was in its fourth year of hosting University of Michigan ensemble performances after a major renovation in 2004 which improved accessibility and amenities.¹⁰⁵

According to Daugherty, *Raise the Roof* (2003) is inspired by the construction of grand architectural wonders such as the Notre Dame Cathedral (1345) in Paris and the Empire State Building (1931) in New York City,”¹⁰⁶ which is important to recognize considering that each version of the piece was premiered in a venue that had gone under recent renovations.

Daugherty’s idea for the piece was to “create a grand acoustic construction by bringing the

¹⁰² Michael Daugherty, “*Raise the Roof*: Program Note” (New York: Boosey and Hawkes, 2007).

¹⁰³ Detroit Symphony Orchestra, “Venue Rentals,” accessed March 17, 2025.

¹⁰⁴ Michael Daugherty, “*Raise the Roof*: Program Note” (New York: Boosey and Hawkes, 2007).

¹⁰⁵ University of Michigan School of Music, Theatre, and Dance, “History,” accessed March 17, 2025
<https://smt.d.umich.edu/facilities/hill-auditorium/#history>

¹⁰⁶ Michael Daugherty, “*Raise the Roof*: Program Note” (New York: Boosey and Hawkes, 2007).

timpani into the foreground and giving the timpanist the rare opportunity to play long expressive melodies, and a *tour de force cadenza*.”¹⁰⁷

Significant compositional techniques

As a percussionist and experienced composer, Daugherty was able to compose *Raise the Roof* to feature many extended timpani techniques as well as blend different styles of music into this composition. His experiences throughout his education and traveling abroad lay the foundation towards blending classical compositional techniques with popular music in this composition. Instead of following the traditional three-movement structure, Daugherty composed *Raise the Roof* as a single-movement work built around two main themes. He incorporates elements from seventeenth century variation forms, including cantus firmus, basso ostinato, and fugue to shape the musical development.¹⁰⁸

Raise the Roof is broken up into four variations throughout the two main themes. The first variation is in cantus firmus style with the timpani presenting a melodic line reminiscent of a medieval plainchant which is doubled and performed by the flutes and tuba in the opening of the piece. The second variation introduces the basso ostinato with the timpani, string bass, and piano playing the repeated bass figure. The third variation centers on a fugue introduced by a saxophone quartet that lays out a traditional exposition and tonal answer. The fourth variation is where Daugherty breaks away from traditional compositional style, presenting an Afro-Cuban “*guaguancó*” conga pattern which is rhythmically reinforced by the timpani using various implements.

¹⁰⁷ Ibid.

¹⁰⁸ Chia-Hao Hsieh, “Michael Daugherty’s Concerto *Raise the Roof* for Timpani and Symphonic Band (2007): Analysis and Performance Guide” (DMA diss., University of Washington, 2010), 51.

In examining the timpani part, we find a range of extended timpani reimagined through Daugherty's unique blend of traditional compositional techniques and popular music. Many of these techniques have appeared in earlier works, including Kraft's *concerto*, but Daugherty presents them in a newer, contemporary context that reflects the innovations of the twenty-first century. Daugherty's approach to these techniques introduces new challenges for the soloist and helps establish what defines the twenty-first century timpani *concerti*. The techniques that will be discussed primarily are the number of drums and alternative setups of the timpani, melodic figures and pedal technique, written stickings, the inclusion of Afro-Cuban *guaguancó* patterns, various implementations, and the suggestive inclusion of modern rudiments.

Number of drums and setup

Daugherty composed the timpani part for five drums and large cymbal. His ideal setup mentioned in the timpani part included a 32-inch, 29-inch, 26-inch, 20-inch, and 23-inch drums in this order from left to right.¹⁰⁹ However, there have been performances of this *concerto* where the soloists have chosen to use six drums ranging from 32-inch, 29-inch, 26-inch, 23-inch, 20-inch, and 18-inch or another 20-inch drum fixed in a semi-circular setup with the sixth drum placed on the outside of the 26-inch and 23-inch drums. The setup is entirely up to the performer on whether to use Daugherty's suggested five-drum setup or follow the more popular six-drum setup.

¹⁰⁹ Michael Daugherty, *Raise the Roof*, timpani part (New York: Boosey & Hawkes), 1.

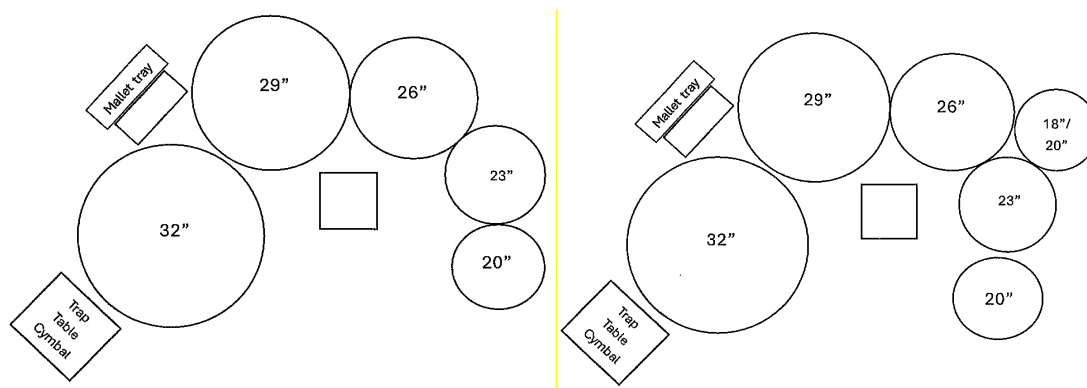


Figure 3.1 Above left, Five-drum setup; right, Six-drum setup

Given the extensive range of notes in the timpani part, either option is sufficient.

However, the additional sixth drum help regulate the amount of pedal tuning activity throughout the piece. In having a sixth drum in the setup, the performer can focus more on the music and written stickings in the part rather than focusing too much on pedal tuning across less drums.¹¹⁰

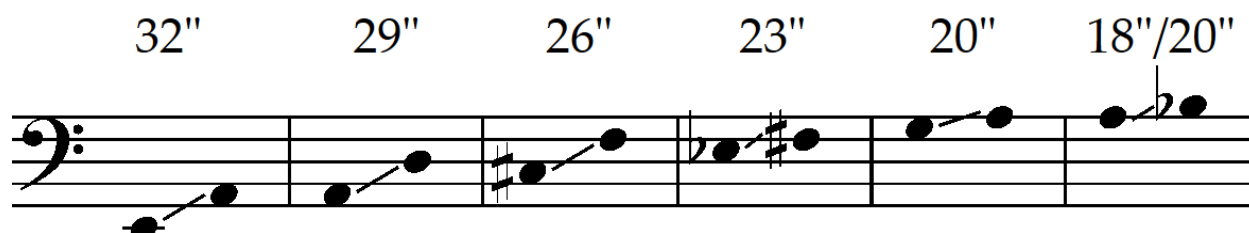


Figure 3.2 Pitch range of Daugherty's *Raise the Roof*

Suspended cymbal on timpani

In the opening of *Raise the Roof*, Daugherty notes that the soloist must place a large cymbal upside down on the lowest timpano and roll on top of the cymbal with soft mallets.¹¹¹

With the dynamics of the roll ranging from pianississimo to fortissimo, placing a large 17-inch to 20inch cymbal on the largest timpano provides a fuller sound for this introduction. Similarly, it is important to use soft mallets to roll on the edges of the cymbal, as Daugherty suggests, resulting

¹¹⁰ Chia-Hao Hsieh, "Michael Daugherty's Concerto *Raise the Roof* for Timpani and Symphonic Band (2007): Analysis and Performance Guide" (DMA diss., University of Washington, 2010), 75

¹¹¹ Michael Daugherty, *Raise the Roof*, timpani part (New York: Boosey & Hawkes), 2

in any harsh sounds to be produced against the cymbal or preventing the cymbal from being off balanced and striking the drum head of the timpano.¹¹²

Although this extended technique may have appeared in twentieth century works by composers like John Cage (1912-1992) and George Crumb (1929-2022), Daugherty's specific notation and instruction to roll a cymbal on top of a timpano reflect the characteristics of twenty-first century timpani *concerti*. It has become a common practice for composers in the twenty-first century to notate similar extended technique instructions into their percussion parts, Daugherty being no exception to this practice.

Melodic figures and pedal technique

Daugherty gives the timpanist a rare opportunity to play long and expressive melodies in this piece. The second theme of *Raise the Roof* is introduced in the opening and first variation, where a chant-like melody is heard in the timpani, flute, piccolo, saxophone, and low brass. In his program notes, Daugherty refers to this theme first played by the flutes and then the timpani as "reminiscent of a medieval plainchant."¹¹³ This plainchant is built upon a series of notes which include D, E, F, G, A, B, C, D, where D functions as the first note and cadence point completing

¹¹² Chia-Hao Hsieh, "Michael Daugherty's Concerto *Raise the Roof* for Timpani and Symphonic Band (2007): Analysis and Performance Guide" (DMA diss., University of Washington, 2010), 86.

¹¹³ Michael Daugherty, *Raise the Roof* (Boosey & Hawkes, 2003). accessed January, 18 2025.

the phrase,¹¹⁴ identifying the second theme in the D Dorian mode.

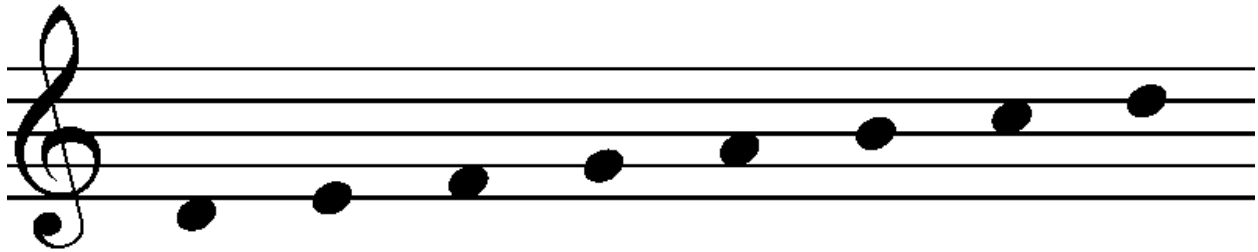


Figure 3.3 D Dorian mode

The timpani's first melodic figure introduces the second theme, which appears throughout the first variation from mm. 31-128. Daugherty develops this theme by lengthening the phrases of the timpani's plainchant melody and gradually layering additional instruments and full band accompaniment. Overlapping plainchant fragments in the flute, vibraphone, trumpet, and clarinet create inner variations above the timpani solo.¹¹⁵ As the variation continues, Daugherty doubles the timpani's melodic figures in the flute and piccolo. He enriches the harmonic texture with trumpet, vibraphone, bassoon, and clarinet, while intensifying dynamic shifts through the low woodwinds, low brass, marimba, piano and string bass.¹¹⁶ The addition of bass drum, claves, and finger cymbals enhance the rhythmic complexity, adding to the overall intensity and depth of the first variation.¹¹⁷

What makes the timpani's melodic figures unique is not just the length of the phrases and abundance of notes, but also the constant pedal adjustments and technique required to perform the wide range of pitches of the plainchant melody. The soloist must carefully select, and map out which drums are to be primarily "pedaled." Timpani produced in the twenty-first century

¹¹⁴ Chia-Hao Hsieh, "Michael Daugherty's Concerto *Raise the Roof* for Timpani and Symphonic Band (2007): Analysis and Performance Guide" (DMA diss., University of Washington, 2010), 20-21.

¹¹⁵ Ibid, 22.

¹¹⁶ Ibid, 23-24.

¹¹⁷ Ibid, 24

typically consisted of the standard 32-inch, 29-inch, 26-inch, 23-inch, and 20-inch timpani sizes with the basic ranges for conventional timpani referenced in the first chapter. With this in mind, the soloist's primary consideration is whether to use the five-drum setup suggested by Daugherty or the six-drum setup that has become a popular alternative among various soloists.

The author advocates for the six-drum configuration to be more practical, as the 23-inch drum requires regular pedaling – shifting between E^3 and F^3 – while the surrounding drums remain fixed to pitches within the D Dorian mode. The only other instance of pedaling occurs at the end of the second theme, where the 20-inch drum on the far right is briefly pedaled from G^3 to A^3 between m. 127 and the downbeat of m. 128. This method is considered by the author the most effective, as E and F fall within a comfortable range on the 23-inch drum, and G^3 and A^3 are similarly well-placed on the 20-inch drum, which remains tuned to A^3 for the remainder of the piece.

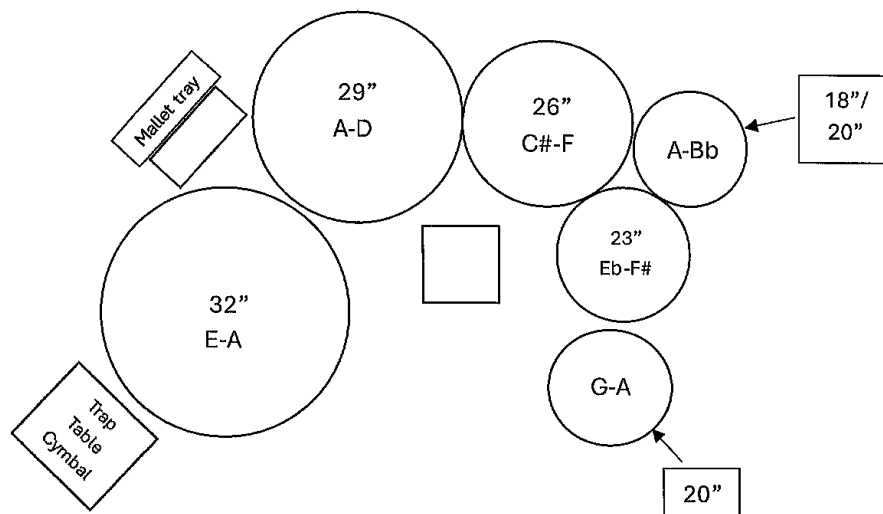


Figure 3.4 Author's suggested six-drum setup

Written stickings

In union with Daugherty's intent to expand the expressive capabilities of the timpani, Daugherty features a *cadenza* between the second and third variations. Referred to as "*tour de*

force,”¹¹⁸ the *cadenza* features continuous sixteenth note figures with frequent pedal tuning on nearly every beat. Notably, Daugherty provides a separate set of measure numbers within the *cadenza*, (m. 266 of the score is m. 1 of the *cadenza*), and avoids other rhythmic values and includes specific stickings throughout the *cadenza* to support consistent motion and even tone quality across the drums.¹¹⁹

This *cadenza* restates the plainchant melody from the second theme, transposed a whole step higher from D centered on the tonic E. The accented pitches articulated above and below the tonic reflect the same melodic plainchant figures seen in the second theme.¹²⁰ Although Daugherty essentially recreates the original plainchant melody, the *cadenza* employs a pitch collection of E, F#, G, A, Bb, C, and D – resembling an altered E Dorian mode with notable chromatic alterations.



Figure 3.5 E Dorian mode with chromatic alterations

The assignment of notes in Daugherty’s *cadenza* is critically important. The timpanist’s drum configuration – whether using a five-drum or a six-drum configuration – significantly affects the overall resulted performance of the *cadenza*. Regardless of the setup, the soloist must carefully decide which drums will be pedaled and which drums will remain assigned to a fixed

¹¹⁸ Michael Daugherty, “*Raise the Roof: Program Note*” (New York: Boosey and Hawkes, 2007).

¹¹⁹ Chia-Hao Hsieh, “Michael Daugherty’s Concerto *Raise the Roof* for Timpani and Symphonic Band (2007): Analysis and Performance Guide” (DMA diss., University of Washington, 2010), 36, 93.

¹²⁰ Ibid, 37

pitch. The author notes that this choice is entirely at the discretion of the performer, and each setup presents its own unique challenges. For the purpose of this discussion, the author will reference observations and conclusions based on a six-drum setup.

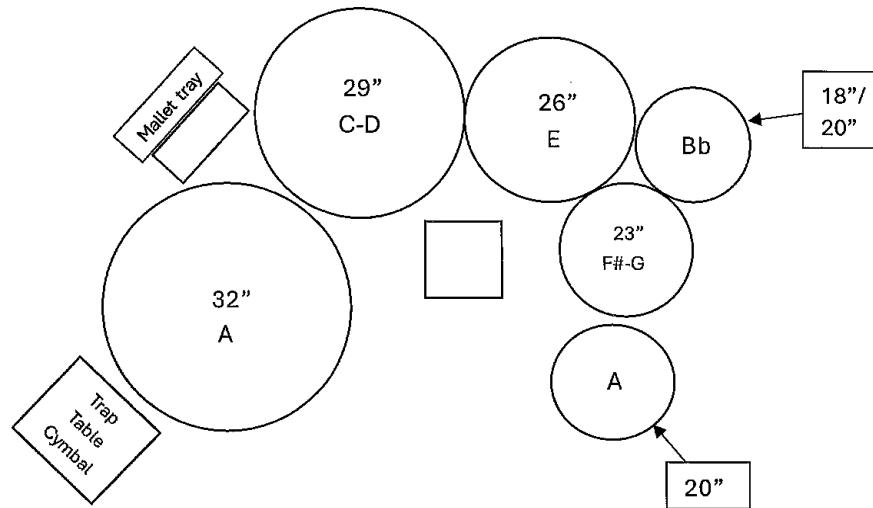


Figure 3.6 Pitch collection in the author's suggested six-drum setup

The beginning of the *cadenza* (mm.1-10), Daugherty writes continuous sixteenth notes on the 26-inch drum, with the suggested “RLRL” sticking establishing a framework of alternating strokes. This transitions to “RLRR LRLR” (mm. 11-12), then returns to “RLRL RLRL” alternating strokes (mm.13-14) as the notes in the melody expands across to neighboring drums. To articulate the emerging plainchant, the performer should pedal F³ and G³ on the 23-inch drum while maintaining the notated stickings. Accurate pedaling and strengthened ear training are crucial in this section to achieve precise intonation of the F³ and G³ - especially on a smaller timpano. Over-adjusting the pedal in either direction can result in inaccurate intonation and ultimately diminish the clarity of the melodic line.

In the following section, (mm. 39-49), Daugherty expands the melodic line up by a whole step to A³ on the 20-inch drum on the far right of the setup, followed by another expansion, (mm.

50-60), of a half-step to Bb³ on the outermost 18-inch or 20-inch drum. In a six-drum setup, this requires the soloist to reach across the 23-inch drum to the outermost drums on either side of the 23-inch drum. This wide movement across three drums can result in an unintended disruption in tempo, reduce the accuracy of striking each drum within its optimal playing zone, and compromise the precision of pedal tuning the pitches on the 23-inch drum.¹²¹

The most demanding passage of the *cadenza*, (mm. 74-92), features the soloist simultaneous pedaling on the 23-inch drum (F#³ to G³) and 29" drum (C³ to D³) while accurately shifting stickings (“RLRL RLRL” to “RLRR LRLR LRL”), and continuing to reach across to the outermost drums fixed on A³ and Bb³. This section requires the soloist to tune two drums simultaneously while navigating the written complex stickings in a wide physical setup. The soloist must have precise coordination in their feet to maintain accurate intonation on the 23-inch and 29-inch drums along with physical endurance to reach the outermost drums with the written stickings without diminishing the value of the plainchant melody. Daugherty then concludes the *cadenza* with a *molto ritardando* (mm. 93-96), leading into a slow *glissando* from C³ to D³ on the 29-inch drum, (mm. 96-100). After reaching the fermata the soloist performs one final *glissando* (D³ down to B³) to cue the ensemble’s return at letter O (m. 267).

Daugherty’s use of written stickings throughout the *cadenza* help the soloist navigate the beginning, ending, and alterations of the plainchant melody throughout the *cadenza*. especially given the intended tempo marking of 192 beats per minute. The inclusion of Daugherty’s written stickings are what the author believes to be a significant characteristic of timpani *concerti* written in the twenty-first century, as they were not able to find examples of previous composers of the twentieth century providing sticking decisions in their timpani *concerti*.

¹²¹ Ibid, 97

Suggestive use of modern rudiments

Throughout Daugherty's *Raise the Roof*, there are several instances and musical passages that Daugherty wrote to challenge and showcase the expressive nature of the instrument and the soloist. When deciding to learn, study, or perform this work, the author believes a timpanist must have an advanced level of knowledge in techniques, rudiments, and musical styles – not just on timpani, but on all instruments in the percussion family. Daugherty's knowledge as a percussionist from his previous experiences in drum and bugle corps¹²² can be seen throughout this *concerto* which suggest the inclusion and execution of several rudiments included in what are known as the "Percussive Arts Society (PAS) International Drum Rudiments."

The "PAS International Drum Rudiments" are a structured collection of forty rudiments recognized for their foundational sticking patterns, designed to develop the physical control, coordination, and endurance necessary for the advancement of drummers and percussionists.¹²³ This collection of rudiments features drum corps, orchestral, European and contemporary drum rudiments, grouped into four categories: rolls, diddles, flams, and drags.¹²⁴ Among these are the "Seven Essential Rudiments," considered to be fundamental to mastering all other rudiments. These seven rudiments are presented in a suggested teaching sequence and are meant to be practiced using the "open-close-open" (slow-fast-slow) method at even and moderate tempos before progressing through the remaining rudiments.¹²⁵

Many rudiments featured in the "roll" and "diddle" category of the "PAS International Drum Rudiments" are identifiable by Daugherty's written stickings in the *cadenza* section of

¹²² Ann McCutchan, *The Muse That Sings: Composers Speak about the Creative Process*, (New York: Oxford University Press, 1999), 173.

¹²³ Jay Wanamaker. "The Rudiments, PAS International Drum Rudiments," *Percussive Notes* 26, no. 4 (1988): 6, <https://pas.org/publication-articles/pas-international-drum-rudiments/>.

¹²⁴ Ibid.

¹²⁵ Ibid.

Raise the Roof. The rudiments identified in this section are the single stroke roll, single paradiddle, and triple paradiddle. The flam rudiment is also seen to be notated by Daugherty once in m. 430. However, the author believes that several of these previously mentioned rudiments – along with others such as the double stroke open roll, single paradiddle-diddle and even a drag – are suggested in numerous musical passages throughout the *concerto*.

1. Single Stroke Roll	6. Double Stroke Open Roll	16. Single Paradiddle	17. Double Paradiddle	19. Single Paradiddle-diddle
				
R L R L R L R L	R R L L R R L L	R L R R L R L L	R L R L R R L R L L	R L R L R R R L R R L L

Figure 3.7 Selected PAS rudiments suggested in *Raise the Roof*

The following examples and figures are the opinion and suggestions of the author based on their study, preparation, and performance of the piece.

The use of a single paradiddle and a double paradiddle can be applied towards the end of the second theme of the *concerto*. In m. 119, Daugherty writes a collection of notes (F³, E³, and C³) written in a series of sixteenth notes where each note is played four times one after another. This suggests that this measure could be performed with a double paradiddle followed by a single paradiddle and two single stroke notes to execute this measure as written.



R L R L R R | L R L L | R L

Figure 3.8 Suggested double paradiddle followed by a single paradiddle, m. 119

The use of a single paradiddle-diddle can be and applied in several measures throughout the *basso ostinato* section between mm. 141-225, before the *cadenza*. In m. 156, Daugherty writes a collection of notes (Bb³, F³, E³, and C³) written in a series of sixteenth notes where each note is played twice, one after the other. The author suggests that the soloist perform a single paradiddle-diddle followed by a double stroke open roll to successfully execute this passage at the written tempo of 176 beats per minute to prevent frantic motions from one drum to the next. This rhythmic figure is written two other times throughout this section of the *concerto* (m. 163 and m. 172) to which the same series of rudiments can be applied.



Figure 3.9 Suggested Double Paradiddle followed by double stroke open roll, m.156

Similarly, in mm. 223-224, Daugherty writes the collection of notes (Bb³, F³, and E³) in a series of sixteenth notes where each note is played twice, one after the other. However, each double note is written in groupings of three that are played four times. The author suggests playing each three-note grouping with the single paradiddle-diddle. This not only eases the soloist's range of motion but also supports the musical phrase happening within the timpani part and the rest of the ensemble.

Inclusion of Latin Jazz style and “Guaguancó”

After meeting Leonard Bernstein in 1981, Daugherty was encouraged to incorporate elements of American popular music into his classical compositions. Since their initial interaction, Daugherty has embraced and incorporated Bernstein’s advice, which can be noticed in works like *Metropolis Symphony* (1993) and *Dead Elvis* (1993), combining classical compositional techniques of early musical eras with popular culture themes and various musical genres of the twenty-first century. In the fourth variation of *Raise the Roof*, Daugherty demonstrated this continued fusion of genres and ideas by drawing upon his background and experiences as a jazz musician. By incorporating big band style writing in the ensemble with the solo timpani part playing an Afro-Cuban rhythm known as *guaguancó*, this blend of Latin-Jazz style of music within a classical music setting perfectly reflects Daugherty’s journey to define his diverse compositional style.

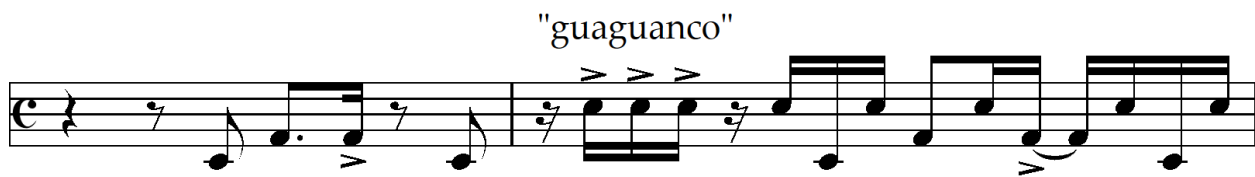


Figure 3.12 *Guaguancó* rhythm in timpani part, mm. 354-355

Daugherty’s main rhythmic motive of the fourth variation is based on the repeated *guaguancó* rhythm in the timpani part. *Guaguancó* is one of the three primary rhythms within the Cuban *rumba* tradition, a folkloric and secular genre known for its vibrant blend of singing, dancing, drumming, and celebration.¹²⁶ Often featured in salsa music, *guaguancó* is a moderately paced, rhythmically complex, dance-based style built upon a ritualized interaction between a male and female dancer. The rhythm is typically played by two conga players on the *tres-dos* and

¹²⁶ José Eladio Amat, *Afro-Cuban Percussion Workbook* (Barcelona: DINSIC Publications Musicals, 2006), 10

salidor parts, along with players on *clave*, *shakere*, and *katá*. A *quinto* player improvises interactively with dancers over these parts.¹²⁷ Structurally, *guaguancó* consists of three sections: the *Diana*, an improvised flourish of scat-like syllables by the *gallo* (lead singer); the *verse*, sung solo or in harmony, occasionally with additional *diana* phrases; and the *estribillo*, a call-and-response passage between the *gallo* and the *coro* (chorus), featuring repeated choral lines and improvised responses.¹²⁸

While the timpani soloist plays the repeated *guaguancó* rhythm, Daugherty supports the solo timpani by elaborating various musical themes using syncopated figures and big band inspired brass textures throughout the ensemble in the fourth variation. The big band jazz effect is achieved through *glissandi* passages in the French horn parts that resolve on accented notes extending across bar lines, incorporates accented double-sixteenth note figures in the trumpet and trombone parts, and doubles the primary syncopated off beat pattern of the *guaguancó* throughout the low brass section.¹²⁹ Additionally, Daugherty enhances the syncopated feel by placing dotted eighth notes after sixteenth-note rests, accenting the final beat of dotted-eighth-sixteenth-note figures, and incorporating short sixteenth-note patterns in the woodwinds to introduce a livelier, lighter layer of syncopation.¹³⁰ These collective elements contribute to the energetic and stylistically rich character of the final variation, showcasing Daugherty's blend of Latin jazz style music in this *concerto*.

¹²⁷ John Storm Roberts, "*Guaguancó* in Latin Jazz: The First of Fusion, 1880s to Today" (New York: Schirmer Books, 1999), 253

¹²⁸ José Eladio Amat, *Afro-Cuban Percussion Workbook* (Barcelona: DINSIC Publications Musicals, 2006), 40

¹²⁹ Chia-Hao Hsieh, "Michael Daugherty's Concerto *Raise the Roof* for Timpani and Symphonic Band (2007): Analysis and Performance Guide" (DMA diss., University of Washington, 2010), 47-48

¹³⁰ *Ibid*, 48-49.

Implements

Daugherty requires the soloist to change timpani mallets throughout *Raise the Roof* (2003) to match his intended musical style of each variation. Similarly to Kraft's *concerto*, Daugherty asks for specific implements to help shape the characteristics and expressive nature of each variation throughout the *concerti*, rather than treating mallet choice purely as a technical matter. In his program notes, Daugherty specifically asks for soft and hard felt timpani mallets, hands, wire brushes, and maraca sticks.¹³¹

Each variation of *Raise the Roof* (2003) requires different implements to be used to showcase the extended technique featured in each variation. For the introduction, based on Daugherty's program note, the soloist should use soft timpani mallets when performing a suspended cymbal roll on top of the timpano. However, the author and other performers suggest using soft vibraphone, marimba or timpani mallets with thick layers of yarn or felt when rolling on the suspended cymbal.¹³² Either mallet will allow the soloist to perform the soft roll at the quieter dynamics indicated in the timpani part.

Following the introduction, the first variation with the plainchant melody should be performed with soft or medium-soft timpani mallets. This range of mallets generate a warm, heavy sound when striking the timpani which corresponds to the theme of the plainchant melodic phrases throughout the first variation.¹³³ The exact use a "soft" or "medium-soft" mallet is purely up to the interpretation of the soloist, if the softest set of mallets selected to be used in their mallet selection is used in the first variation, it will match the dynamic shaping of the *concerto*.

¹³¹ Michael Daugherty, "*Raise the Roof*: Program Note" (New York: Boosey and Hawkes, 2007).

¹³² Chia-Hao Hsieh, "Michael Daugherty's Concerto *Raise the Roof* for Timpani and Symphonic Band (2007): Analysis and Performance Guide" (DMA diss., University of Washington, 2010), 83

¹³³ Ibid, 83

The second variation features the faster *basso ostinato* figure of the *concerto*. A medium to medium hard rounded or cartwheel shaped timpani mallet is suggested to create a “pointed,” *staccato* sound is recommended for this variation.¹³⁴ The author recommends selecting a mallet in the medium to medium-hard range of mallets because the second variation should have a separate characteristic sound compared to the first variation with the plainchant melody and the bombastic *cadenza*.

The *cadenza* should be the prominently louder and more energetic sounding section of the entire *concerto*. Because the soloist must maintain a consistent sound and extended range of motion across the drums, a small wood head mallet with either light wood or bamboo handles is suggested for the solo section to produce a lively timbre to aid in the shaping of phrases throughout the *cadenza*.¹³⁵

The third variation following the *cadenza* features the soloist performing slow rolls that are meant to accompany a featured saxophone quartet ensemble before doubling the melodic figures found in the fugue section of this variation. A heavy, softer mallet can be used to support the ensemble in this variation.¹³⁶ However, due to the quick transition from the rolled *glissandi* at the end of the *cadenza* into the third variation, the author suggests using the same lightweight wood mallet used in the *cadenza* with a lighter “touch” when striking the drums can be used in throughout this variation. This selection is preferred by the author because the rhythmic passage found in mm. 333-351 requires powerful, articulated downbeats while maintaining a light sustain before and after striking the different drums.

¹³⁴ Ibid, 83

¹³⁵ Ibid, 84

¹³⁶ Ibid, 84

The fourth and final variation with the *guaguancó* section is notated by Daugherty to be played with a pair of wire brushes and maraca sticks. Daugherty notates that the performer must perform two sections featuring the *guaguancó* pattern twice, once with wire brushes (mm. 372-397) and again with maraca sticks (mm. 400-442). Wire brushes first emerged as a substitution for sandpaper blocks, which were commonly used to accompany slow dances. The earliest known example dates to a 1912 Milwaukee patent for a device called the “fly-killer,” widely recognized as the first iteration of modern drum brushes. By the mid-1930s, brushes had gained widespread acceptance amongst drummers to expand the expressive and musical possibilities performed on drum set and other percussion instruments.¹³⁷ Typically applied in jazz drum set settings, wire brushes became an increasingly common implement in classical literature sometime during the twentieth century, being featured in compositions like William Kraft’s *Concerto for Timpani and Orchestra, No. 1*.

Daugherty’s inclusion of maraca sticks likely in reference to Leonard Bernstein’s innovative technique in using maracas to strike the timpani first introduced in the mid-twentieth century, featured in sections of his first symphony, “*Jeremiah*” (1944), as well as his Symphony No. 2, “*The Age of Anxiety*” (1949), and “*West Side Story*” (1957).¹³⁸ In the twenty-first century, the development of *maraca* timpani mallets have become mainstream products, produced and sold by several different percussion manufacturers, including *Freer Percussion*, *JG Percussion*, *MG Mallets*, and other percussion companies and individual percussionists. These specialty

¹³⁷ Gary D. Cook, *Teaching Percussion*, 3rd ed. (New York: Schirmer Books, 2005), 295

¹³⁸ James Blades, *Percussion Instruments and Their History*, new and revised ed. (London, Faber and Faber, 1975), 426

mallets are either made of hollow fiberglass handles or hollow round timpani heads filled with either sand or rice that produce sizzling sounds¹³⁹ to emulate the sound of maracas.

Daugherty's selection of mallets and other implements significantly contributes to the distinct identity of *Raise the Roof*. His inclusion of hands, wire brushes, and maraca mallets extends the expressive capabilities of the timpani and allows the soloist to explore a broader range of musical colors and timbre on the instrument in the twenty-first century.

¹³⁹ Chia-Hao Hsieh, "Michael Daugherty's Concerto *Raise the Roof* for Timpani and Symphonic Band (2007): Analysis and Performance Guide" (DMA diss., University of Washington, 2010), 84

Chapter 4

Conclusion

William Kraft's *Concerto for Timpani and Orchestra, No. 1* (1984), and Michael Daugherty's *Raise the Roof* (2003), have played crucial roles in the development of the timpani *concerti* genre, both historically and pedagogically. While there are generational differences between the two works, particularly in the quantity of drums, specific notation techniques, and variety of implements, the similarities between the two are profound. Both composers sought to elevate the timpani from its traditional role as a background instrument to that of a prominent solo voice in an ensemble setting, contributing to the expansion of the timpani's expressive potential. Through their technical, compositional, and pedagogical innovations, Kraft and Daugherty not only advanced the potential of the timpani but also showcase their distinct artistic perspectives that underscore their individual contributions to the shared vision of the instrument's future, as well as the subtle differences that mark their individual contributions.

Kraft's *Concerto for Timpani* (1984) was groundbreaking for its inclusion of other percussive techniques and the expansion of sounds produced on the instrument. The work introduced innovative extended techniques including the use of newfound implements, four-mallet rolls, musical *glissandi* passages, and rhythmic freedom in the "run amuck" sections. These innovations not only expanded the technical vocabulary of the timpani but also set a new standard for performers, requiring them to develop precision, creativity, and versatility in their playing. Daugherty's *Raise the Roof* (2003) inherited these techniques and advanced them by incorporating expanded musical phrases, a wider range of implements, such as wire brushes and maraca mallets, a variety of musical styles, modern rudiments, and written stickings to guide performers through complex rhythmic passages. These innovations helped redefine the

pedagogical challenges of modern timpani performance, allowing timpanists to engage with a broader spectrum of sounds and extended techniques.

Both Kraft and Daugherty placed the timpani at the forefront of their respective compositions, emphasizing its technical and expressive potential in both the orchestral and wind band settings. Kraft's *concerto* follows a more traditional three-movement structure, with distinct challenges in each movement—ranging from the intimate cadenza at the beginning to the wild rhythmic freedom in the third movement. Daugherty, however, embraced a more modern approach, opting for a single-movement structure that blends multiple variations of two main themes, reflecting a more fluid, continuous narrative. This shift in structure reflects the evolving compositional styles of their respective periods, with Kraft's work grounded in the traditions of the twentieth century and Daugherty's showcasing the eclectic and experimental tendencies of the twenty-first century.

Despite these similarities, there are notable differences in how these techniques are presented and notated in both of their *concerti*. While Kraft laid the groundwork with advancements in extended and compositional techniques like notated drum setup and pitch changes, glissandi passages, and encouraged creative freedom, Daugherty's use of these elements is more integrated into a modern, diverse musical landscape, blending genres and embracing more rhythmic complexity. Daugherty takes the advancements of Kraft's *concerto* and refines them further, incorporating his desired written stickings throughout the *cadenza* section of his *concerti*, a pedagogical tool providing additional guidance for performers, ensuring greater precision and consistency in execution of the difficult *cadenza* section that is absent from Kraft's work. Furthermore, Daugherty's suggested inclusion of modern rudiments, found in the

PAS International Drum Rudiments, and his use of unconventional implements (e.g., rolling a cymbal on top of a timpani) bring a distinct twenty-first-century identity to his *concerto*.

Both Kraft's and Daugherty's *concerti* exemplify their shared idea to elevate the timpani as a solo instrument, expanding its expressive and technical range. Their *concerti* challenge performers to master an array of extended techniques and implement creative sound possibilities, from mallet changes and pedal techniques to rhythmic freedom and complex stickings. Pedagogically, both *concerti* provide an extensive range of material for training the advanced timpanists, offering opportunities to explore the full sonic palette of the instrument. However, the differences in structure and notation reflect each composer's unique approach, with Kraft's *concerti* adhering more to traditional *concerti* forms and Daugherty's work embracing a more contemporary, less conventional style.

The lasting pedagogical and historical impact of both works cannot be overstated. Kraft's *Concerto for Timpani*, set the foundational standards for twentieth-century timpani *concerti*, incorporating innovative techniques that pushed performers to new levels of mastery. While Daugherty's *Raise the Roof* on the other hand, built upon this foundation, expanding the technical and expressive possibilities of the timpani in the twenty-first century. By incorporating more diverse implements and modern rudiments, Daugherty not only reflects the changing landscape of contemporary music but also continues to push the boundaries of what is possible on the timpani. Moving forward, the innovations introduced by both composers will continue to shape the future of timpani *concerti*, with each new work pushing the instrument further into the realm of solo performance and pedagogical exploration.

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Appendix A

Selected list of Timpani Concerti from 1901-2023

Listed chronologically by year of composition:

Thärichen, Werner. *Timpani Concerto, Op. 34*. 1954.

Kraft, William. *Concerto No. 1 for Timpani and Orchestra*. 1984.

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Kagel, Mauricio. *Konzertstück for Timpani and Orchestra*. 1990–92.

Glass, Philip. *Concerto Fantasy for Two Timpanists and Orchestra*. 2000.

Peck, Russell. *Concerto for Timpani and Orchestra (Harmonic Rhythm)*. 2000.

Peterson, Russell. *Concerto for Timpani and Orchestra*. 2002.

Daugherty, Michael. *Raise the Roof*. 2003.

Rosauro, Ney. *Concerto for Timpani and Orchestra*. 2003.

Boznos, James. *Concerto for Timpani, Roto-toms, and Orchestra, Op. 7*. 2003.

Kraft, William. *Concerto No. 2 for Timpani and Orchestra ("The Grand Encounter")*. 2005.

Actor, Lee. *Concerto for Timpani and Orchestra*. 2005.

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Boznos, James. *Concerto No. 2 "Pavilions" for Extended Timpani, Orchestra, and mp3, Op. 20*. 2019.

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