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Professor James Campbell, Major Professor
Dr. David Sogin, Director of Graduate Studies

A COMPREHENSIVE METHOD FOR TUNING AND PEDALING TIMPANI

MUSICAL ARTS PROJECT

A musical arts project submitted in partial fulfillment of the requirements for the degree of Doctor of Musical Arts in the College of Fine Arts at the University of Kentucky

> By Brandon Michael Arvay

Lexington, Kentucky

Director: James B. Campbell, Professor of Music

Lexington, Kentucky

2015

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ABSTRACT OF DISSERTATION

A COMPREHENSIVE METHOD FOR TUNING AND PEDALING TIMPANI

Method books are an integral part of the percussion pedagogy. Because of the vast number of instruments a modern percussionist is expected to play, they often look for progressive, concise, and effective resources that can make learning such a variety of instruments more efficient. Instructional books currently exist for many areas of percussion performance, including snare drum, mallet percussion, timpani, World music, accessories, and marching percussion. Included in these books are information and procedures on music reading, rhythm studies, listening skills, part preparation, and technical approach. Focusing on timpani methods specifically, many of these books include tuning and pedaling exercises and etudes. However, their pedagogies for the execution of such difficult procedures are superficial and focus primarily on technical prowess. Timpani are the only Western pitched instruments a percussionist is required to tune, which proves intimidating for many players. Moreover, the aural and technical demands of the contemporary timpanist are ever-increasing with the technical demands found in modern composition. This dissertation will address the skills and techniques for tuning and pedaling timpani ignored by current method books and provide the timpanist with a process through a systematic set of etudes with audio accompaniment tracks. The goals of this method are to target the specific set of skills needed by the timpanist for accurate and effective timpani tuning in a modern ensemble setting.

KEYWORDS: Timpani, Method Books, Maintenance, Tuning, Pedaling

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May 4, 2015
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A COMPREHENSIVE METHOD FOR TUNING AND PEDALING TIMPANI

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PART ONE

CHAPTER ONE: MAINTENANCE

INTRODUCTION

Timpani are the only pitched Western instruments a percussionist is required to tune. There is a lack of access to timpani in most educational settings until the students reach high school. Even then, familiarity with the instruments is not comfortable because only one student can play them at a time. For these reasons, the instrument has become an area many percussionists have come to avoid because they lack the confidence to perform the task of tuning. Of course, percussionists are musicians with ear training not unlike those of their colleagues who specialize on other instruments. However, it is putting these skills to quick and effective use on a set of timpani that most discourages students.

Jennifer Hotz, a Music Education major at the University of Tennessee at Martin recently surveyed 127 college percussion professors from around the United States looking for the "perfect university percussion method book," of which, 59 total respondents participated. The six timpani method books most frequently used were Saul Goodman's *Modern Method for Tympani*, Mitchell Peters's *Fundamental Method for Timpani*, Raynor Carroll's *Exercises, Etudes, and Solos for the Timpani*, Vic Firth's *The Solo Timpanist*, Richard Hochrainer's *Etuden for Timpani*, and Alfred Friese and Alexander Lepak's *Timpani Method*. It is interesting to note that Steve Weiss Music, a major percussion retailer, shows a total of 122 timpani method books, which do not include play-along audio files in current circulation; four methods books do include play-

¹ Jennifer Hotz, "Choosing the Perfect University Percussion Method Book," (Thesis., University of Tennessee at Martin, 2013), 1.

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along files. Of 126 total timpani books, the most used book received only 25 responses, suggesting 42% of schools use the Goodman book. The sixth most used book on Hotz's chart has only 10 responses, suggesting that 17% of schools use the Friese/Lepak timpani book. With such a variety of timpani books on the market, but so few making their way into many classrooms, method books for timpani lack a clear market-leader. Because these six method books are the most used texts in American colleges and universities, they serve as the primary references for this document.

These six books have been staples in the percussion pedagogy and offer much in the way of technical information, but none offer a truly thorough pedagogy for learning to tune and pedal on timpani. *Fundamental Method for Timpani* includes a few brief paragraphs on "tuning markings, pedal facility, and changing pitch from notes already tuned." However, the entries lack depth and do not offer much of a progression from beginning to advanced tuning skills. *The Solo Timpanist* offers melodies to pedal, but do not graduate the etudes leading up to these melodies. The only extant method book specifically for tuning timpani is Francois Dupin's *Ear Training for the Kettledrummer*. However, it is cluttered with symbols and does not include a maintenance section or playalong audio. It is interesting to note that though tuning is an imperative skill for the timpanist, this book is the 34th most popular timpani book on

http://www.steveweissmusic.com.⁵ Stanley Leonard, PAS Hall of Fame member and former timpanist of the Pittsburgh Symphony Orchestra, published his *Pedaling*

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² Mitchell Peters, Fundamental Method for Timpani (California: Alfred, 1993), 70.

³ Vic Firth, *The Solo Timpanist* (New York, NY: Fischer, 1963).

⁴ François Dupin, Ear Training for the Kettledrummer (Paris: Alphonse, 1982).

⁵ Steve Weiss Music, "Timpani Method Books," Steve Weiss,

http://www.steveweissmusic.com/category/timpani-books/a (accessed December 2014).

Technique for the Timpani in 1988, which has served as the primary handbook for learning to pedal on timpani. It includes many exercises and a few orchestral excerpts that employ pedaling skills. It also includes some information on the types of timpani and mechanical operation of the drums. The book does not offer any accompaniment tracks for which to practice tuning, a critical skill that could be enhanced with the inclusion of play-alongs. The exercises assume some form of prior tuning and pedaling skill. The maintenance discussion within the book is superficial and does not offer any detailed information on the functions of the parts of the drums.⁶

This document aims to provide a comprehensive method to acquire the necessary skills required to effectively manage playing timpani in the current musical landscape, which continues to challenge the tuning abilities of the modern timpanist. It is important that the timpani are in proper working order and sound their best before playing them. Therefore, it is important to know how to use and maintain the timpani and its many parts. The first chapter establishes a vocabulary of terms associated with timpani and timpani maintenance, outline operating instructions for the various mechanisms on the timpani, and how-to guides on maintaining timpani heads. The second chapter of this dissertation includes 16 progressive tuning etudes intended for use during a typical 16-week semester. These etudes are designed to establish the proper tuning procedure and slowly reduce the amount of time it takes to make tuning changes. These tuning etudes lead directly into the third chapter of the document, which focuses on pedaling. The Pedaling chapter continues building on the skills learned in Chapter Two and continues developing the timpanist's tuning dexterity and facility. All 32 etudes include two play-

⁶ Stanley Leonard, *Pedal Technique for the Timpani*, (Cleveland, OH: Ludwig Masters, 1988).

along tracks that help provide a realistic performance environment and assist in the development of the tuning and pedaling processes. By performing all 32 etudes and understanding all the concepts involved in their performance, the timpanist will be able to confidently tackle tuning and pedaling in any challenging timpani composition.

A BRIEF HISTORY OF THE TIMPANI

The development of the timpani is an extensive history of experimentation and standardization spanning more than 300 years. The timpanist must understand the story of the instrument to fully appreciate it as it exists today. Timpani first appeared on the performance stage in 1675 A.D. with Jean-Baptiste Lully's opera, *Theseé*. They were used in battle scenes throughout its early life on the opera stage. Before their premiere onstage, nakers, the ancestor to the timpani, were found on horseback well before the Sixteenth Century, embedded with military cavalry as a prime source of communication during battle. Foot soldiers would march to the dominant - tonic beat of the pair of nakers. This interval was synonymous with the harmonic overtone series used by early horns. Nakers were based on the Fourth Trumpet parts because of their range and musical content. These instruments needed to be compact and light enough for sustained support by a horse. The cavalry timpani were not too dissimilar to modern day instruments as they also had a bowl made of either copper or silver metal and a single head.

The thick animal skin drum heads were secured to the bowl with nails. This method of securing the instruments prevented the pitch of the drum from being changed without removing the nails, shifting the skin, and reinstalling the nails. The timpani were tuned in intervals of a perfect fourth or perfect fifth because of the pervasive Classical harmonies of the major and minor modes. The tonic note of the pair was dictated by a number of factors, including the diameter of the head, the depth of the bowl, and the weather effects on a natural skin head. The implements used to strike the drums also

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⁷ James Blades, *Percussion Instruments and Their History* (Connecticut: The Bold Strummer, Ltd, 2005), 236.

⁸ Ibid., 233.

⁹ Ibid., 223.

expanded with the instruments. Early beaters were either rounded or squared sticks often made of ivory or wood.



Figure 1.1 – Nakers¹⁰

The timpani were adopted by Lully, Purcell, and Bach¹¹ as a permanent member of the opera and symphony orchestra and began to take on a number of forms. The inability to change pitches posed a particular problem with the construction of the instruments. Developments in the manufacturing of instruments include the production of larger bowls and larger diameter heads that resulted a lower range. Timpani were also given a stand or legs to support the instruments on the floor of the performance hall. Perhaps the most important development of the instrument occurred in the Sixteenth Century with the addition of screw tensioning. ¹² These screws could be individually turned by hand or with a device to raise and lower the pitch of the drum. This new ability to change the pitch of one set of instruments became a point of innovative focus. Composers such as Joseph

¹⁰ World Musical Instrument, "Roosebeck Nakers," World Musical Instruments, http://www.worldmusicalinstruments.com/Roosebeck-Nakers-pair_p_1249.html (accessed December 2014).

¹¹ Ibid., p. 234.

¹² Ibid., p. 230.

Haydn, ¹³ Wolfgang Amadeus Mozart, and Ludwig van Beethoven took advantage of this new ability by writing in parts that require tuning changes during the piece or between movements.



Figure 1.2 - Baroque Style Hand Screw¹⁴

Manufacturers also made developments in the mallets used in the Classical Period. Mallets were being made of boxwood and other softer materials resulting in sweeter, more pleasant sounds. Manufacturers went on to improve the screw system from one that required the turning of many individual screws to "machine timpani," which are equipped with a mechanism for changing the tension on all the screws simultaneously. In 1815, Johann Stumpff invented a rotary style drum involving the rotation of the bowl and counter hoop for changing pitch. Another mechanical invention utilized a series of tuning rods attached to a central post that controlled head tension with a lever. These ideas were briefly popular, but presented several problems. The timpanist could now turn one

¹⁴ Adams Musical Instruments, "Baroque Set 2," Adams Musical Instruments, http://www.adams-music.com/pf/products/timpani/baroque/pp_baroque_set2.jpg (accessed December 2014).

¹³ Ibid., p. 259.

¹⁵ Rob Bridge, "Timpani Construction Paper," Rob Bridge, http://myhome.sunyocc.edu/~bridger/morepages/subpages/timpconstpaper.pdf (accessed December 2014), 4.

master tension screw to adjust all the individual screws. A single chain was connected to each tuning screw. One of these screws had a large T-shaped handle attached to the top for easy access by the player. When the player turned the handle, the chain would turn with it around the drum to tighten or loosen the screws. This innovation minimized the time it took the performer to change pitches during a long period of rest or between pieces. As a result, the timpanist was given more notes to play in a piece and offered an expanded harmonic vocabulary for the instrument. However, this mechanism still required the player to use at least one hand to change pitches, usually resulting in pitch changes occurring only during a resting period.



Figure 1.3 - Chain Style¹⁶

German mechanic August Knocke developed the first foot-operated tuning device in 1843.¹⁷ The device involved a series of gears activated by turning a wheel with the foot. This system was rather complicated and led to the development of the Dresden

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Precision Classic Timpani, "Chain Timpani," Precision Classic Timpani,
 http://www.pctimpani.com/images/pc14_PCT_26inch.jpg, (accessed December 2014).
 Ibid., 7.

model pedal in 1881 by Carl Pittrich.¹⁸ The system involves a clutch, the foot pedal, ratchet, and mechanical couplings. This provided a smooth and reliable change of pitch with the foot. Additionally, the player could now perform pitch changes while playing the drum.



Figure 1.4 - Ratchet Style Pedal¹⁹

Small improvements were made to this system by removing the ratchets and replacing them with a cable system. The device could now stop at any position resulting in a more accurate tuning. More recently, timpani manufacturing standards have developed further refinements, including the size of instruments and heads, pitch changing mechanisms, and mallet manufacturing techniques and materials.

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¹⁸ Ibid., 9.

¹⁹ Adams Musical Instruments, "Baroque Set 2," Adams Musical Instruments, http://www.adams-music.com/pf/products/timpani/timpani_pauken_phil_ped3_b.jpg (accessed December 2014).



Figure 1.5 - Dresden Style Pedal²⁰

Because of the expanded use of the timpani by marching bands and pit percussionists, portable timpani systems have been developed for making the drums easier to transport without sacrificing tone quality. All of these innovations further expanded the rhythmic, melodic, and harmonic possibilities of the timpani.



Figure 1.6 - Portable Balanced Action Pedal²¹

²⁰ Adams Musical Instruments, "Pauken Philharmonic Pedal 1," Adams Musical Instruments, http://www.adams-music.com/pf/products/timpani/timpani_pauken_phil_ped1_a.jpg (accessed December 2014).

²¹ Yamaha Corporation, "3100 Series Timpani," Yamaha Corporation, http://usa.yamaha.com/products/musical-instruments/percussions/timpani/tp-3100 series/?mode=enlarge (accessed January 2015).



Figure 1.7 - Parts Diagram²²

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²² Evans, "Evans Strata 2450," Evans Drum Heads, http://s1.lonestarpercussion.com/resize/images/product-image/Evans-EST2450.jpg (accessed February 2015).

PARTS OF BALANCED ACTION TIMPANI

It is important for all timpanists to have a basic understanding of the mechanical components that are responsible for changing the pitch of the drum. If the mechanics of the timpani are not functioning properly, it will be difficult to tune the drums accurately and rely on them for optimal tone quality. According to steveweissmusic.com, lonestarpercussion.com, and percussionsource.com, the three largest percussion retailers in the United States, Adams Revolution Timpani²³, Adams Professional Generation II Cambered Copper Timpani²⁴, Yamaha Professional Series Hammered Copper Timpani, Ludwig Grand Symphonic Timpani, and Ludwig Professional Hammered Cooper Timpani are the most popular models used around the country. Because these current models of balanced action pedals contain similar parts and engineering components, they are the focus of this document. However, all of the aspects of maintenance included in this document can be modified to fit any set of timpani.

Head

All timpani produce their characteristic sound by using a mallet to strike a surface known as the drum *head*. The body of the head was originally constructed of a variety of animal skins before the invention of the material Mylar in the 1950s by the DuPont company²⁶.

²³ Lone Star Percussion, "Timpani," Lone Star Percussion,

http://www.lonestarpercussion.com/Concert/Timpani/#/~search/page/1/view/listView/allAttribute s/Diameter:29-1;Diameter:26-1;Diameter:23-1;Diameter:20-2;Diameter:32/sort/Popularity%2Cf (accessed December 2014).

²⁴ Percussion Source, "Timpani Drums by Ludwig, Yamaha, Majestic, and Adams," Percussion Source, http://www.percussionsource.com/s/concert-percussion-timpani#dept=23&&att=786&page=6 (accessed December 2014).

²⁵ Steve Weiss Music, "Timpani," Steve Weiss Music,

http://www.steveweissmusic.com/category/timpani (accessed December 2014).

²⁶ DuPont, "Mylar," DuPont, http://www2.dupont.com/Products/en_RU/Mylar_en.html (accessed January 2015).

This plastic material is currently the industry standard head,²⁷ though animal skin heads are still available for purchase.

Flesh Hoop

The *flesh hoop* is a thin strip of metal on which the head is mounted.²⁸ This hoop is important to the process of changing pitch on timpani. When the pitch is lowered on a drum, the counter hoop relaxes its tension on the flesh hoop, allowing the head to release tension, therefore, lowering the pitch. When the pitch is raised on a drum, the counter hoop pulls down on the flesh hoop causing the head to pull down over the bearing edge, increasing the tension on the head and resulting in a higher pitch.

Counter Hoop

The head is snuggly fitted into a *counter hoop*. The counter hoop, or rim, is "roll-formed of heavy gauge steel with a 90-degree angle edge." When pressure from the pedal mechanisms is applied, the counter hoop either pulls down or relaxes evenly on the flesh hoop of the head, adding or alleviating tension on the head, which results in a higher or lower pitch.

Bowl

The main body of the instrument is a large copper *bowl*. According to Richard K. Jones, the bowl serves as a baffle, preventing the sound of the top and bottom of the head from

²⁷ Remo, "Clear," Remo, http://remo.com/portal/products/3/10/89/364/ty_clear.html (accessed December 2014).

²⁸ Merriam-Webster, "Dictionary," Merriam-Webster, http://www.merriam-webster.com/dictionary/flesh%20hoop (accessed December 2014).

²⁹ Ludwig, "Timpani Owner's Manual," Ludwig Drums, http://www.ludwigdrums.com/pdf/av1452.pdf (accessed December 2014).

interacting and canceling each other out.³⁰

Bearing Edge

The top-most part of the bowl is called the *bearing edge*. The bearing edge curves over itself to make a smooth surface where it makes contact with the head.

Collar

The *collar* of a timpani head is the area between the flesh hoop and the part of the head which contacts the bearing edge. Instruments produced after 1978 became standardized and utilize an extended collar - the heads extend two inches beyond the bearing edge. This extra material alleviated stresses on the head allowing for greater resonance. "The profile collar further extends the head beyond the edge of the bowl providing greater resonance, pitch definition, range, and ease of tuning. This innovation allows the head collar to flex over the bowl edge easily, instead of being forcibly drawn downward." Lugs

The counter hoop contains holes through which the lugs pass. Lugs, which have maintained a similar square head design³² since the first lugs were used in the Sixteenth Century, are large screws used for securing the counter hoop to the tension rods concealed within the struts of the frame.

³⁰ The Well-Tempered Timpani, "The Timpano Bowl," Richard K. Jones, http://wtt.pauken.org/?page_id=3096 (accessed December 2014).

³¹ Ludwig, "Timpani Owner's Manual," Ludwig Drums, http://www.ludwigdrums.com/pdf/av1452.pdf (accessed December 2014).

³² Blades, Percussion Instruments and Their History, 2005, 231.

Tuning Rods

Tuning rods³³ are long, thin rods that pass through the tuning joint and are connected to the tension transfer rods. These long rods are vertically positioned inside the struts, moving up and down with the motion of the pedal to raise or lower the pitch of the timpano. Tuning rods are connected to the tuning joint with a head screw.

Head Screw

The *head screw* is inserted through the tuning joint and into a tuning rod. The screw is used to adjust the angle of the tuning joint. Turning the screw clockwise increases the angle of the joint. When this angle increases, the vertical motion of the tuning rod is limited, resulting in a smaller pitch range. Turning the screw counterclockwise decreases the angle. The smaller the angle, the greater the range of motion of the joint and the greater the pitch range of the instrument. These screws must be adjusted when the angles are different from one tuning joint to the next.

Tuning Joint

The *tuning joint*³⁴ is a rocking arm that pushes and pulls the tuning rods. A lug is screwed into a large hole in the center of the tuning joint. A head screw, which enters a tuning rod on the other side of the joint, enters through a smaller hole on one side of the tuning joint. The other side of the tuning joint is secured with a pin to the strut. This system creates a pivoting arm that moves up and down to raise or lower the pitch.

Struts

Struts are long, heavy-duty frame components that extend vertically from the base of the

33 Yamaha, "Parts List Search System," Yamaha TP-7220, http://parts-search.yamaha.co.jp/html/WIND_ENGLISH/orders/Product/Model/model_e.php?model_code=T P-7220 (accessed December 2014).

³⁴ Yamaha, Parts List Search System.

frame to the suspension ring. Struts support the weight of the bowl, head, and gauge.

Suspension Ring

The *suspension ring* is a circular feature at the top of the struts to support the bowl. The bearing edge of the timpano rests on the suspension ring to suspend, or "float", 35 the bowl above the base. This ring helps to increase resonance of the instrument.

Base

The *base* of the frame is located under the bowl of the instrument. The base provides support for the struts and provides appealing aesthetics by concealing some of the smaller mechanisms while protecting them from their environment. Casters are attached to small appendages on the base for easy transportation.

Spider

The tuning rods, running vertically and concealed inside the struts, connect each lug to the more horizontally positioned tension transfer rod. These two rods work in tandem to connect the action of the lug to what is known as the *spider*. The spider is centrally located under the bowl and is either on top of the base (Ludwig and Adams) or hidden under the base (Yamaha).³⁶ The spider is the point at which all tension transfer rods are connected.

Central Pull Rod

The spider is located on top of the *central pull rod*. This pull rod moves vertically and adjusts all the tension transfer rods simultaneously. When the pull rod moves up, the transfer rods push up on the lugs and counter hoop causing the head to relax, resulting in a lower pitch. When the pull rod moves down, the transfer rods pull down on the lugs and

³⁵ Ludwig, Timpani Owner's Manual, 7.

³⁶ Yamaha, Parts List Search System.

counter hoop causing the head to tighten, resulting in a higher pitch.

Pedal Rod

The central pull rod is connected to a *pedal rod*³⁷ located under the pedal hidden under the base. The pedal rod connects the pedal to the central pull rod. The pedal rod exists only on Ludwig and Adams models because of the location of the spring on the base. On Yamaha timpani, the Linkage Plate Assembly located under the pedal is responsible for transferring the pedal motion to the central pull rod.³⁸

Spring Coil

The tension of this "spring counteracts the tension of the head, allowing the player to freely change the pitch (note) of the instrument in an instant. When the pedals are moved, the pitch of the head will change, and the balance spring ensures that the pedal angle (pitch) will not change when you remove your foot from the pedal."³⁹ For Yamaha timpani, the spring is located under the pedal. For Adams and Ludwig instruments, the spring is located on the base above the toe of the pedal.

Pedal

The *pedal* of the timpano is attached to the frame's base and is responsible for changing the pitch of the drum with the use of the foot. When the toe is pressed, the head tension increases, resulting in a higher pitch. When the heel is pressed, the head tension relaxes and results in a lower pitch.

Pedal Adjustment Clutch (PAC)

The ease of the pedal motion can be adjusted with the *pedal adjustment clutch (PAC)*, a

³⁷ Adams, "Timpani Manual," Adams, Manual_Timpani_Professional_II_English_1.1.pdf (accessed December 2014).

³⁸ Yamaha. Parts List Search System.

³⁹ Yamaha, *Nomenclature and Lubrication*, 7.

term used by the Yamaha Corporation. For Yamaha models, the adjustment is found on top of the base. On Ludwig timpani, called the *pedal pressure adjustment*, this adjustment is located in the base, under the pedal heel plate. 40 Adam's new Professional Generation II model does not come equipped with such an adjustment. ⁴¹ This adjustment, no matter the manufacturer, requires the use of a timpani key on most models. Two exceptions to this are the Yamaha TP630 and TP7300 models released in 2014. They feature the PAC on the top of the base and require a simple turn of a knob without the aid of a kev. 42

Spring Tension Adjustment (STA)

The spring tension adjustment has a primary role in the overall concept of the balanced action pedal system. The tension on the drum head and the tension on the spring must be balanced for the pedals to be held in-place and to operate smoothly. This adjustment is found under the heel of the pedal within the frame on Yamaha timpani. On Adams and Ludwig timpani, the spring tension adjustment can be found atop the base identified by its large knob.

Tuning Gauge

Today's timpani come equipped with tuning gauges mounted on the suspension ring.⁴³ The gauge is used to indicate the pitch of the drum by moving the pointer⁴⁴ between pitch indices - marked by capital letters that correspond with the appropriate

⁴¹ Adams, *Timpani Manual*, 3.

⁴⁰ Ludwig, Timpani Owner's Manual, 2.

⁴² Yamaha Corporation, "TP-6300 Timpani Owner's Manual," Yamaha Corporation, http://usa.yamaha.com/products/musical-instruments/percussions/timpani/tp-6300/ (accessed January, 2015), 22.

⁴³ Yamaha Corporation, "Parts Listing TP-6220," Yamaha Corporation, http://partssearch.yamaha.co.jp/html/WIND ENGLISH/orders/Product/Model/model e.php?model code=T P-6220 (accessed (January 16, 2015), 2.

⁴⁴ Adams, Timpani Manual, 8.

range on the particular drum - with the action of the pedal. The pointer moves up on

the gauge when the pitch goes up and moves down on the gauge when the pitch goes

down. Depending on the modal of the instrument, the gauge can be mounted on the

suspension ring immediately facing the player, or mounted on one of the sides of the

instrument. The gauge is particularly helpful during quick tuning changes and when

tuning while playing.

Casters

Many timpani models come equipped with *casters*. These wheels are typically made of a

hard rubber and provide a smooth ride for the timpani while being moved. 45 Timpani

typically have two wheels located opposite the pedal. Some models come with a third

wheel either permanently mounted under the pedal or with a removable third wheel.

Casters typically have locking mechanisms built in to keep the timpani secure

and stationary on angled floor surfaces.

TRANSLATIONS

American Common Usage: tympano (singular); tympani (plural)

Italian: timpano (singular); timpani (plural)

French: timbale (singular); timbales (plural)

Spanish: timbale (singular); timbales (plural)

German: pauken (singular and plural)

English: kettledrum (singular); kettledrums (plural)

⁴⁵ Ludwig, Timpani Owner's Manual, 4.

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RANGES

Each drum has a range of a Perfect 5th. This range is very general, as newer drums may be able to achieve a wider range of notes.

When the pedals are all heel-down (lowest pitches), a first inversion B-flat major triad is formed.



Figure 1.8 - Timpani Range Chart⁴⁶

TIMPANI HEAD SELECTION

A Brief History on Head Sizes

Before 1978, no standards existed for the sizing of the timpani. This made it difficult to compose for the extreme ranges of each drum because some models could play certain high or low notes while other models could not. In addition, finding the correct heads for a set of drums required careful measurements of the bowl diameter and consideration of the diameter of the counter hoop. However, according to the Percussion Equipment & Facilities National Standards, manufacturing companies in the 1970s began to standardize due in part to the explosion of percussion used in schools, performance venues, and society as a whole.⁴⁷ These standards included the American standard sizes

⁴⁶ John Beck, *Concepts for Timpani* (New York, NY: Fischer, 2001), 4.

⁴⁷ Percussive Arts Society, "National Standards," http://www.pas.org/docs/default-source/pasic-archives/ncpp-standards.pdf?sfvrsn=0 (accessed December 2015), 1.

of 32-inches, 29-inches, 26-inches, 23-inches, and 20-inches. ⁴⁸ These sizes are true for balanced-action pedals found largely in academic classrooms, but not typical of machine or Dresden-style pedal instruments, such as Adams Philharmonic, Walter Lights or the Yamaha 9000 series drums, typically found on the professional concert stage. Additionally, timpani post-1978 are made with extended collars- the counter hoop extends an additional two inches beyond the bearing edge of the bowl, providing a less severe angle between the flesh hoop and bearing edge; this flatter drum head allows for more resonance of the drum.

How to Identify The Correct Head Sizes to Purchase

When purchasing heads, it is important to know the make, model, and year of manufacturing of the timpani. Major head manufacturers Evans and Remo have made charts and online tools available to easily identify the appropriate model heads.⁴⁹ If access to these tools is unavailable, the easiest method for identifying the new head size is to simply use a tape measure to find the diameter of the flesh hoop. This measurement is the actual head size and can be used when ordering heads with any major manufacturer. It is important to know if the drums have an extended collar. To find this, simply measure the diameter of the bearing edge. This measurement is the actual size of the drum (bowl). Extended collar instruments have a difference of two inches between the measurement of the bearing edge (bowl size) and the head size. When ordering heads from a music retailer, the representative may ask if the heads are for "extended collar" instruments. This is simply a question of convenience to the customer. This question is

⁴⁸ Steve Weiss Music, "Timpani Head Size Guide," Steve Weiss,

http://www.steveweissmusic.com/product/timpani head size/articles (accessed December 2014).

⁴⁹ Remo, "Head Selection Table," Remo, http://remo.com/download/tympani_headselection.pdf (accessed January 2015).

asked to identify whether or not the heads need to be two inches larger than the diameter of the bowl. However, it may cause confusion with individuals unaware of the term "extended collar" or who may have limited basic knowledge of timpani in general.

General Considerations with Timpani Heads

Animal skin heads are typically made of the backbone and surrounding skin because of its strength and thickness. The thick backbone sits in the middle of the head and the thinnest parts sit at the edge of the head. Mylar heads receive a "backbone" indication that aligns with the direction the Mylar is stretched in the manufacturing process. No matter the head manufacturer, the backbone runs from 3 o'clock to 9 o'clock from the player's perspective. This ensures that the most resonant part of the head is located immediately in front of the player for easy access and consistency of tone.

Before placing the head on the instrument, take a moment to inspect the surface of the head, taking note of the smooth areas and the dimpled areas. The dimpled areas may cause inconsistency in the overtones heard and may influence the purity of the pitch, and should be placed in the *secondary channel*. The secondary channel is the space of the head which runs left to right of the player along the backbone. The smooth areas of the head should be placed in the *primary channel* of the head, perpendicular to the backbone. The primary channel is the initial point of vibration. Located at the space between the two lugs of the playing zone, this channel extends from the player's side to the opposite sidethink 6 o'clock and 12 o'clock. In the image below, the solid line indicates the secondary channel and the dotted line indicates the primary channel.

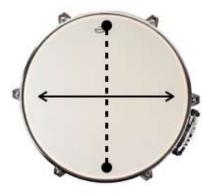


Figure 1.9 - Primary and Secondary Channels⁵⁰

Opaque heads provide a wide range of overtones, have a bright tone profile, and support a long, natural sustain of the pitch. The Remo company sells these heads as "Renaissance" or "WeatherKing Clear/Hazy" models. Evans sells this style timpani head under the name "Orchestral." Coated heads have a small, thin coating on them, giving them less overtones, a warm/dark tone profile, a focused tone, and more articulation. Remo names these heads "Renaissance Hazy" while Evans calls their version their proline, "Strata."

ITEMS FOR TIMPANI BAG

The following items are the most important tools for the timpanist during routine maintenance:

- Pitch pipe (C C)
- Tuning fork (A 440)
- Digital Tuner (w/ extra batteries)
- Timpani Key
- Tympanic Pressure Gauge
- Thin Braided Nylon Rope

⁵⁰ Premier, "Renaissance Head," Premier, http://orchestral.premier-percussion.com/catalogue/accessories/products_pictures/Renaissance%20Head.jpg (accessed February 26, 2015).

- Metal Spring Clamp
- Masking Tape
- Scissors
- Oversized Fishing Weight/Fishing Sinker
- Permanent Marker
- Streak-Free Glass Cleaner
- Paper Towels/Clean Cotton Cloth
- Baseball
- Teflon Tape
- Dry Lubricant
- Lighter
- White Lithium Grease
- Phillips and Straight Screwdrivers
- Standard and Metric Allen Wrenches

The bag used to store and transport these materials must be large and durable. A water-resistant nylon bag with two handles is ideal for the protection of absorbent and heavy items. It is important the bag has compartments for easy navigation and has padding to protect its contents.

The pitch pipe is an essential tuning tool. The range of C - C is recommended because the range of a typical set of timpani covers approximately two octaves of a pitches extending from C2 to C4. A pitch pipe is useful because it contains an entire octave of chromatic pitches, a helpful alternative to tuning strange intervals or during difficult listening environments during a piece.

A tuning fork is recommended for normal playing situations in which relative tuning is possible and comfortable for the player. The player uses the fork by listening to the pitch of the fork, hearing the interval relationship of the intended pitch and the tuning fork, and then tuning the drum to the intended pitch. A - 440 is the standard tuning for most

American orchestras, therefore, the timpanist should be familiar with this particular frequency.

Digital tuners are not to be used during performance. Rather, these tuners are useful during the head clearing process. When determining the range of the drum, it is important to have a dependable and accurate reading of the lowest and highest pitch before making adjustments to the tuning lugs. Additionally, digital tuners not only provide a quicker method for determining intonation, but do so with a digital readout. This readout displays a visual representation of the intonation, providing a more consistent and reliable reading than the human ear, which is quick to fatigue. Have an extra set of batteries for the tuner on-hand in case some fail during the head clearing process.

It is important to have the correct timpani key for the available set of timpani. Adams lugs, for example, are a specially designed hexagonal shape and require a unique hexagon-shaped key. These Adams keys are shipped with each drum and sit built into the base of the instrument. Ludwig and Yamaha share similar sized lugs of a square shape and can use either company's key to move the lugs. These square lugs are typical of the first lugs used in the Sixteenth Century. These keys are used to turn the lugs for head removal and replacement, and for changing the tension on the head. Timpani keys are also used to control the Pedal Tension Adjustment and Pedal Adjustment Clutch.

Tympanic pressure gauges are used in the process of clearing timpani heads. This device features a heavy-weighted base, edge gauge, and a numerical gauge. When the device is placed on the head, the tuning tip (a long rod connected to the gauge on one end and is exposed under the base on the other end) is pushed into the base. This moves the large needle on the gauge to give a numerical timpani pressure reading. The idea is for all the lugs on a single drum to achieve the same reading. The edge gauge is used to ensure the device is placed at the same distance from the bearing edge each time it is used.

Braided nylon rope is useful in an emergency where gauges are not installed or functioning on the timpani. The metal spring clamp is attached to a part of the pedal that will not interfere with the foot on the pedal. One end of the string is secured to the clamp. The other end of the string is tied to a fishing weight. The rope should be hooked over the two lugs closest to the player, allowing the weight to be suspended. The fishing weight should be suspended approximately one foot above the floor with the pedal is at its lowest heel position. Any rope thicker than 1/4" is unnecessary for this application.

The permanent marker is used to mark an indicator line on the string. This indicator will move to the left when the pitch goes down and will move to the right when the pitch goes up. The permanent marker should also be used to notate pitch letters on the masking tape indicator.

Masking tape can be placed along the counter hoop between the two lugs immediately facing the player. This tape acts as a temporary tuning indicator when the original is not operational or unavailable. It is important to mark the pitches with a permanent marker on the masking tape using a digital tuner for accuracy of the pitch. It is important to know the range of each drum when marking these tunings.

Scissors are included in the bag for cutting tape and for cutting the nylon string. Be sure the scissors have the strength and durability to cut through the string easily. Any cuts on the string should be made as cleanly as possible to prevent any fray.

An oversized fishing weight or fishing sinker is used in the assembly of a makeshift tuning gauge. The weight must be heavy enough to hold the weight of the nylon rope and must secure the rope in position. Also, the weight should have a hole large enough to accommodate the thickness of the rope.

Streak-free glass cleaner, such as Windex, is used to clean the timpani frame and timpani head. Dirt and grime build up on the frame of the instrument and must be removed regularly. In addition, timpani heads collect dirt and oil from having contact with the player's hands. Streak-free glass cleaner is powerful on dirt and oils, yet delicate on heads and the frame.

Paper towels and clean cotton cloths are used for cleaning the timpani frame and head. Paper towels must be strong enough to withstand use on the rough frame, but gentle enough to use on a Mylar head. Paper towels offer a disposable, yet delicate option for cleaning, while a cotton cloth offers a permanent and durable option, but requires regular washing.

A baseball (or wooden block) is used during the head changing process. It is a wedge, inserted between the toe of the pedal and the base. When head tension is released by

turning the lugs counterclockwise, the balance of the timpani mechanics is disrupted, forcing the toe of the pedal to slam downward. This is harmful to the instrument and it can be difficult to relieve this tension. The baseball eliminates the possibility of this forceful event and keeps the mechanics in a safe position.

Teflon tape (polytetrafluoroethylene) is another important invention of the DuPont Company. According to DuPont, the product was initially used as plumber's tape for sealing joints.⁵¹ However, in its application to timpani, a thicker version is used as a barrier between the head and the copper bearing edge. As the head slides over the bearing edge without Teflon tape, friction is created and makes an undesired squeaking sound. The Teflon tape prevents this build up of friction and provides a squeak-free musical experience. This clear tape is applied with the adhesive side on the bearing edge. The tape should be flat and smooth, absent of any buckles or bubbles. If properly installed and maintained, tape can withstand many different head installations before replacement is necessary.⁵²

Dry lubricant is used in the absence of Teflon tape during the head replacement process. It contains the same beneficial ingredient as the tape, a powder form of

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⁵¹ DuPont, "History of Plumber Tape," DuPont,

http://www2.dupont.com/Teflon_Industrial/en_US/history_plumber_tape.html (accessed January 2015).

⁵² Steve Weiss Music, "Timpani Teflon Bearing Edge Tape," Steve Weiss,

http://www.steveweissmusic.com/product/33306/timpani-bass-drum-parts (accessed January 2015).

polytetrafluoroethylene, better known by its trademark name Teflon.⁵³ This lubricant provides a frictionless barrier between the bearing edge and head providing silent performance.

A lighter is necessary in the assembly of a makeshift timpani gauge. After the rope is cut to proper length, the cut end may fray. If this occurs, simply hold the rope in the flame of the lighter for a moment until it catches flame. It is necessary to only light the tip of the rope to prevent further unraveling. The lighter should be easy enough to use with one hand, but safe enough to carry in a bag with combustible materials.

White lithium grease is used in the head replacement process. A small amount of grease is applied to the tip of each lug before it enters the tuning joint. This provides a smooth and easy tensioning of the lugs. The grease also serves to protect these metal joints and lugs from the formation of rust.⁵⁴ This grease can also be applied to all moving mechanical parts of the timpani, many of which can be found around the Pedal Adjustment Clutch and Spring Tension Adjustment.

Phillips and Straight screwdrivers are used to adjust any screws on the instrument. Screws are used on many of the built-in protective elements, including their use in securing the central cap to the base. Screwdrivers are used to tighten the head screws located at each

⁵³ The Home Depot, "9.3 oz. Dry Lube with PTFE Lubricant," homedepot.com,

http://www.homedepot.com/p/Blaster-9-3-oz-Dry-Lube-with-PTFE-Lubricant-16-

TDL/202532762 (accessed January 2015).

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http://www.homedepot.com/p/Lucas-Oil-8-oz-White-Lithium-Grease-10533/202535870 (accessed January 2015).

⁵⁴ The Home Depot, "8 oz. White Lithium Grease," homedepot.com,

lug. It is important to be prepared with both Phillips and Straight screwdrivers when using unfamiliar timpani, as different manufacturers and models may require different adjustments. The use of a powered screwdriver is discouraged for these delicate adjustments.

Standard and metric Allen (hex) wrenches are also necessary when using unfamiliar timpani. These wrenches are used in the regular maintenance of the frame of the timpani. Hex screws are a typically used to secure the struts to other parts of the frame. These screws loosen with normal wear and tear.

TIMPANI HEAD REPLACEMENT

With regular maintenance, timpani heads can last one year or longer. Always wipe down the heads with a clean cloth after playing to keep finger oils and dirt from accumulating. Replace heads that sound dull and which fail to fully resonate. Heads with dirt and grime should be replaced as soon as possible. A good rule for a school program on a small budget is to replace at least one head of the set each year.

Be sure to have a bag in which to keep all materials and devices needed for head replacement.

The following is a detailed sequence for replacing timpani heads:

- 1. Place a baseball under the toe of the pedal. This prevents the pedal from slamming forward when tension is released from the drum during replacement.
- 2. Loosen the lugs. Begin by turning one of the lugs to the left one complete 360-degree

turn. (Keep the hand that is not turning the key near this lug. Marking the first lug prevents turning lugs more than necessary). Be sure to always move across the drum to the next lug. Do this as many times as needed until the lugs can be completely removed from their hole. See Figure 1.8 below to see an example of this pattern.

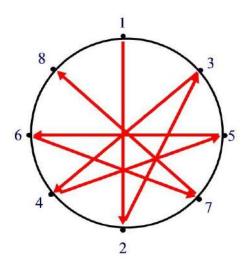


Figure 1.10 - Criss Cross Tuning Pattern⁵⁵

- 3. Remove the old head, counter hoop, and lugs from their positions on the drum. Remove the old head from inside the counter hoop and set it aside. Place the hoop (w/ lugs still in their places inside the hoop) aside.
- 4. Clean everything. Using a cloth and streak-free glass cleaner, remove any dirt and grime from inside the bowl. Wipe down the bearing edge of the bowl, as well. Remove any old grease from the lugs and any dirt from both the inside and outside of the counter hoop.

Be sure to clean the holes of the hoop in which the lugs sit. If necessary, spray dry

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⁵⁵ Waywood Music, "Drum Tune," Waywood Music, http://www.waywood.com/images/drumtune.jpg (accessed February 26, 2015).

lubricant onto the bearing edge or replace Teflon tape on the bearing edge.

- 5. Place the new head on the instrument. Before placing on the timpano, examine the surface of the head at eye level. See if any dimples are present in the head and be sure to put the dimples in the secondary channel of the drum. Placing the logos all in the same arrangement may look uniform, but will not always provide the optimal sound.
- 6. Replace the hoop (w/ lugs) on the head.
- 7. Add a small amount of white lithium grease to the tip of each lug. Go around to each lug and start threading it just enough until it catches.
- 8. Finger-tighten each lug. Start with a lug nearest the player. Tighten it with thumb and index finger until it starts to feel a little snug. (Keep one hand on this lug to remember the starting point). Go across the drum to the next lug and repeat the process. Stop when all lugs feel a little snug.
- 9. Center the head on the bowl. Place left hand fingertips on one side of the head under the collar- between the flesh hoop and the counter hoop. Place the right hand fingertips on the opposite side of the head in the same manner. Make the collar space equal.

Check all sides of the head to be sure the head is as centered as possible over the bowl.

This is an important step to ensure an even pull on the head.

- 10. Using the timpani key, turn each lug one complete 360-degree turn clockwise. NOTE: As tension is added, some lugs may not remain finger-tight. Finger-tighten these again before the key is used. After turning all the lugs with the key, turn each lug one more time in the same manner. By this point, each lug has been turned exactly twice.
- 11. Check the head for even pull with the tympanic pressure gauge. Place the dial in front of each lug and be sure they give the same reading. Remember, only to ADD tension at

this stage, do not REMOVE tension. See the instructions on How to Use the Tympanic Pressure Gauge found later in this document.

- 12. Put the drum into range. With the heel of the pedal down, tune the drum to the appropriate lowest pitch of the range. See the Figure 1.7.
- 13. Clear the drum with the tympanic pressure gauge. This is a good point to ensure the head is still being pulled evenly. DO NOT SKIP THIS STEP. How the head is pulled the first time will determine the memory of the head. Skipping this step can make it impossible to achieve a clear tone with the head.
- 14. Remove the baseball from under the pedal.
- 15. Slowly push the toe of the pedal down completely without stopping. Do not stop at any point. The first time the head is stretched is the only time it will develop its range.

 NOTE: Some small cracking sounds may be heard this is normal. The plastic and glue are simply stretching.
- 16. Check the range of the drum. Evaluate the top pitch and bottom pitch. Does the drum have the range of at least a Perfect 5th? If the range of the drum is larger than a Perfect 5th, this is acceptable. If the drum has a Perfect 5th, but the bottom pitch is higher than the desired pitch, put the pedal in mid-range and turn each lug 45 degrees to the left. Repeat this step until the desired pitch is on the bottom. Remember: it is important to clear the head any time the lugs are turned.

CLEARING TIMPANI HEADS

Clearing the timpani heads can be complicated for even the most seasoned professionals. Timpani heads contain a wide range of overtones, making it difficult to identify the fundamental pitch of the instrument at times. Some timpanists use the "ear-only" method,

while other players use devices to assist in determining the tension of each lug. The earonly method involves quietly tapping in front of each lug to make them the same pitch.

The ear-only method requires a lot of time, patience, a quiet room, and a lot of practice.

Furthermore, the human ear fatigues quickly, making it difficult to hear accurately for long periods of time.

The tympanic pressure gauge is a device that measures the tympanic pressure of the head (the tension of the head in front of each lug). The idea is that when all the lugs read the same number on the dial face, the head is "clear" and sounds with a resonant, clear tone. This device is designed for use in very loud environments where hearing is limited, such as next to tractor trailers during marching activities, and for quiet use onstage while other musicians are playing. Both methods theoretically lead to the same result: each lug with the same amount of tension = a clear tone.

HOW TO USE THE TYMPANIC PRESSURE GAUGE

Use the rim guide that comes standard as a small attachment. This ensures the device provides consistent readings by placing it the same distance from the bearing edge each time.

Gently place the dial using a relaxed grip on the device as not to influence the reading.

The base of the device should be flat when contacting the head.

Place the dial in front of each lug 2 or 3 times to be sure of an accurate reading.

Go around the drum to each lug to evaluate which lugs are high and which are low (lugs with higher numbers are tighter than those with lower numbers). After getting readings from each lug, determine a median number of the readings. For example, if the highest number observed is 80 and the lowest is 70, the median number is 75. 75 is now the number each lug should read.

Start by turning each of the low-reading lugs 45 degrees clockwise until it reads the median number of 75. Turn the high-reading lugs 45 degrees counterclockwise until it reads the median number of 75. The idea is to make the lug readings meet in the middle. This keeps the adjustments as small as possible. Remember: Turning one lug will affect the lugs to the immediate left and right AND across on the drum. Be sure to check these lugs with the dial after each turn.

SETTING THE TUNING GAUGES

- 1. Know the appropriate range of each timpano
- 2. With the heel of the pedal to the floor, strike the timpani with a medium timpani mallet
- 3. With the lowest note of the range in mind, push the toe of the pedal until the digital tuner shows that the pitch is accurately tuned
- 4. Move the letter associated with this desired pitch along the indicator until it is aligned with the pointer.
- 5. Repeat these steps for each pitch on the drum until all pitches have been set

 Note: If the pointer hits the top or bottom of the indicator track, it needs to be
 raised or lowered on its bar using the attached wing nut to avoid any hits.

HOW TO ASSEMBLE A DO-IT-YOURSELF (DIY) TUNING GAUGE

What You Need:

- Thin Braided Nylon Rope
- Permanent Marker
- Masking Tape
- Fishing Weight/Fishing Sinker
- Metal Spring Clamp
- Scissors
- Lighter
- Digital Tuner
- Medium Timpani Mallet

Assembly:

- 1. Place enough masking tape to extend across the length of the counter hoop between the two lugs located immediately in front of the player.
- 2. Install the metal spring clamp onto the left side of the pedal near the toe.
- 3. Tie one end of the rope to the hole in the handle of the metal spring clamp. Be sure the knot is strong enough to remain secure.
- 4. Run the remainder of the rope directly up from the clamp and wrap it around the lug located above. Pull the rope across the front of the counter hoop (to the right) and wrap around the lug on the other side of the pedal. Allow the unsecured end of the rope to hang.
- 5. Using the scissors, cut the rope so approximately one foot of rope hangs below the counter hoop.

- 6. Burn the tip of the hanging portion of the rope with the lighter. It is important to be cautious, as this rope will remain hot for a brief period following the burn. Allow it to cool before proceeding.
- 7. Tie the fishing weight or fishing sinker to the end of the hanging portion of rope.

 Be sure the knot is secure.
- 8. Put the pedal in the middle of the timpani range.
- 9. Using the permanent marker, draw a thin line around the rope located at the center of the masking tape. While moving the pedal to the extremes of the range, be sure the line does not extend over any metal of the exposed counter hoop. If the marked line does travel over exposed metal, simply place more masking tape on the hoop to cover the distance traveled by the line.
- 10. Using the digital tuner and medium timpani mallet, tune the drum to the bottom pitch for that particular drum.
- 11. Write the pitch letter with the permanent maker on the masking tape under the marked line of the rope.
- 12. Using the tuner and timpani mallet, continue marking the pitches in the range of the drum.

DAILY MAINTENANCE FOR TIMPANI

Each day the timpanist approaches the timpani to practice or perform, it is necessary to perform some maintenance on the instruments. Maintaining the timpani not only preserves them for many years of use, but also helps the player feel confident he will be able to produce his optimal tone quality and trust in the mechanical functions of the

drums. Maintenance takes just a few minutes each day. A few simple adjustments can be the difference between a successful performance and a failure.

Put the drums in the appropriate range. This makes all the required pitches available to the player. In addition, because of the nature of balanced action pedals, the drums must be in proper range for the head tension and spring tension to properly work together.

Clear each head after bringing it up to the proper range. Doing so promotes maximum resonance and a pure tone. The steps for clearing heads can be found earlier in this document.

Tuning gauges assist the timpanist with quick tuning changes and must be reset after any adjustments to the lugs.

Check the action and reliability of the pedals. Always perform the previous steps before performing the following adjustments. If the toe of the pedal will not stay down, turn the STA to the right, making only small adjustments each time. If the heel of the pedal will not stay down, turn the STA to the left, making only small adjustments. If "clicking" is heard when the toe is down, the PAC needs tightened until the "click" disappears. The PAC needs to be loosened if the pedal "clicks" when the heel is down.

Wipe down the heads with streak-free glass cleaner to remove hand oils and dirt

PERIODIC MAINTENANCE FOR TIMPANI

Some maintenance concerns do not require regular attention and may occur on an irregular basis. It takes time for certain problems to emerge to warrant adjustment.

- Change the heads when full resonance and a clear tone have diminished
- Tighten the struts and other moving parts using the appropriate tools as needed
- Add grease/oil to moving parts, such as the spring coil, pedal rod, central pull rod,
 PAC, spring tension adjustment, tuning joints, tuning pointer, casters
- Clean out dirt and sediment built up on the top side of the collar and around the counter hoop
- Clear out debris in the spider area and dust from the base
- Clear out debris and build up from the spring

TRANSPORTING THE TIMPANI

Timpani can be awkward instruments to move from one space to the next and require acute attention during transport. Most balanced action timpani models come equipped with only two casters located on the base opposite the player and the pedal. The casters act as permanent supports for the instrument. Some recent models have third caster options located near or at the pedal. Some come with a fixed third caster mounted around the base under the pedal, while others have removable third caster options. This third wheel option assists in safely gliding the timpani across the floor without any need to tilt the instrument. For instruments with only two casters, the player must tilt the instrument when moving the timpani. The player tilts the instrument by picking up on the struts on the left and right sides of the pedal, balancing the weight of the drum between the two pedals. This prevents the internal mechanics of the drum from being dragged across the

surface of the floor. Follow these simple steps for moving the timpani to ensure a safe and secure move for both player and instrument:

- 1. Cover the instrument before moving. Also, move any objects from the expected path.
- 2. Using the pedal, push the toe all the way down. This will prevent excessive movement of the counter hoop during transport.
- 3. Stand on the player's side of the instrument. Place the left hand on the strut located to the left of the pedal. Place the right hand on the strut located to the right of the pedal. It is important to pick up on the struts and not the counter hoop. Picking up the drum by the counter hoop may damage the head and other parts.
- 4. With the pedal located between the player's feet, pick up on the struts with equal strength. The weight of the drum will feel as if it is falling forward.
- 5. Push the timpani with both hands secured on the struts while walking behind the instrument, straddling the pedal. When moving through doorways, be sure the struts will clear the sides without contact. For drums too wide to fit through a standard doorway, it may be necessary to find another route to the destination for this particular drum. If another route is not possible or is unavailable, it is necessary to have another person help pick up the drum in a sideways position to fit it through the doorway. Again, it is necessary to move slowly and with great care. Do not allow the instrument to contact any part of the doorway or floor when picking up the instrument or moving it through the doorway. Any impact may severely damage the instrument. The instrument may need to be carefully tilted and the casters removed to get it through some doorways.

- 6. Once arrived at the new location, gently allow the instrument to rest on the base and casters as before.
- 7. If the timpani will be used following the move, remove the cover.
- 8. If the timpani will be stored in this new location, it is important to keep the pedal in the middle of the instrument range. Too much extended tension on the head can decrease its elasticity. However, in academic settings, taking all the tension off the head leaves the instrument susceptible to side impacts and shifting of the counter hoop resulting in damaged heads. Professional settings may permit the player to leave the head at its lowest tension setting when not in use.
- 9. Always store timpani in a climate-controlled environment. 56

PROTECTIVE COVERS AND CASES

A full set of timpani can cost as much as a car, making them some of the most financially difficult instruments to replace when damaged. It is important to protect these expensive instruments during performance by using appropriate playing techniques. It is also important to protect them when they are not in use.

Full-size and shallow drop covers are popular protective implements for timpani. These covers are typically made of vinyl and have two main components: the head protector and the skirt. The head protector is the disk shaped element, which rests atop the timpani head. Depending on the manufacturer and requires of the instrument manufacturer, this element may additional layers of felt and foam sewn into the head protector. These layers

⁵⁶ The Well-Tempered Timpanist, "General Tips," Richard K. Jones, http://wtt.pauken.org/?page_id=2169 (accessed January 2015).

protect the head from any objects that come into contact with the head. The diameter of the head protector is the same as the diameter of the head it covers. This snug fit provides little room for dirt to enter the head area.

The cover also features hanging material, which surrounds the outside of the instrument. Shallow drop covers hang approximately 12 inches below the head, covering the counter hoop and top of the struts. Full size drop covers hang approximately 24 inches below the head, enough length to cover the suspension ring, the entire length of the struts, the bowl, and the base. ⁵⁷ A full-size drop cover is useful in any academic or professional situation by keeping dirt out of the important mechanical parts. Drop covers also protect the instruments from side impacts from other objects. It is important to use these covers any time the instruments are in transit and when they are not in use. Wood head covers with felt are recommended for use with all timpani in any environment. These heavy-duty covers completely protect the head from impacts and can be place on the head under any drop cover.

When moving the timpani short distances, it is important to use drop covers during the entire duration of the move. This will limit the introduction of dirt and other objects to the head and upper mechanical parts. If the timpani are being relocated a long distance, it is necessary to use flight cases. Flight cases are heavy-duty synthetic or wooden cases built to secure the timpani inside and protect them from harsh impacts and environmental

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⁵⁷ Steve Weiss Music, "Yamaha Timpani Cover," Steve Weiss, http://www.steveweissmusic.com/product/yamaha-timpani-cover/concert-instrument-cover (accessed January 2015).

elements. These cases typically come equipped with wheels for easy transport. While these cases are relatively expensive, a typical case for one timpano can cost \$1,700⁵⁸, it is important to remember the delicate nature of the instrument's mechanics and the enormous cost of repeat instrument replacement.

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⁵⁸ Lone Star Percussion, "King Kong Kases 26" ATA Style Timpani Trunk," Lone Star Percussion, http://www.lonestarpercussion.com/Cases-Bags/ATA-Flight-Cases/King-Kong-Kases-26-Inches-ATA-Style-Timpani-Trunk-KTK26-.html (accessed January 2015).

CHAPTER TWO: TUNING

TUNING INTRODUCTION

This chapter contains 16 progressive etudes complete with audio playback recordings to develop the skill of tuning timpani. The 16 etudes in this method are designed to align with a typical collegiate term. These graduated etudes intend to build the ear and establish a vocabulary of intervals to minimize the time required to tune timpani. They also take the following concepts into consideration over the course of this 16-week program: the number of pitches changed at a time, the number of drums used in the set, when to check intonation with the recording, the pitch source location, and tempos.

The etudes are divided into four subsections. These subsections systematically reduce the time permitted to execute the entire standard tuning procedure outlined later in this document. As the time decreases, the tuning process changes. Not only does the timpanist need to quicken the process of the tuning procedure, but also the pitch source changes. The opening etudes use fermatas at all tuning changes, allowing the player to focus on the tuning procedure free from time constraints. Subsequent etudes include dictated periods of rest during which tuning changes are made. As the rest periods become briefer, the pitch source shifts from a source device (tuning fork, pitch pipe, the ensemble, mallet instrument) to the other timpani within the setup and knowledge of pitch intervals. For the purposes of this dissertation, it is assumed the timpanist has had some prior aural skills training.

The first subsection (Etudes #1-4) uses fermatas for all tuning changes. This allows the timpanist to take time to perform the tuning procedure carefully and accurately before moving on to the next entrance. It is important the timpanist understands and commands

this procedure. Failure to understand and master this procedure may prevent the timpanist from effectively performing many complicated tuning passages in real-world musical settings. These four introductory etudes do not include audio playback files.

The second subsection (Etudes #5-8) gives the timpanist four measures to tune each new note. Each etude includes audio playback files. These etudes begin to dictate the amount of time spent tuning the new pitches. The timpanist must tune pitches while maintaining his place in the music. It may be helpful to count the measures of rest aloud to maintain position within the rest.

The third subsection (Etudes #9-11) allows only three measures to tune each new note. As the time allotted for tuning diminishes, it is important the timpanist internalizes the sound of each possible interval. It is be helpful to know a variety familiar songs which collectively contain all possible intervals. Singing these songs while tuning will make the process quicker and give the player confidence in this challenging task. It is also important to understand and consider the range of each drum when performing such quick changes. Knowing the approximate location of a pitch will speed up the process of tuning and increase tuning accuracy.

The fourth subsection (Etudes #12-14) allows only two measures in which to tune each new pitch. In situations where more than one pitch requires tuning, multiple strands of two measure segments will be strung together, giving the timpanist four measures to change two pitches. The brief tuning period will not always afford the player time to use a source device, requiring the timpanist to favor using familiar songs for interval reference or the use of tuning gauges. Etudes #15-16 allow only one measure to tune.

For many of the etudes, dynamics are purposefully omitted to allow the timpanist to

focus on tone and intonation. However, it is important these etudes are performed at a variety of dynamic levels. Stickings for all of the etudes are left up to the performer. It may be helpful to reference this Tuning chapter when performing the later Pedaling chapter etudes. Play-along tracks for both Tuning and Pedaling chapters always give a brief introduction phrase to give the player time to prepare to enter; some etudes even have count-offs within the playback audio. The tempos marked on the etude correspond to the performance tempo of the play-along tracks. The number on the left side of the CD image on the etudes is the track number with the timpani part included. The number on the right is the track without the timpani part in the play-along recording. It may be useful to play the etude on a mallet instrument and sing through each etude before playing on timpani.

SELECTING THE RIGHT STYLE TIMPANI

This method was developed with the intention that the timpanist would play all 32 etudes included within this collection. The skills and processes presented in this method can be adapted for all types of timpani models and pedal styles, however, balanced action pedal timpani will be the best option for performing all 32 etudes with ease. Saul Goodman says, "Tuning with the pedal type timpani makes for greater accuracy because it creates an immediate equal tension on the head. The possibilities of rapid tuning are almost limitless with the pedal timpani." Balanced action pedals allow the timpanist to quickly adjust the position of the pedal by simply pushing downward in either direction without the use of the hands or additional foot mechanisms, such as a clutch. This simple

⁵⁹ Saul Goodman *Modern Method for Timpani* (New York, NY: Mills Music, 1948), 17.

style of changing pitch frees the timpanist to move the feet quickly around the drums and more accurately perform challenging tuning passages.

TIMPANI SETUP AND POSITIONING

The most commonly used setup for timpani in the United States is the American setup. In this setup, the lowest drum (32") is on the player's left and the highest drum (20") is on the player's right. This setup developed largely because of pedagogical reasons- the lowest notes on most other percussion instruments are located on the left. This setup of the timpani is recommended and is the basis for the arrangement outlined below.

When properly arranged, the pedals of all the timpani should be easily accessible while sitting. The pedals form a half-circle configuration around the player. The 29" timpani pedal sits centered between 9 o'clock and 12 o'clock, while the 26" timpani pedal sits centered between 12 o'clock and 3 o'clock. The 32" timpani pedal should sit about 9 o'clock and the 23" timpani pedal should sit about 3 o'clock, both facing the player. Finally, the 20" timpani pedal should sit about 5 o'clock facing the player. Observe the arrangement of the struts. The 9 o'clock and 3 o'clock struts of each drum should barely touch their neighboring drums. Be aware that some drums may make a buzzing sound if the struts touch.

THE MUSIC STAND

The positioning and placement of the music stand is critical for effective music reading and timing. The height of the stand should allow the player to see the instrument, music and conductor with minimal adjustment of focus. The stand should be placed between the 29" and 26" timpani whether only two drums are present or if using all five drums of the set. The bottom of the stand should be a few inches above the counter hoop opposite player, centered between the two drums. A mallet tray table (music stand) may be used to hold timpani mallets and source devices during performance. It is recommended to put this table between the 23" and 26" timpani. The closest side of the table should not extend into the playing areas.

EAR TRAINING IDEAS

Midwest,

As stated earlier, this document assumes the timpanist has had prior experience with aural skills training and will not service the timpanist with a complete ear training program. However, some general ideas for strengthening the ear will be included.

Dr. Tim Koozin at the University of Houston suggests starting with practicing with small intervals, such as a Major and minor 2nd and work to increase the distance between pitches.⁶⁰ This concept is helpful with timpani because most changes from one pitch to another will be small intervals. However, John Beck, Professor Emeritus at the Eastman School suggests the Perfect 4th and Perfect 5th⁶¹ are the most important pitches for the

60 University of Houston Music Theory Department, "Theory I and Aural Skills I Assignments," Dr. Tim Koozin, http://www.uh.edu/~tkoozin/theory1/theory1assn.html (accessed February 2015)

2015).
⁶¹ The Midwest Clinic, "Rob Sanderl article Combining Timpani Tuning and Ear Training," The

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timpanist to know because of the frequency of dominant and tonic tuning.⁶²

However, before attempting to master recognizing and singing various intervals, it is important that the timpanist can match pitch. University of Massachusetts student Carolyn Walker's Masters Thesis includes several popular ideas for acquiring the skill of pitch matching.

- 1. Find a partner that can already match pitch successfully or use two digital tuners
- 2. Have a partner or one digital tuner produce a pitch within the vocal range of the timpanist
- 3. The timpanist should try to match this pitch in unison. The tuner will show the accuracy of the tuning. The timpanist will also notice that as the sung pitch gets closer to being in-tune with the source pitch, some waves (or "beats) occur in the sound. These waves disappear when the timpani has successfully matched pitch. NOTE: if the timpanist has difficulty matching this unison, it is useful to have the timpanist sing a pitch and the partner matches pitch (not possible with a digital tuner). The partner should slide the pitch up and down and the timpanist should follow the slide of the pitch trying to stay in unison. The partner should produce the pitch and the timpanist should attempt to match it.
- 4. The partner and timpanist should experiment with tuning Perfect intervals next, followed by thirds, seconds, and the tritone. These are all the intervals a timpanist

http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB4QFjAA&url=http%3A%2F%2Fwww.midwestclinic.org%2Fdownloads.aspx%3Ftype%3Dclinic%26src%3Da06ace75-7664-4a2d-b6f2-

¹¹af5fe937aa.pdf&ei=lnXsVJ6DIMuMNoGag4gE&usg=AFQjCNHpMLTX_SrsnaoHBwVA372 NV o9iQ&bvm=bv.86475890,d.eXY (accessed January 2015).

⁶² John Beck, Concepts for Timpani, (New York, NY: Fischer, 2001), 12.

will need to perform even the most difficult of tuning passages. 63

Dr. Eric Hollenbeck, principal timpanist with the Cheyenne Symphony Orchestra and Professor of Percussion at Colorado State University uses a challenging series of exercises for obtain pitch memory and further exploring interval audiation. These exercises are explained below.

- 1. Have a partner play a note on a piano within the vocal range of the timpanist (the timpanist can do these steps without a partner)
- 2. The timpani will match the pitch
- 3. Next, the instructor calls out an interval (progress through Perfect, thirds, seconds, and tritone) for the timpani to sing above or below the initial pitch
- 4. The timpanist sings the new pitch
- 5. The instructor uses a tuner to evaluate the intonation
- 6. Play another pitch, the timpanist matches, and then sings an interval
- 7. Next, instead of check the interval, sing another interval away
- 8. Now check the intonation
- 9. Continue experimenting with chaining together a variety of intervals. Also, try increasing the number of intervals sung before checking intonation with a tuner.⁶⁴

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⁶³ Carolyn Walker, "Intonation in the Aural-Skills Classroom," (Dissertation., University of Massachusetts, 2014), 7-10.

⁶⁴ Dr. Eric Hollenbeck, interview with author, February 3, 2015).

The following is a list of ear training resources:

Phillips, Murphy, West Marvin, Clendinning. The Musician's Guide to Aural Skills Volume 1: Sight-Singing, Rhythm-Reading, Improvisation, and Keyboard Skills. Second Edition. W.W. Norton & Co., 2011. (ISBN 978-0393930948)"

Blombach, Ann C. *MacGAMUT 2003* MacGAMUT Music Software International, Columbus, OH, 2003

Music for Sight Singing, 7th edition by Robert Ottman & Nancy Rogers

Ear Training: Technique for Listening (with CD) by Bruce Benward, 7th Edition.

Krueger, Carol. *Progressive Sight Singing*, 2nd Edition (New York: Oxford University Press, 2011).

Cho, Gene J. and O'Sullivan, Laila K. Passage to Music Literacy: Syllabus for Aural Skills, 2nd edition. Kendall-Hunt Publishers, 2010

STANDING VERSUS SITTING

There are different schools of thought when it comes to standing or sitting to play timpani. The timpanist is encouraged to stand when performing solo at the front of the orchestra. However, the timpanist is generally encouraged to sit on a stool in most other situations. In orchestra, it is customary to sit to match the rest of the orchestra members and out of respect for the standing conductor. Sitting to play the timpani is also important when performing challenging tuning passages. Sitting allows the free movement of the feet and legs around the timpani pedals. Sitting also allows both feet to be used on the pedals simultaneously. Because some timpani pedals may begin to slip during performance, it may be necessary for the timpanist to keep his feet on the pedals even during passages which do not change pitches. The stool seat should swivel to help the

timpanist move around more easily, though a standard wooden bar stool serves as an acceptable substitute.

The stool should be placed to promote a natural sitting posture with a straight back and sitting slightly forward on the seat, promoting flexibility and mobility. The thighs should have a slight downward angle to allow for flexibility. The knee should be slightly bent to create an angle slightly larger than 90 degrees behind the leg. The height of the stool should promote the proper playing position with the desired mallet angle to the head. The mallet should be parallel to the drum head upon impact to promote maximum projection and optimal tone.

SELECTING THE TIMPANI TO TUNE

Selecting the best timpani within the set to tune is critical to making the best sounds and performing challenging tuning passages with ease and artistry. Always strive to make the best sounds possible even during the most difficult tuning and pedaling situations. The best tone is produced when the timpani have some tension on the head. Another way to think of this is when the pedals are "off the floor"- the heel of the pedal is a few inches above the floor, meaning the drum head has some tension.

When the heads are in their middle to high range, the tone is focused and the fundamental pitch is clear and obvious. However, during some passages, it may be necessary to sacrifice the best tone in favor of performing the passage. This does not mean the timpanist should recklessly abandon any consideration of tone. It simply means the timpanist must make purposeful decisions as to which pitches can afford to sacrifice

⁶⁵ Stanley Leonard, Pedal Technique for the Timpani, 11.

tone quality and which pitches must be the best tone possible.

Timpani parts are traditionally full of dominant and tonic pitches. The tone and intonation of these pitches are usually obvious to the audience and must always be perfectly performed. However, challenging tuning passages tend to include more interior type of tones- neighbor and passing tones. These pitches must have rhythmic clarity and pitch, but can sacrifice minor tonal clarity in order to keep the foundation pitches (dominants and tonics) sounding their best.

TUNING INDICATION

Tuning changes can happen quickly and frequently, requiring a way for the timpanist to quickly identify what drums to tune and what pitches to tune the drums. This tuning indication shows exactly which drums are involved in the change.

Figure 2.1 - Tuning Indication of Drums

The indication will show a pitch in the corresponding drum position. For example, if the 26" timpani needs changed to D-natural and the 32" timpani needs changed to G-flat, the indication looks like this:



Figure 2.2 - Tuning Indication of Pitches

PROPER FOOT AND LEG ENGAGEMENT

It is important to use the toes, feet, ankles, and legs in an ergonomic and efficient manner in order to effectively tune timpani with speed and ease. These steps for learning proper engagement are critical to timpani tuning, but are too often overlooked. The following steps are designed to engage these body parts appropriately and should be performed in order.

Remember: always place the entire foot on the pedal. The toe should never be used to push down the heel of the pedal, nor should the heel ever be used to push down the toe of the pedal.

- 1. Sit up straight in a regular chair with feet out in front and flat on the floor (i.e. office chair, kitchen chair)
- 2. Curl your toes while keeping the sole of the shoe flat on the floor. Notice the arch of the foot increases when the toes curl; toes are the highest part of the foot when curled. This is not good because the calf is not engaged and has no resistance.
 Calf engagement is key to building muscle memory.
- 3. Lift the tip of the toes while keeping the sole of the shoe flat on the floor. Notice the ball of the foot lowers, slightly driving into the sole of the shoe. This is similar to attempting to leave the ball of the foot down while lifting the toe of the shoe with the toes. Notice the calf is now engaged and the ankle is strong. This is the sensation the timpanist should match every time the pedal is used. The ankle acts as the hinge and point of focus during all pedal moves.
- 4. When moving the pedal "up" (making the pitch rise), keep the ankle strong, lift the toes, and push the pedal toe downward using the ball of the foot. The entire sole

of the shoe should remain in contact with the pedal at all times.

5. When moving the pedal "down" (making the pitch lower), keep the ankle strong, lift the toes, and push the heel of the pedal downward using the heel of the foot.

The entire sole of the shoe should remain in contact with the pedal at all times.

Resistance is needed in the calf to develop an awareness of the distance the pedal moves with the foot when using muscle memory to tune timpani. The calf will be able to sense both the large motion used to perform a Major 3rd and the small motion of a minor 2nd.

STANDARD TUNING PROCEDURE

- 1. Get the Pitch and Sing It
 - use a source device (tuning fork, pitch pipe, ensemble, or other instrument to sound a pitch)⁶⁶
 - sing the pitch on the syllable "Eee"
 - this syllable resonates the nasal cavity and maximizes audiation potential
 - it may be necessary hum the pitch for younger or shy timpanists

2. Strike the Drum

- with the heel all the way down; the drum at the lowest pitch

Note: tuning down to a note provides a false tuning because the plastic of the head does not fully relax over the bearing edge on its own.⁶⁷

- gently use a general timpani mallet/tap with a finger/flick with the finger tip to activate the sound

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⁶⁶ Gary Werdesheim, "Focus on Performance," *Percussive Notes* vol. 26, issue 24 (Summer 1988): 39.

⁶⁷ Interview with Brad Dutz

Note: always keep the ear very low to the drum head when activating the sound. It is important not to interrupt the music with these sounds.⁶⁸

3. Glissando Up to the Note

- push the toe of the pedal downward at a rate where the entire range of the drum (Perfect 5th) could be covered in approximately three seconds
- use the speed described above for all intervals (do not spend much time on a particular pitch)
- it is necessary to know the range of each drum to speed up this part of the process

4. Check the Pitch

- use a source device, sing the pitch, activate the sound of the drum, and compare the intonation of the pitches to make the necessary adjustment(s)

USING TUNING GAUGES

Tuning gauges come standard on many of the timpani models available today. These gauges indicate what pitch is currently tuned on the drum and must be set by the player before playing. Gauges are useful in quick tuning situations where the standard tuning procedure is not possible. They are only as accurate as the timpanist's setting makes them. Because the performance environment and pitch center of an ensemble can change rapidly, gauges serve only as a close reference to the pitch and are not the definitive source for tuning.

Though gauges can get the timpanist "in the ballpark" of the correct pitch,

⁶⁸ Interview with Dr. Eric Hollenbeck

intonation is completely dependent on the accuracy of the ear. Though gauges set the pitch of the drum prior to playing the pitch, this process is truly a reactive event because the ear can only evaluate the intonation after the sound of the timpani has been activated at the next musical entrance. The gauges can be used in any tuning scenario though, if time permits, the standard tuning procedure will always be the best proactive tuning option. Tuning gauges are also used during pedaling passages. They serve as a visual goal for where the timpanist would like the pointer to eventually end.

INTRODUCTORY TUNING ETUDES

The first four etudes of the Tuning chapter of this document aim to give the timpanist confidence and control of the tuning procedure. Timpani parts are becoming increasingly difficult and require not only fast hands and technique, but quick and accurate feet and aural prowess. This chapter of etudes is designed to lay the foundation for a fast, yet effective method for learning to navigate and perform difficult tuning passages.

The rhythms are carefully chosen to give the player time to execute proper technique and to have enough time to listen to the quality of tone produced. These simple rhythms also allow the timpanist to focus primarily on the sonic aspects of timpani playing, from tone production to pitch intonation. Etude #1 uses primarily quarter notes, Etude #2 introduces eighth notes and rolls, Etude #3 is in a 12/8 time signature, and Etude #4 is in 3/4.

Fermatas are used during the tuning changes to allow the timpanist to take time to comfortably and accurately perform the standard tuning procedure outlined earlier in the Tuning chapter of this document.

Rolls are included in some cadences to begin the process of performing progressively challenging music because roll touch and tone quality are important to the standard set of technical skills of the timpanist.

Etude #2 omits the key signature and requires the timpanist to keep the key in mind while performing the etude. This is a necessary skill of the timpanist and will be explored in etudes throughout this collection.

Each etude includes the use of only two drums (29" and 26") to keep the beginning stages of tuning manageable without the complication of navigating around many instruments.⁶⁹

The timpanist should reference a source device, such as a tuning fork (A - 440 Hz), pitch pipe (C - C), or another instrument during each tuning procedure.

The tempo range of 80 - 240 beats per minute (bpm) allows the timpanist to explore a vast range of speed for performing not only the written rhythms, but also the tuning changes.

The pedal direction progresses through the four etudes. Etude #1 tunes ascending only, moving the pedals up further with each change, while Etude #2 requires descending and ascending motion of the pedal; both etudes change only one drum at a time. Etude #3 introduces the concept of changing multiple drums at a time.

⁶⁹ Kirk Gay's book *Pedal to the Kettle* also begins with the 26" and 29" timpani only. He says this allows the timpanist to develop their overall sound. Playing only two drums also minimizes the complications of shifting between many drums.

TUNING: ETUDE #1

Etude #1 is the first of four introductory level performance etudes that focus specifically on the process and accuracy of tuning. The information in this Study Guide will outline all the areas necessary to perform this and the other introductory etudes effectively. It may be useful to read this entry while studying the other introductory etudes. Fermatas located at the end of each four-measure phrase mark where to begin tuning for the next entrance. The fermatas also allow the timpanist as much time as needed to accurately execute the tuning procedure without the distraction of keeping time or counting rests. The tuning indicator specifies which drums to tune and to which pitch they are to be tuned. After identifying the new set of pitches, the timpanist will execute the standard tuning procedure outlined earlier in the Tuning chapter.

The first set of pitches is F-natural and C-natural. Though timpani resonate best when in the middle to top part of their ranges, the purpose of this etude is to restrict the timpanist to only two drums, requiring many re-tunings. Tune the 29" drum to F-natural and the 26" drum to C-natural. These pitches are used specifically because the first note learned by many band programs is Concert F and may be most familiar to the timpanist. Each tuning requires the change of only one pitch. Each entrance contains a perfect interval between the two drums. The Perfect 4th and Perfect 5th intervals are the easiest for the beginning timpanist to hear. Notice the difference between the old and new pitch of a drum is a Major 2nd for each entrance. Due to the nature of tuning and pedaling, the Major 2nd is used frequently. The etude is marked 80 - 240 beats per minute (bpm). The slower tempos allow the timpanist to focus on tone production and technique. Slower tempos also help to blend the fermata measures into the musical context. Faster tempos can cause what appears to be frequent starting and stopping of the music and should be attempted only when the timpanist begins to feel control of both physical and aural processes. Additionally, the rhythms have been chosen to promote a singing and resonant touch and tone quality.

Etude #1



Figure 2.3 – Tuning Etude #1

Etude #2 is the second introductory etude of the tuning section of this document. This particular etude includes slightly more interesting and challenging rhythmic vocabulary consisting of syncopation and rolls. The rhythms are still written to promote a focus on touch and tone while the timpanist plays. The etude features fermatas in resting measures to allow the timpanist the opportunity to gain confidence and speed in tuning during a musical performance. This etude uses pitches in the mid-range of the 29" and 26" timpani. By tuning in a different part of the range than the previous etude, the timpanist can see the distance the pedal travels between notes (the interval of a Major 2nd in this case) is the same throughout the range of the drum. If the timpanist finds the pedal must move a less or greater distance than the previous etude, the instrument may require repair.

It is common for composers to omit the key signature from the timpani part. This means the timpanist may have to read many accidentals within the part. To prepare the timpanist for this scenario, this etude has omitted the key signature and features accidentals written before some notes. The timpanist should perform the etude at a comfortable dynamic. Because no dynamics have been indicated, it is possible to vary them by including crescendos and decrescendos, subito dynamics, and static dynamics. This etude features the tuning indicator above each fermata showing how to tune. It also shows which pitches and drums to tune. The timpanist should play the etude allowing each note to ring, but muffling at the downbeat of each fermata measure. As the timpanist becomes comfortable playing, try muffling the quarter rests in measure 1 and the eighth note rest in measures similar to measure 2.

Etude #2



Figure 2.4 – Tuning Etude #2

Etude #3 employs simple bouncy rhythms that promote fine attention to touch and tone. The technical demands of the etude are rather elementary, giving way to a primary focus on the process of tuning. The pitches involved maintain perfect intervals between the two drums. This etude requires two drums to be changed during a single break (measure 5 and measure 10). Use a source device as a pitch reference before and after tuning. The fermatas should only be as long as the player needs to accurately perform the tuning change.

Etude #3



Figure 2.5 – Tuning Etude #3

Etude #4 is the last of the introductory etudes of the Tuning chapter of this document. Continue to refer to the Study Guides of the previous etudes for performance notes, which may assist in the performance of this etude. This etude requires some muffling during the rests of the first few measures. It may also be necessary to muffle the quarter notes of measure 22 - 24 to add clarity to the part. Each tuning change requires only one drum to be tuned at a time. The timpanist should try playing this and the other introductory etudes at the extremes of the marked tempo. This will challenge the player to think ahead and tune faster. The fermata on the last bar should be held for at least twice its normal length.

Etude #4



Figure 2.6 – Tuning Etude #4

TUNING: ETUDES #5 - 8

This section of etudes regulates the amount of time the timpanist has to successfully complete each tuning procedure. Each etude comes complete with an audio playback file with which to play. The playback files present many useful counting and tuning challenges to the player.

Etudes #5-8 include four measures of rest during each tuning change. While performing each tuning change, the timpanist must keep count as the measures pass and enter correctly following the change. This is an critical skill when playing solos, chamber music, and large ensemble works.

When performing a tuning change, the timpanist should use a source device, such as a tuning fork or pitch pipe. The timpanist should also use songs related to intervals to tune the timpani.

Each etude is a minimum of 45 measures in length, balancing the playing time and tuning time. This balance of playing and tuning makes the etudes interesting and engaging, while remaining effective.

The rhythms in these etudes are slightly more challenging than those found in the Introductory etudes, now including sixteenth notes.

The interval content of the etudes now includes the minor 3rd, Major 3rd, and Perfect Octave.

Each etude presents a new challenge:

- Etude #5: This is the first etude to include a playback file and introduces many chamber music skills. The timpani part features surdo-inspired rhythms.
- Etude #6: This etude includes the Perfect Octave (P8), uses three drums, and only changes one pitch at a time. It also introduces double stops (an opportunity to check intonation accuracy by hearing consonant resonance). It is throughcomposed etude (a progressive idea because every measure is different).
- Etude #7: The intervals minor 3rd and Major 3rd are used throughout Etude #7. It also introduces using four drums at a time, maintains one change at a time, and continues developing muffling opportunities. This etudes offers the unique opportunity to trade 2s and trade 4s with the accompaniment playback files.
 - Etude #8: This etude introduces the concept of playing in unison with the accompaniment and listening for rhythmic accuracy as well as intonation.

This Samba Batucada groove is an exciting way to begin using the play-along tracks. Listen to the whistle to know when to enter in measure 5. It is important to listen to the accompaniment for intonation, rhythm, style, and timing. The rhythms in this etude are in the style of a standard surdo (a Brazilian bass drum) part, and are kept simple to allow the timpanist to focus primarily on touch, tone, and tuning. Reference a source device during each tuning change. Each tuning change requires only one drum to be tuned. Be sure to use the standard tuning procedure. Read earlier in the Tuning chapter of this document for more information on understanding the tuning markings. The numbers above the measures of rest indicate its position in the total amount of rest. The form of the etude is a short rondo (A-B-A-C-A'). It should be played at all dynamic levels.



Figure 2.7 – Tuning Etude #5

This through-composed etude is written with a soundscape accompaniment and is the first to require the use of three drums. The initial tuning includes an octave, P5, and P4 on the bottom three drums. These intervals make it easy to hear a consonant intonation when tuned well. Eight measures are provided to make each tuning change to equate to four common time measures. The tuning changes are rather simple, only moving the pedal one whole step for each change and keeping perfect intervals between the drums. Letter C may need some muffling between the notes. Rhythms are generally simple in this etude to allow the timpanist to focus primarily on touch, tone, and tuning. It is necessary to reference a source device during each tuning change. Each tuning change requires only one drum to be tuned. Be sure to use the standard tuning procedure.



Figure 2.8 – Tuning Etude #6

This etude is written as a duet with tabla accompaniment and a drone. It is the first to require the use of four drums. The etude also includes trading two and measure solos between the timpani and tabla. This interaction between timpani and accompaniment is the foundation for the listen requirements in later etudes. The initial tuning includes an octave, P5, Major 2nd, and P4. The tuning changes are rather simple, only moving the pedal one whole step for each change. Reference a source device during each tuning change. Each tuning change requires only one drum to be tuned. The double stops allow the timpanist to hear the accuracy of the tuning. Be sure to use the standard tuning procedure. It is also advised that the player tries using interval recognition to perform some of the changes. A complete list of familiar songs and their corresponding intervals is included in the Appendix of this document.

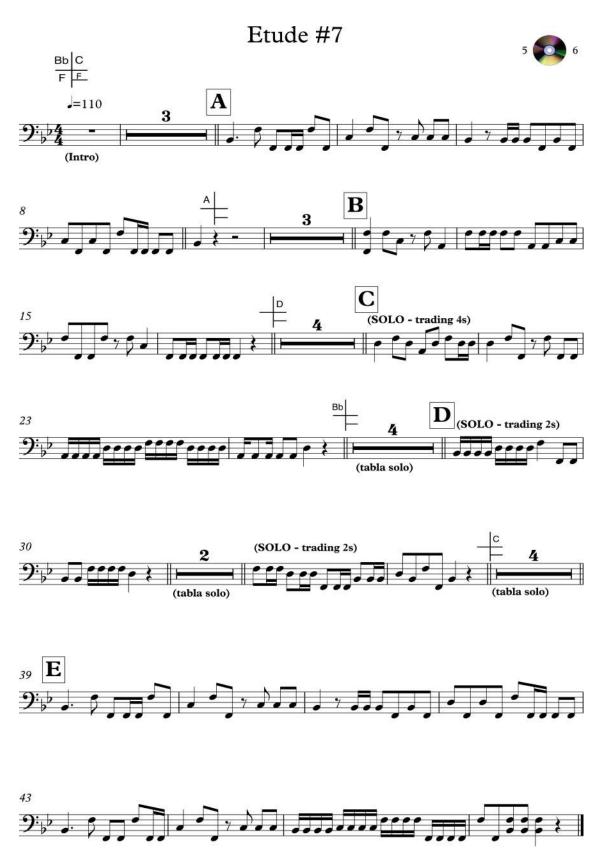


Figure 2.9 – Tuning Etude #7

This etude is written to put the timpanist in the studio orchestra. Timpani parts in TV and film add drama and suspense to the action onscreen. The rhythms and style of the timpani part have been designed to do just that. Reference a source device during each tuning change. Each tuning change requires only one drum to be tuned. Be sure to use the standard tuning procedure. It is also advised that the player uses interval recognition to perform some of the changes. This is the first etude to include notated dynamics. Carefully pace the crescendo in measure 10 - 12. The interjections after Letter D require quick muffling with the hand.



Figure 2.10 – Tuning Etude #8

TUNING: ETUDES #9 - 11

Etudes #9-11 continue to develop many aspects of the tuning process, further challenging and enhancing a variety of skills. The etudes continue to explore various musical styles and genres with the support of audio playback files.

This set of etudes includes three measures of rest to perform the change of a single pitch. The timpanist has one less measure than the previous section of etudes to successfully complete the tuning procedure during each change. As the allotted time for each change begins to shorten, it is imperative the timpanist further internalizes the sound of each type of interval and relies on interval knowledge by using familiar songs.

These etudes include all intervals necessary for tuning and pedaling: m2, M2, m3, M3, P4, P5, P8.

Each etude presents a new challenge:

- Etude #9: requires only two drums for many changes; continues only one pitch change at a time⁷⁰
- Etude #10: uses four drums in a single etude; first etude to change two pitches at a time; first etude to use an embellishment (flam)
- Etude #11: uses only two drums to simulate realistic Classical music setting; features frequent changes; progresses the types of embellishments (includes three stroke ruff)

⁷⁰ Saul Goodman's *Modern Method for Timpani* recommends using the two middle drums to keep things simple and they contain an entire octave.

This etude uses only two drums. Memorize the sound of Perfect 4th and Perfect 5th intervals to make the tuning changes quicker. Notice the tuning indication is sometimes placed under the staff to avoid cluttering the space above a multi measure rest. Each tuning change requires only one drum to be tuned. Be sure to use the standard tuning procedure. It is also advised that the player tries using interval recognition to perform some of the changes. The etude is written as a percussion ensemble piece, featuring a duet between the concert toms and timpani.



Figure 2.11 – Tuning Etude #9

This hip-hop inspired etude is the first to change two pitches in a single rest span. Be sure to use the standard tuning procedure. It is also advised that the player tries using interval recognition to perform some of the changes. The rhythms tend to flow naturally and include some over-the-barline syncopation typical of hip-hop music. The graces notes can be spontaneous, so try playing them open and closed. The embellishment should be performed as a brief single stroke roll.



Figure 2.12 – Tuning Etude #10

Beethoven's String Quartet No. 7, Op. 59 No.1 serves as the accompaniment for Etude #11. It uses three drums with heavy emphasis on pitches changes on the 29" and 26" timpani. The timpani part is written to compliment the strings and is void of frivolous technical passages. Play the embellishments with energy, always landing on the release note with a slightly weighted accent. The bright tempo challenges the timpanist to perform tuning changes quickly and to keep calm while counting rests during the changes.



Figure 3.13 - Tuning Etude #11

TUNING: ETUDES #12-14

These three etudes challenge the musical interpretation and comprehension of the timpanist. The etudes challenge the timpanist with reading advanced notation. The timpanist is given the ability to perform these figures with any interpretation, while committing to the timing requirements of the audio playback.

Etudes #12-14 supply the timpanist only two measures to change each note during tuning changes. The timpanist must be confident and quick with the procedure of changing pitch on timpani. Additionally, the timpanist must be able to recognize intervals more quickly than previous sections. The timpani must listen to the accompaniment for pitch reference during changes and intonation after the change has occurred.

The extreme tempos within these etudes test the tempo control and maintenance of the player. The player may experiment with different ways of subdividing slower tempos while trying different ways of feeling faster tempos in larger subdivisions.

Each etude presents a new challenge:

- Etude #12: This etude introduces using five drums simultaneously and requires the timpanist to play long embellishments, written accelerandi, and feathered beams. It also introduces doubles stops of various intervallic relationships which acts as checkpoints to check intonation. This etude features a very slow tempo and the first use of the tritone.
- Etude #13: The timpanist gets 1.5 measures to change each pitch while keeping count during this fast-paced etude.
- Etude #14: The timpanist has two measures to change two drums (one pitch per measure), which transitions well into the final two etudes of the Tuning chapter

The notation of this etude makes it challenging to read, but offers many opportunities for the timpanist to add his own interpretation. Measure 5 includes an ascending scale typical of Elliott Carter's *Eight Pieces for Four Timpani*. The embellishment in measure 6 should be performed by alternating each note, but its openness can be left up to the player. The written accelerando in measure 9 should be performed as an even, organic accelerando and should not appear strictly rhythmic. Measure 24 requires the new notes to come out of the texture to draw attention to its entrance. Measure 30 looks different, but should have a similar organic quality of accelerando as measure 9. This etude includes a five drums of the set and uses the extreme ranges. Unusual notes, such as Bbb, are included as merely a way to expose the player to infrequently used notation. Rhythmic augmentation and diminution can be found throughout and should be made obvious. The player should listen to the cue pitches as sources for the pitch rather than using a source device (tuning fork, etc.). The diminished chords qualities of the etude present new challenges for listening and recognizing intervals between the drums.

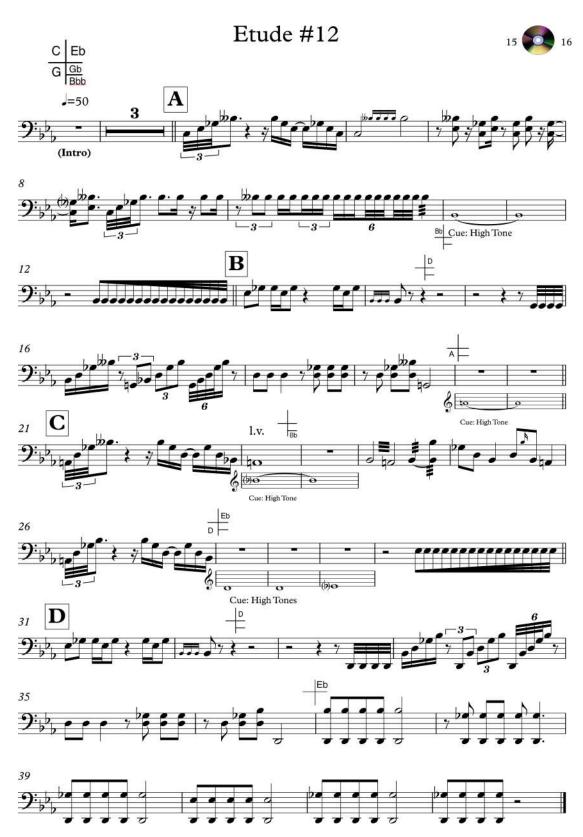


Figure 3.14 - Tuning Etude #12

Etude #13 is an excerpt of the percussion parts from a marching band arrangement. The battery parts are used with permission from their composer, Patrick Chapman. This timpani part explores the performance of timpani in a loud and energetic musical setting. The player should listen to the keyboard percussion parts for intonation and the battery percussion for timing throughout. Be sure to count carefully during rests and have confidence with each entrance.



Figure 3.15 - Tuning Etude #13

This jazz combo orchestration is unusual for timpani, but such a lyrical etude allows the timpani to shine in the rhythmic and melodic spotlight. The rhythms are simple, yet interesting with more across-the-barline figures and unison passages with the bass player. The timpanist should continue using interval knowledge and source devices for each tuning change. Before changing pitches, it is important that the range of the drum is considered and where the new pitch lies within that range; this will speed up the tuning process. The timpanist is given space to interpret the embellishments. The time allowed for each tuning change is quickly disappearing. In this etude, two bars are given for each pitch that needs changed.



Figure 3.16 - Tuning Etude #14

TUNING: ETUDES #15 - 16

The final two etudes of the Tuning chapter of this document act as transition etudes. The timpanist will have minimal time to listen to the instrument during the pitch changing process and will need to begin relying on muscle memory and tuning gauges for changing pitches. These are the final two etudes before the Pedaling chapter.

Etudes #15 and 16 challenge the timpanist to tune each pitch with only one measure of rest. Some etudes even give only two beats to change pitches, relying more on muscle memory, range awareness, and tuning gauges for the change. The timpanist must listen to the accompaniment for pitch references during tuning changes and intonation check points.

The timpani parts become more melodic and expand the supportive harmonic and rhythmic capabilities as the time spent tuning diminishes. Some phrases require more than one pitch to be changed at a time.

All intervals are possible in these etudes, requiring a high degree of interval recognition and intonation accuracy.

Each etude presents a new challenge:

- Etude #15: features the development section of a symphony with rapid changes; many half and whole step changes could be pedaled rather than the standard tuning procedure
 - Etude #16: an excerpt of a church piece; heavy emphasis on tuning (almost every note is changed)

Beethoven's Symphony No. 1 (Allegro) serves as the accompaniment of Etude #15. Orchestral music is obviously a popular place to find timpani, however, the modern orchestral timpanist is required to have more tuning and technical chops. This etude overloads the timpani part with frequent, yet similar changes. Because of the brisk tempo, the timpanist will need to rely strictly on the ensemble, interval knowledge, and some muscle memory for the tuning changes. The staccato notes should be supported by muffling and quick strokes.

Below is a list of helpful tips for performing Etude #15:

- m. 8: listen to the G-natural in Violin 2 and sign up a fifth to find the D-natural
- m. 10: tune A from the low note of the bassoon
- m. 11: check the intonation of the D-natural with the basses
- m. 14-16: can only be performed by hearing the new pitch in the mind's ear before tuning
- m. 18: listen to Violin 1 for the D-natural
- m. 20: know the familiar song for a Perfect 5th for this change
- m. 28: listen to the F-natural in Violin 1 for this change
- Letter D: make the first three changes by knowing the sound of the interval before tuning
- m. 36: listen to beat 4 of m. 31 for the G-natural in the strings



Figure 2.17 – Tuning Etude #15

Etude #16 uses the popular Church hymn *Holy, Holy, Holy* as the closing etude of the Tuning chapter of this document. Church music often requires frequent tuning changes due to typical Church harmonies. Additionally, it is common for the timpanist to be limited to two drums because of space restrictions in the choir loft. This etude challenges the timpanist's ability to make very quick changes in-time and keep true to the musical style and note lengths. Measure 11, for example, requires the player to tune the 26" drum while playing a whole note on the 29" drum. The timpanist cannot become distracted with the process of tuning and neglect to perform the whole note appropriately. It is necessary for the timpanist to use interval knowledge, the ensemble, and muscle memory to effectively make the tuning changes. For an additional challenge, try reading the bass voice of the original hymn and play more of the written notes.

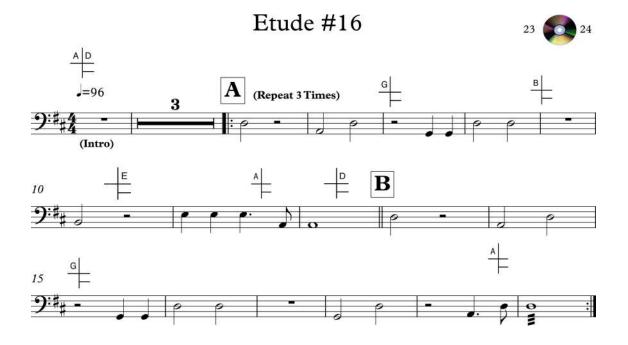


Figure 2.18 – Tuning Etude #16

CHAPTER THREE: PEDALING

PEDALING INTRODUCTION

The art of pedaling on timpani is a difficult, yet musically satisfying experience. Pedaling is becoming an increasingly important skill for contemporary music and, according to Hollywood percussionist Brad Dutz, television and film recording, as well. Extant timpani method books claim to focus on pedaling and tuning concepts, yet often avoid the subject altogether. These books often include many melodies and quick pedaling passages, but fail to offer pedagogical instruction for performing such challenging tasks.

Saul Goodman's *Method for Timpani* is a staple in timpani pedagogy with important exercises and information on rolls, muffling, setting up the drums, among other skills. Goodman even includes a collection of familiar melodies in the back of his method book, yet does not offer any hints for how to learn to perform these melodies.⁷² Vic Firth's *The Solo Timpanist*⁷³ includes solos with tuning changes and pedaling passages, yet it fails to provide a step-by-step process for performing pedaling phrases. Kirk Gay's *Pedal to the Kettle* collection is a recent method book which claims to focus on all aspects of timpani playing. The book even has the word "pedal" in the title, suggesting the importance of tuning on the instrument. However, the book does not offer a progressive treatment of tuning or pedaling within the etudes. *Etuden for Timpani* does not include text instructions for any of the exercises.⁷⁴

⁷¹ Interview with Brad Dutz

⁷² Saul Goodman, Modern *Method for Timpani*.

⁷³ Vic Firth. *The Solo Timpanist*.

⁷⁴ Richard Hochrainer, *Etuden for Timpani* (Munchen: Ludwig Doblinger, 1958).

The pedaling section of this document includes 16 progressive etudes each with fun and exciting audio playback files of a variety of musical styles. 75 Each etude comes with two files, the first including the timpani part within the playback and the second which does not include the timpani part in the playback file. Notice these play-alongs are the same as those in the Tuning chapter. Using the same play-alongs will increase the timpanist's confidence and familiarity of the accompaniment, increasing the productivity of this chapter. The following is a list of concepts which gradually increase in difficulty throughout the pedaling etudes: the number of drums used, the number of changes at a time, the types of pedal motions, number of changes per foot, the intervals encountered, and the timing for checking intonation. The first etudes introduce the concept of building muscle memory for a variety of intervals. By the end of the etudes, the timpanist will be able to perform the most demanding and challenging of melodic pieces such as those found in Ronald Horner's The Tuneful Timpanist.76 It is necessary to read the introductory paragraphs of both the Tuning and Pedaling chapters of this document to have a complete understanding of all the skills required for performing the pedaling etudes.

CHOOSING THE BEST PITCH ARRANGEMENT

Timpani sound best when tuned to their mid to upper range because of the tension on the head. This gives the drums a focused pitch and provides the best possible tone. However, some musical passages will not allow every note to be tuned to the top range of a drum. It is acceptable to tune pitches in the lower range of any of the drums, however, it

⁷⁵ Garwood Whaley's *Primary Handbook for Timpani* has playback of the timpani part only.

⁷⁶ Richard Horner, *Tuneful Timpanist* (Maryland: Meredith Music Publications, 2000).

is important to choose these pitches carefully. Pedaling passages occur quickly and tend to hide the loss of tone quality of certain tones. Tune neighbor and passing tones in the lower ranges and keep important foundation tones such as dominants and tonics in the upper ranges.

Additionally, the timpanist should avoid pedaling into an important dominant or tonic. Pedaling is a difficult task and it can be easy to have intonation problems due to faulty pedaling motion from the player, therefore, it is best to pedal away from these important pitches. When possible, the timpanist should assign pitches to particular drums. The timpanist should also assign their feet to particular drums to minimize the movement of feet between different drums. When the timpanist assigns drums and feet, he knows exactly where and how to perform those pitches. This makes sightreading a simpler task by allowing the eyes to stay on the music rather than looking around the drums.⁷⁷

PEDAL MOTION

Pedaling on timpani is a skill necessary for performing fast melodic and harmonic passages when the standard tuning procedure is not possible to perform. Because of these musical responsibilities, it is important that when pedaling from one pitch to another, the timpanist does so quickly and does not allow a glissando to occur; there should be two clear pitches. To effectively pedal, the foot should be kept flat on the pedal at all times and the legs, ankles, and feet should be engaged at all times. For more details on how to properly engage these body parts, please refer to the Tuning chapter of this document. Some describe the action of pedaling as comparable to using the pedal on a piano; the

⁷⁷ Stanley Leonard, *Pedaling Technique for the Timpani*, 59.

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foot moves similar to a grace note to the attack of the note.⁷⁸ To practice this skill in depth, see the Foot Control exercise in the Appendix. The exercise is inspired by the Scale Exercises on page 44 of Friese-Lepak *Timpani Method*.

HAND & STYLE INDEPENDENCE

The timpanist must be able to separate the quick, snappy action of the foot and the style requirements of the hands during pedaling passages. The action of the pedal is always snappy and does not change for any reason. However, the hands must be flexible to adapt to the stylistic requirements of the pieces the timpanist plays. The timpanist may need to play long, dripping legato strokes while maintaining the snappy action of the pedal between notes. It is interesting to note that the longer the timpanist waits to pedal to the next note during these lyrical sections, the quicker the foot must move and the more connected the notes sound. See the Appendix for exercises associate with this concept.

SHIFTING FROM DRUM TO DRUM

As the timpanist is required to perform a greater number of pitches, the movement from drum to drum simultaneously increases. The timpanist must keep the feet light and shift around the pedal quickly to perform difficult pedaling phrases. Attention to the placement of the feet on the pedals is critical for quick speed around the pedals. If the player has enough control, it may be possible to leave the entire foot on the pedal and simply push off without affecting the position of the pedal. For many situations, it is necessary to use the side of the pedals as a push off point for moving quickly to other

⁷⁸ Stanley Leonard, *Pedaling Technique for the Timpani*, 11.

drums. To practice this skill, use the Foot Ballet exercise included in the Appendix of this document.

The feet are not the only parts of the body to keep loose and flexible. The upper body must be in perfect coordination with the hands to execute complicated rhythmic material. To help the hands get to their destination quickly, the upper body must anticipate the move to the new drum by turning the upper body and shifting their weight slightly before the hands shift.

The drums on the player's left are played with the left foot and the drums on the player's right are played with the right foot.⁷⁹ Crossing the feet is nearly impossible and will impede on the ability to effectively play pedaling passages.

HOW TO DECIDE WHEN TO PEDAL

Pedaling is a useful skill for short bursts of notes, but with each additional note of a fast rhythm, the control of the foot diminishes. If the space between the pitches of a rhythm exceed 300 beats per minute, it may be necessary to arrange the rhythm around the drums rather than pedal. This is a fair marking of a foot control "breaking point." There are two ways to arrange the rhythm around the drums. The first way is to preset all the pitches on the different drums. The second way is to split the pedaling responsibilities between two feet by breaking the passage into smaller chunks.

BRACKET INDICATIONS

Brackets notated in the pedaling etudes indicate drum pedalings. The pitch at the

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⁷⁹ Stanley Leonard, *Pedaling Technique for the Timpani*, 58.

beginning of the bracket moves to the pitch at the end of the bracket. For situations which include more than two notes inside the bracket, all pitches within the bracket should be performed on the same drum. Use the tuning indicator to identify which drum to use. Brackets are simply suggestions. The player is encouraged to try other arrangements.

CHOOSING WHICH FOOT TO USE

The left foot moves the pedals on the player's left side while the right foot moves the pedals on the player's right side. This is easy to identify when only two drums are in use. However, when more than two drums are employed, the player must look at the musical context to identify how to map out the footwork. It may be necessary to look a few measures past the current music to see where the feet must eventually travel. Foot markings have been left out of the etudes to give the timpanist the opportunity to make decisions. The introductory etudes contain foot markings.

This etude is the first step in combining the skills learned in the Tuning etudes and acquiring speed and dexterity to perform challenging pedalings. This two-drum etude uses basic rhythms to focus on touch and tone. The orchestration requires the player to play a note and pedal to a subsequent new note on the same drum. This gets the pitch resonating on the drum before the pedaling, requiring swift action of the foot to avoid a glissando. The Perfect 4th and 5th intervals are the easiest of all intervals (other than unisons and octaves) to hear.

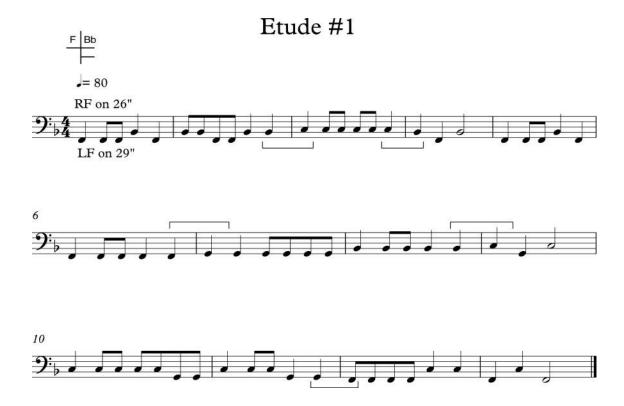


Figure 3.1 - Pedaling Etude #1

This etude uses three drums, but only pedals the 29" and 26" drums. Upbeat pedaling is introduced alongside downbeat pedaling, making for more complicated timing of the foot action. After pedaling to the new note, check the intonation by comparing the old pitch to the new pitch. Use gauges to help change pitch along with muscle memory. Remember to always check the intonation with the ear. Intervals of Major 2nd, minor 2nd, Major 3rd, Perfect 4th, and Perfect 5th are used between the two drums. The timpanist should hear these in the mind's ear prior to playing.

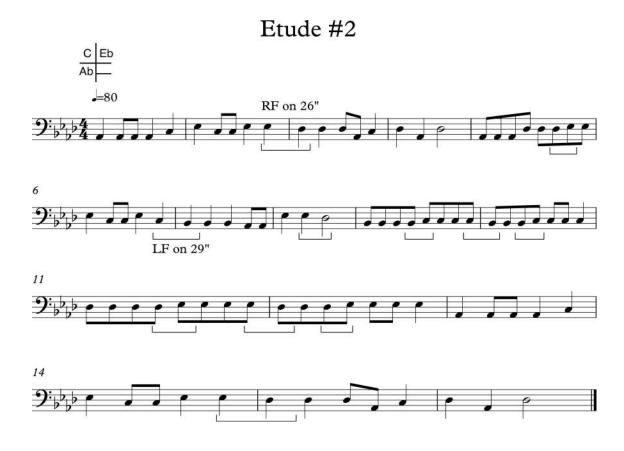


Figure 3.2 - Pedaling Etude #2

Etude #3 is written for four drums, including the preset note G-natural on the 23" drum. This etude requires pedaling the following intervals: Major 2nd, minor 2nd, and Major 3rd. There are two pedaling per bar on the same foot. Arpeggiated measures make intonation accuracy obvious to the listener and should be carefully tuned. Use muscle memory and gauges to get to the pitch and use the ear to fine tune the pitch. The left foot is used on the 29" and 32" drums while the right foot is assigned only to the 26" drum.



Figure 3.3 - Pedaling Etude #3

This five-drum etude uses preset pitches on the 23" and 20" drums. Measures 6 and 7 feature challenging intervals between two feet. The etude requires the timpanist to play the drum, pedal the drum, and then play the drum again to focus on the accuracy of intonation. Use gauges and muscle memory to perform the pedaling and use the ear to check the accuracy of the move. This is a rather physical etude and requires flexibility of the upper body. Play particular attention to the playing zones throughout.

Figure 3.4 - Pedaling Etude #4

This Samba Batucada groove is the same as the groove in Etude #5 of the Tuning chapter. However, the timpanist will find it more effective and efficient to perform with play-alongs with which he is familiar. This etude involves pedaling Major and minor 2nd intervals all located on downbeats. These intervals are best for a beginner because the interval is small enough to manage, but large enough to be meaningful and build muscle control. Many changes occur between quarter notes, but some involve eighth notes. Do not allow the increase in hand motion affect the foot motion. Use gauges and muscle memory to tune, but be sure to check the intonation with the ear. The brackets indicate drum pedalings. The left foot plays the notes on the 29" timpani and the right foot plays the notes on the 26" timpani.



Figure 3.5 - Pedaling Etude #5

This etude challenges the timpanist by further separating the feet, such as measure 45 where the left foot is on the 32" drum while the right foot is on the 26" drum. This slightly changes the posture of the player, requiring a more erect back and strong upper body core. This etude requires some pitches to be changed well in advance of playing them. Text suggestions for when to change these pitches are located above them. The neighbor tone is a popular sound throughout this and many of the early pedaling etudes. The timpanist should start to develop a memory for these intervals.



Figure 3.6 - Pedaling Etude #6

The tuning requirements are particularly difficult in this etude. It exploits the common issue of choosing the appropriate time to pedal a note. In measures 5-6, the Bb moves to a C-natural. The timpanist could move the Bb to C-natural as early as the "and" of beat two of measure 5. However, doing so will add a glissando to the sound and tuning too soon can throw off the timing of the rhythms of the bar. It is recommended to pedal the C-natural immediately before playing it. Pretend none of the F-naturals exist in measure 5 and the Bb was a whole note moving to a whole note C-natural in measure 6. Use the pedal as if pedaling these whole notes. This creates a much cleaner and precise tuning. The same concept is found at measure 34 between the same pitches.



This etude uses three drums with frequent downbeat and upbeat changes. The piece is diatonic to allow for easy intonation evaluation and correction. Use muscle memory and gauges to tune the note, but fine-tune the pitch with the ear. The spaces between the pedaled notes are mostly quarter notes. Each pedaling involves only one foot per bar. Not all pitch changes are marked. Some suggestions for when to pedal certain notes are included. These changes are recommended because they occur during minimally disruptive moments- areas where the pedaling will most likely not interfere with the performance.



Figure 3.8 - Pedaling Etude #8

This four-drum etude has less tuning opportunities than other etudes because the challenge is keeping up with the fast tempo. The foot action during pedaling is the same at any tempo, but the flexibility of the player is tested by quick shifts between drums. Intonation can also be more difficult with faster tempi because the notes come and go at a faster pace, allowing less time to evaluate accuracy. The double stops provide obvious intonation checkpoints. This etude involves duet material between the concert toms and the timpani. Letter D has some extended rests where the timpanist should use the standard tuning procedure to change pitches. Measure 10 requires a large stretch between the 23" and 32" drums; the player should be particularly careful of the playing zones here. The glissandi at Letter E should be seamless between the drums, requiring careful attention to pacing and timing of the changes. The C-natural in the third bar of Letter E should match the intonation of the last pitch of the previous bar.



This etude uses material from its counterpart etude in the Tuning chapter. Keep the embellishments closed and add a slightly weighted accent on each of the release notes. Thinking of a drumset backbeat while playing may improve style and timing accuracy. The roll passage at Letter A require even rhythm in the roll. Do not change the roll speed going into or leaving a new drum. The roll speed may open up as the part descends, but no break in the sustain should occur because of this. The tuning requirements presented in this etude are difficult and take careful planning. The following is a suggestion for playing measure 33:

- m. 33: to play beat 4, tune the G-natural to B-natural; pedal the B-natural to A# in the eighth note rhythm; pedal back up to B-natural for the next entrance



Figure 3.10 - Pedaling Etude #10

This etude is an opportunity for the timpanist to focus on the smaller drums. Pedaling these higher pitches can be unforgiving, requiring a command of the intervals through muscle memory. Letter B requires the player to perform a stationary pitch while playing and pedaling a moving melodic line of long tones. The scale in measure 21 is difficult because it involves two drums in four notes with a pedaling in the middle of the figure. This choppy treatment of a scale is not preferred, but is a necessary skill. Be sure to keep the eighth notes steady and balanced in measure 13-14.



Figure 3.11 - Pedaling Etude #11

This etude requires quick shifts and fast rhythms across the drums. Look at the notes for Etude #12 in the Tuning chapter for performance suggestions. Balance the moving notes in the oblique motion passages (i.e. measure 18). Listen to the cues as reference tones before executing the standard tuning procedure. This etude adds the challenge of pedaling two different intervals back-to-back on the same foot. Measure 22-23 explores all the varieties and subtleties of Bb. Avoid playing semitones on either side of Bb. Measure 37 introduces similar motion dyads. Measure 40 introduces contrary motion dyads. It is important to play balanced and well-timed double stops. Balancing them may require playing the lower pitch slightly louder than the higher pitch.



Etude #13 continues exploring different types of motion. The opening phrase is all contrary motion between the feet. Measure 16-17 requires a quick shift. The player should stay light on his feet and push of the pedals to make the shift quickly. The following list should be considered when playing this etude:

- -m. 21: D is played on a tacet drum 26"
- m. 3: tunings on 29" in m. 18, 20 with LF
- m. 3: three quarter notes in a row: m. 20-21; pedal w/ LF
- m. 22: all on 29"; allows important tonic F to stay put on 32"; also two pedalings in a row and of different intervals; use LF
- m. 25: Bb tuned as playing; pedal w/ LF (LF to keep player 'open' with shoulders square to prepare to tune G
- m. 29: fast 8th note pedaling; remember to pedal past the note on return to G for intonation; RF
- m. 29: G-A-G on 23"; F-E on 26"; quick shift of LF required between E and C in m. 30
- m. 30-31: C-Bb-C w/ LF on 29": fast passage
- m. 44: staggered tuning between feet; RF w/ m2; LF w/ m3; LF must come up for G and then pedal down far for E; Bb is tuned at Letter D then pedals m2 in RF
- m. 48: scale ascending: LF plays Bb-C, RF plays D-F; three notes in a row on RF
- m. 49: quick return of 29" to C with LF; LF then tunes G on 32"
- m. 53: tune 23" to F
- m. 55: tune 32" to F as it is played



Figure 3.13 - Pedaling Etude #13

This etude features the timpani in a truly melodic role with jazz combo accompaniment. The singing rolls of the timpani should be kept light and lyrical. Remember, faster roll speeds create tension and slower roll speeds create release. It is necessary to have direction of the larger phrases to keep the lyricism interesting and engaging. The following list should be considered when playing this etude:

- -m. 7 Eb to D on 26"
- m. 8-9: D to Eb m. 9: slight break between rolls
- Letter B is background to piano
- m. 10: Tune G as playing; Ab from G on 23"
- -m. 11: G on 23"
- m. 12: F from G on 32"; G from F
- m. 12: C and D on 29" w/ LF; Eb and F on 26" w/ RF
- m. 15: D on 26"; C on 29"
- m. 16: tune low G on 32"
- m. 20 is in unison with the upright bass; F, Eb, D on 26" w/ RF
- m. 22: Eb on 26"
- m. 29: fast 8th notes D, Eb, F on 26"
- m. 30: F on 26"; A on 23"; Bb preset on 20"
- m. 31: G on 23" from F
- m. 32: embellishment should be rather open
- m. 35: G and F on 23";
- m. 37: F of grace note on 26"; Eb and D pedaled down from F on 26" w/ LF
- m. 38: G and A on 23"; pedal quickly
- m. 39: put F on 26" w/ LF
- m. 40: pedal Eb and D on 26"
- m. 41: tune Eb on 26"



This excerpt of a Beethoven symphony features some of the most difficult phrases written for timpani. This etude has added difficulty in the articulation requirements. The scalar material of the ascending eighth notes after Letter D should include obvious staccato articulations. The descending figures at the end of the excerpt must employ hand muffling and stroke manipulation to emphasize the appropriate musical style.

The following list should be considered when playing this etude:

- m. 33: A on 29"; C# and D on 26": have to be strict and rhythmic about C# to D...no gliss!
- m. 34: B on 29"; D# on 26"
- m. 35-36: think of the passage as a broken ascending scale between the feet
- m. 35: RF on 23" (E, F, G); LF on 26" (C,D,E)
- m. 36: RF on 20" (A,B,C); LF (F,G); E is preset on 26" at this point
- m. 37: G is preset after m. 36 (no need to tune); LF quickly shifts to 29" and RF on 26"; RF pedals F to E; LF pedals D to C



This etude is modeled on the real-life experience of performing Church music. The parts are derived form the bass voice parts in a hymnal. The timpanist must make choices concerning pitches, pitch location, the function of the pitch, and rhythms all while sightreading. It is important to remember the key signature and to assign a foot and pitches to each drum to keep confusion to a minimum. The player is encouraged to vary the rhythm from the written rhythms to help move the music along and to keep the part engaging for the listeners. The etude allows the timpanist to balance his focus between touch and tone and the pedaling around the drums. The timpanist is also encouraged to read the original manuscript of *Holy, Holy, Holy* (public domain) and try many variations of the part.

The following list should be considered when playing this etude:

- m. 5: D on 26"; B on 29"
- m. 6: A on 29"; D on 26"
- m. 7: on 29"
- m. 9: C# and D on 26"
- m. 10: B on 29"; C# and D on 26"
- m. 11: E on 26": A on 29"
- Letter B uses similar layout of pitches
- m. 17: B on 26"; F# on 29"
- m. 18: G on 29"; D on 26"
- m. 19: G and A on 29"; D on 26"

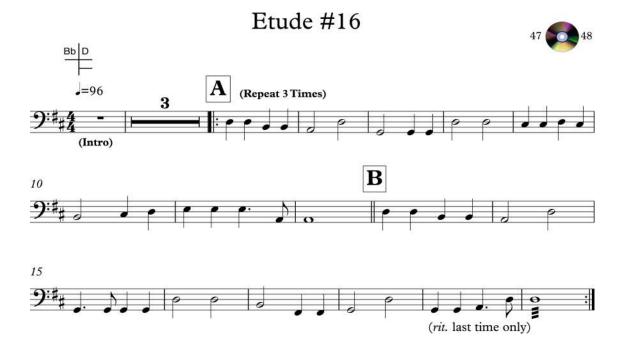


Figure 3.16 - Pedaling Etude #16

CONCLUSION

With the increasing demands of contemporary orchestra, band, and percussion ensemble literature and the rising number of music performances of television, film, and musicals, the modern timpanist must possess more than just the technical prowess of generations past. The contemporary timpanist must be musically sensitive with a keen sense for timing, style, rhythm, and lyricism. No longer does the timpanist sit in the back of the orchestra with long spans between dominant and tonic pitches. Today, the timpanist stands at the front of the stage playing wildly exciting passages followed by nuanced and vulnerable melodic material, such as the playing prescribed in Michael Daugherty's popular timpani concerto, *Raise the Roof.* It is my hope that this document will make accessible the skills of tuning and pedaling and will provide students with an enjoyable and effective pedagogy for such an important skill.

PART TWO

PROGRAM NOTES

A candidate for the Doctor of Musical Arts degree at the University of Kentucky must present three recitals in partial fulfillment of program requirements. Following are programs and program notes for the DMA Chamber Percussion Recital on October 6, 2013; DMA Solo Percussion Recital on November 15, 2014; and the DMA Lecture Recital on Saturday, April 4, 2015.

DMA Chamber Percussion Recital

Brandon M. Arvay October 6, 2013, 7:30 pm Singletary Center for the Arts Recital Hall

Program

The Jackal's Wedding (2013) Movement 1:rainfall Movement 2:sunshine Movement 3:prism	Joe W. Moore III (b. 1986)
Book of Grooves (2011) Movement 1: A Spanish Groove	Alejandro Viñao (b. 1951)
Nucleus (2007)	Alex Mincek (b. 1975)
Living Room Music (1940) Movement 1: To Begin Movement 2: Story Movement 3: Melody Movement 4: End	John Cage (1912-1992)
Shadow Chasers (1994)	Michael Burritt (b. 1962)

Program Notes for the DMA Chamber Percussion Recital

For *The Jackal's Wedding*, I got my inspiration from what is typically called a sunshower. This is when the sun is shining but it is also raining. Also called "the devil beating his wife" and many other nicknames. In Africa they call it "the jackal's wedding", this is where I got the title. The movement titles are simply the elements of a sunshower. Rainfall, sunshine, which typically results in a rainbow. I chose to use the word prism instead of rainbow for the the third movement.

Joe W. Moore III is an up and coming percussionist and percussion composer. He is currently pursuing a Bachelor of Arts in Music Performance at the University of Central Florida where he studies with Professor Jeffrey Moore and Kirk Gay. Joe's recent performances include Words Unspoken by Andy Harnsberger for the 2007 Percussive Arts Society Collegiate Keyboard Competition in which he placed 2nd place. As an educator Joe has worked with many high school performing ensembles in the Orlando area. He currently presides over the percussion lessons at the House of Music, a music studio in Oviedo.

John Cage's *Living Room Music* is an unconventional and theatrical four movement percussion quartet. The first and last movements employ unspecified household items, such as books, tables, or surrounding household architecture in place of traditional percussion instruments implements. The second movement features the text of Gertrude Stein's *The World is Round* vocalized by the players in a variety of compositional techniques, such as canon and counterpoint. The third movement is a melody performed by one player on "any suitable instrument."

John Cage was an American avante-garde composer whose inventive composition and unorthodox ideas profoundly influenced mid-20th century music. Cage's early compositions were written in the 12-tone method of his teacher Schoenberg, but by 1939 he had begun to experiment with increasingly unorthodox instruments such as the "prepared piano" (a piano modified by objects placed between its strings in order to produce percussive and otherworldly sound effects).

Book of Grooves is an exciting multi-movement marimba duet by Alejandro Viñao featuring bouncing rhythmic figures and heavily syncopated grooves dripping in octatonic and pentatonic modes, among others. Viñao establishes a clear groove at the beginning, but quickly "unlocks" the groove - that is, gradually transforming it by changing the point at which it repeats - but never loses sight of the "pocket."

Alejandro Viñao's music is characterized by the use of pulsed rhythmic structures to create large scale form, and by a melodic writing which -as in the case of much non-European music- develops through rhythm rather than harmony. Viñao has written music for a wide range of musical genre including opera, music-theatre, choral, instrumental and electro-acoustic compositions. He has also been involved with the creation of multimedia works, has composed music for some 20 films and produced several radio programs for the BBC. Another strand of Viñao's output consists of a wide range of percussion works which are rapidly becoming standard repertoire in the concert hall and in the pedagogical world of the conservatory and the university.

Alex Mincek's *Nucleus* is an exploration of timbral, technical, dynamic, and rhythmic extremes for both tenor saxophone and percussion. The two voices guide each other through the piece, exchanging blurted figures and delicate hocket motives. The

saxophone employs several extended techniques, including key clicks, blew air through the mouthpiece, and slap tongue. The percussionist matches each of these with a variety of extended techniques, including nail scratches and drum head rubbing.

Alex Mincek (b. 1975) is a New York-based composer and performer. He studied composition with Tristan Murail and Fred Lerdahl at Columbia University (DMA) and with Nils Vigeland at the Manhattan School of Music (MA). He is currently the saxophonist, bass clarinetist, and artistic director of the Wet Ink Ensemble, a group dedicated to contemporary music, which he founded in 1998. Mincek's music has also been recognized through commissions and awards from major arts institutions such as the Guggenheim Foundation, the French Ministry of Culture, the American Academy of Arts and Letters, the National Foundation for Advancement in the Arts, ASCAP, the National Endowment for the Arts, MATA, Radio France, the Barlow Endowment, Meet The Composer and the Issue Project Room.

Shadow Chasers is a flamboyant marimba solo with percussion trio featuring Burritt's trademark rapid permutations. The marimba solo is composed for the full range of a 5-octave marimba. The accompaniment explores unique timbres combining bamboo wind chimes, mallet percussion, and heavy improvised drumming passages. **Shadow Chasers** is remains one of Burritt's most performed pieces.

Michael Burritt is one of the world's leading percussion soloists, having performed on four continents and in over 40 states. He has performed many times as a featured soloist at the Percussive Arts Society International Convention and with major orchestras around the country. His marimba playing is can be heard on *Shadow Chasers*, *Perpetual*, and many other recordings of his music. Burritt is currently the Professor of Percussion at

the Eastman School in Rochester, NY and is an active international clinician. Burritt also serves regularly as an instructor at many summer percussion clinics and camps.

DMA Solo Percussion Recital

Brandon M. Arvay November 15, 2014, 7:30 pm Singletary Center for the Arts Concert Hall

Program

Improvisation (1950/68)	Elliott Carter (b. 1908 - 2012)
Olana (2007)	Kyle Gann (b. 1955)
Vibraphone and Electronics (2012)	Baljinder Singh Sekhon, II (b. 1980)
See Ya Thursday (1993)	Stephen Mackey (b. 1956)
Transferencia (2014)	Glenn Kotche (b. 1970)

Program Notes for the DMA Solo Percussion Recital

Improvisation is the fifth movement of an eight-movement collection titled *Eight Pieces for Four Timpani*, which are a step along the way of this metric modulation. The origin of this writing technique is found in the music of Stravinsky and the theories of Joseph Schillinger, who suggested the possibility of beating a four-beat bar as if it were in three and inversely, so as to obtain a sort of polyrhythm. The work is thoroughly composed, yet is perceived as completely improvised by the listener. *Improvisation* explores the colorful possibilities of playing in various locations on the head, including the center, the normal playing area, and toward the rim.

Elliott Carter is internationally recognized as one of the most influential American voices in classical music, and a leading figure of modernism in the 20th and 21st centuries. He was hailed as "America's great musical poet" by Andrew Porter and noted as "one of America's most distinguished creative artists in any field" by his friend Aaron Copland. Carter's prolific career spanned over 75 years, with more than 150 pieces, ranging from chamber music to orchestral works to opera, often marked with a sense of wit and humor. He received numerous honors and accolades, including the Pulitzer Prize on two occasions: in 1960 for his String Quartet No. 2 and in 1973 for his String Quartet No. 3. He studied under composers Walter Piston and Gustav Holst while attending Harvard University, and later traveled to Paris, studying with Nadia Boulanger.

"I've been going through a phase of naming pieces after the places I conceived them in, and percussionist Kerry O'Brien convinced me to write a vibraphone piece for her friend Andy Bliss on the day we visited *Olana*, the estate of the Hudson Valley Painter Frederic Church. The piece does little more than try to capture and sustain a mood. If I were to add a rather dry technical note, I could say that I arrived at its particular tonality by looking at the vibraphone key layout and thinking about the problem of trying to change interval size with the two mallets in one hand. I tried to turn that challenge into an advantage by arranging the tonality over each changing drone note to maximize the unchanging position of parallel intervals - resulting, I hope, in a piece that lends itself to an expressive performance." – Kyle Gann

Kyle Gann, born 1955 in Dallas, Texas, is a composer and was new-music critic for the Village Voice from 1986 to 2005. Since 1997 he has taught at Bard College. He is the author of *The Music of Conlon Nancarrow, American Music in the 20th Century, Music Downtown: Writings from the Village Voice, No Such Thing as Silence: John Cage's 4'33", Robert Ashley,* and the introduction to the 50th-anniversary edition of Cage's *Silence.* Gann studied composition with Ben Johnston, Morton Feldman, and Peter Gena. Of his hundred-plus works to date, about a fourth are microtonal, using up to 37 pitches per octave. He's received commissions from the Orkest de Volharding, the Indianapolis Symphonic Choir, the Dessoff Choir, the Relache Ensemble, pianist Sarah Cahill, and many others. His music is available on the New Albion, New World, Cold Blue, Lovely Music, Mode, Meyer Media, Brilliant Classics, New Tone, and Monroe Street labels. In 2003, the American Music Center awarded Gann its Letter of Distinction.

Vibraphone and Electronics is the newest piece from Baljinder Sekhon for percussion. The piece uses soundscapes and live electronic processing to create the aesthetics of the work. The piece explores the use of bowing on vibes, dead strokes, and coins buzzing on the bars. Its minimalist title reflects the use of only a small amount of

pitch material as the basis of the composition and its slow development over time.

"Clearly knowing the power of sonority" (Philadelphia Inquirer), the music of Baljinder Sekhon is frequently presented around the world. Performances of Sekhon's music have included those in Thailand, Mexico, Brazil, France, Sweden, Canada, The Netherlands, Taiwan, Norway, China, South Korea, Japan, and across the United States. From works for large ensemble to solo works to electronic music, Sekhon's demonstrate a wide range of interests and styles. Additional platforms for the performance of Sekhon's music have included the Seoul Arts Center, National Orchestra Institute, The Jerome L. Greene Performance Space, the Paris Conservatory, MATA's Interval Series, New World Symphony's Musician Forum Series, the World Saxophone Congress, International Viola Congress, Juventas New Music Ensemble, the Percussive Arts Society International Convention, Bang On a Can Festival, and a full concert of his works at John Zorn's contemporary art space The Stone. Sekhon serves on the composition faculty at the University of South Florida and holds a PhD from the Eastman School of Music where he is a three-time recipient of the Howard Hanson Orchestral prize and served as president of the highly acclaimed OSSIA New Music Ensemble.

See Ya Thursday by Steven Mackey was commissioned by New Music Marimba, the Percussive Arts Society, William Moersch, Nancy Zeltsman, and Robert Van Sice. See Ya Thursday was written intentionally for a five-octave marimba to explore that range of the instrument (transpositions for a smaller marimba are not recommended). Mackey's design for this piece stems from the opening tremolo that sputters and splinters into a 2-note left hand pattern. The bulk of the piece is then a series of free episodes/variations that build on this pattern. See Ya Thursday is a written based on a

story that Steven Mackey often tells and the work reflects the "informal charm" of the telling and listening of the story.

Steven Mackey was born in 1956, to American parents stationed in Frankfurt, Germany. He is regarded as one of the leading composers of his generation and has composed for orchestra, chamber ensembles, dance and opera. He has received numerous awards including a Grammy in 2012. His first musical passion was playing the electric guitar in rock bands based in northern California. He blazed a trail in the 1980's and 90's by including the electric guitar and vernacular music influence in his concert music and he regularly performs his own work, including two electric guitar concertos and numerous solo and chamber works. He is also active as an improvising musician and performs with his band Big Farm.

Transferencia was inspired by some Brazilian drumming and written on drumkit first. Kotche then transferred the material over to mallet keyboard sextet, keeping the idea of using a drumkit, but now deconstructing it to share among the players.

For a percussionist and composer as energetic, inquisitive and versatile as Glenn Kotche, it's his sense of balance—his ability to thrive in different and seemingly disparate worlds—that really makes him stand out as a musician. Since 2001, Kotche has been the rhythmic anchor in Wilco, one of the most beloved rock bands on the planet. He has appeared on over 80 recordings by artists as diverse as Andrew Bird, Edith Frost, Neil Finn and Radiohead's Phil Selway, and he's a founding member of two other bands. He has also written music for classical and post-classical ensembles like Kronos Quartet, the Silk Road Ensemble, the Bang on a Can All-Stars, So Percussion, eighth blackbird and many more. In the program notes for Ilimaq, a piece written in 2012 specifically for

Kotche, composer John Luther Adams observed, "...in the hands of a musician like Glenn, the drum set is a one-man percussion orchestra."

DMA Lecture Recital

Brandon M. Arvay April 4, 2015 4:00 pm Singletary Center for the Arts Recital Hall

Program

Overture to Candide (1956) Leonard Bernstein Excerpt from Carolina Crown 2008 (1918-1990)Maintenance Tuning Etude #6 Pedaling Etude #9 Raise the Roof (2003) Michael Daughtery Excerpt (b. 1954) Concerto for Orchestra (1943) Béla Bartók (1881-1945)Excerpt Symphony No. 4 (1993/4) David Maslanka (b. 1943) Excerpt Gioachino Rossini Barber of Seville (1816) Excerpt from Carolina Crown 2008 (1792-1868)

APPENDIX A

INTERVIEW WITH BRAD DUTZ

On February 11, 2015, I spoke on the phone with Hollywood percussionist Brad Dutz to understand how he prepares for timpani recording sessions for television and film. Brad opened up a door to a world I did not know much about, giving me perspective of just how important the skill of timpani tuning can be and further solidifies how important the ability to tune and pedal timpani is to the modern percussionist.

BA: I know that much of your time is spent playing in recording studios for television and film. When you are recording timpani parts, how do you handle pitch changes?

BD: Recording anything for television or film is really expensive. Sometimes I'm in a studio with a live orchestra. And we all get paid around \$75 an hour. Each session is a maximum of three hours, two hours minimum. We don't have time to rehearse anything and composers are usually pretty good at giving the timpanist time to tune. Composers write more than eight pitches usually in a single cue. Because of the number of pitches I have to play and the cost of studio time, I usually send over eight drums. I can usually play all the parts with eight drums. If I have to stop the orchestra to say, "Hey, I need to retune," I would get fired. Sometimes I play video game soundtracks that require 12 pitches. I will always transpose any octaves that may be written. These recording sessions are typically more intimate, just me and the engineer in a tiny booth somewhere. Sometimes I can only fit three or five timpani in the studio because the budget is so small, they have to use a smaller space. Although it's a smaller space and only two of us, we can make time for me to tune. Sometimes we will record in a way that allows me to tune a set of notes on the drums, then we go through entire soundtrack recording only those pitches. Then, I'll retune to another set of pitches and we'll record those.

BA: What equipment do you use?

BD: I own my equipment (Yamaha and Ludwig timpani) and store them in cartage. Cartage guys know me and take great care of the equipment. And because it's California, the weather is pretty consistent.

BA: That brings me to my next series of questions. I'm interested in hearing about maintenance and the preparation before each recording session.

BD: When I get my drums in from cartage, I show up to the studio and check them for damage and set the gauges. Again, because it's California, our weather is pretty stable. Evans makes such great and consistent drum heads, I don't have to change them, but every four to five years. I can't use skin heads because of the amount of moving of the equipment and the care they require. It's rare that I have to clear the heads, maybe every

⁸⁰ Brad defined a "cue" as a "whole bunch of small pieces/phrases that all together make a soundtrack. They are usually very short at just a few measures each."

few months. That's why I use Evans. They're durable. Timpani recordings are not a common gig for me. I play a lot more of the hand percussion stuff.

BA: How do you prepare the drums for a session?

BD: I always use a tuner, Kong or Roland. I use my ears first [to tune the drums], then I check with the bass player standing beside me to see if he's using A-440 Hz or something else, then I use my tuner. Sometimes I'll just go over to the bass player and look at his tuner and tune from that.

BA: So if you're sending so many drums to a recording session, it sounds like you may not be pedaling much, if at all. Is that true?

BD: Actually, pedaling is very important. I pedal all the time. Eight drums doesn't cover every pitch I need. I'm pedaling a lot, again, because it needs to be done fast and recordings are so expensive. Now, I always sit. It gives me access to the pedals and puts me in the best position to play well.

Brad Dutz is an in-demand hand percussion soloist and recording percussionist. Dutz can be heard on soundtracks for television, film, and IMAX films including KING OF THE HILL, FAMILY GUY, THE BOURNE LEGACY, TRANSFORMERS, COWBOYS AND ALIENS, and MYSTERIES OF EGYPT. He is known for his playing on congas, berimbau, bata, bodhran, bones, pandiero, and others. Dutz has recorded CDs for artists like ALANIS MORRISETTE, KISS, WILLIE NELSON. He is on the part-time faculty of Cal State Long Beach and has published three method books. His latest projects include duets with notable percussionist Chris Wabich.

APPENDIX B

Dyad Tuning Grid

Parallel Motion









Performance Tips:

- use with any interval
- experiment a variety of two-drum combinations
- try starting at the double barline of each line
- etude line uses both whole and half steps (as written)
- 60 240 bpm

APPENDIX C

PEDAL CONTROL PERFORMANCE NOTES:

Pedal Control offers the timpanist a progressive collection of brief, yet challenging exercises that help develop muscle memory for a variety of intervals. When the standard tuning procedure cannot be executed, the timpanist is required to perform more than one pitch on a drum in quick succession. To perform such a delicate and quick task, the timpanist must have muscle memory in the legs each interval. The feet and hands must operate in coordination to perform multiple pitches on single drum without hearing a glissando between the notes. It is important that each pitch is heard clearly and that the hands do not become influenced by the snappy action of the foot.

Below are brief comments, which describe the purpose for which the various lines are included in this exercises collection. The numbers correspond to the lines on the page.

Major 2nd	minor 3rd
Ascending	Ascending
Descending	Descending
Ascending/Descending w/ 2 moves	
Descending/Ascending w/ 2 moves	Major 3rd

minor 2nd Ascending

Descending

Ascending/Descending w/ 2 moves Descending/Ascending w/ 2 moves Ascending and Descending Sequence (LF)

Ascending and Descending Sequence (RF)

Descending and Ascending Sequence (LF)

Descending and Ascending Sequence (RF)

minor 2nd/Major 2nd

Ascending M2 + m2 Ascending m2 + M2 Descending m2 + M2

minor 3rd/Major 3rd

Ascending

Descending

Ascending M3 + m3
Descending M3 + m3
Ascending m3 + M3
Descending m3 + M3

Major 2nd/minor 3rd

Ascending M2 + m3 Descending M2 + m3 Ascending m3 + M2 Descending m3 + M2

minor 2nd/Major 3rd

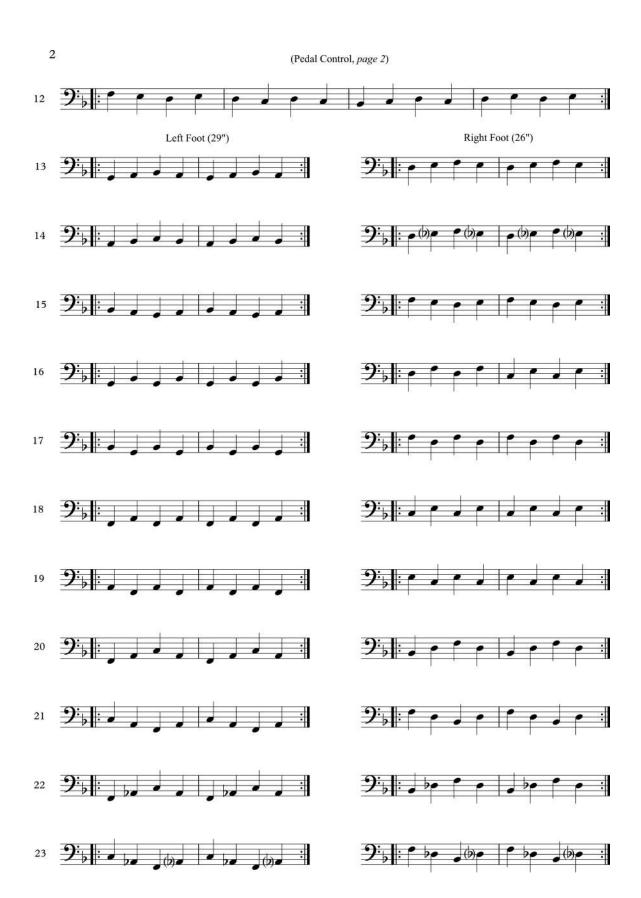
Ascending m2 + M3 Descending M3 + m2

minor 2nd/minor 3rd Ascending m3 + m2

APPENDIX D

Pedal Control







The feet should sit on pedals throughout the entire exercise. Move the feet to the pedal on the drum which corresponds to the written pitch. The player will not pedal any pitches, but will use 4 -5 drums.

APPENDIX E

 No playing; only move feet around the pedals in-time
 Move feet around pedals and only play the first note of each grouping
 Play as written

Ballet Jeu de Jambe















APPENDIX F

Hand Style Independence





Performance Notes:

- 80 240 bpm
- try various intervals
- keep long, connected motions during legato strokes
- staccato strokes must match the snappy foot motion
- experiment with varying legato and staccato strokes throughout
- foot action during changes must ALWAYS by snappy

Performance Notes:

- vary the tempo (80 - 240 bpm)

APPENDIX G

- try in all 12 major/12 minor keys
- foot action must be snappy

Stationary Roots

 explore adding legato and staccato stroke in a variety of permutations



LH, RH, Alternating Hands



LH, RH, Alternating Hands



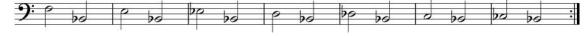
LH, RH, Alternating Hands



LH, RH, Alternating Hands







APPENDIX H

Familiar Songs for Interval Recognition⁸¹

Interval	Ascending	Descending
minor 2nd (m2)	Jaws San Francisco (Left My Heart) I Remember You I'm Getting Sentimental Over You Bye, Bye, Black Bird Stormy Weather It's Been a Hard Day's Night (Beatles)	O, Little Town of Bethlehem Joy to the World Stella by Starlight The Lady is a Tramp Solar (M. Davis) Shall We Dance (The King and I) Fur Elise
Major 2nd (M2)	Happy Birthday Rudolf the Red Nosed Reindeer Silent Night There Will Never be Another You Tennessee Waltz My Funny Valentine Body and Soul They Say, Ruby Frere Jacques	Mary Had a Little Lamb Deck the Halls Away in a Manger On the Sunny Side of the Street Freddie Freeloader Three Blind Mice M.A.S.H. Blue Moon Satin Doll My Girl The First Noel
minor 3rd (m3)	Work Song Georgia on my Mind Moontrane The Impossible Dream O, Canada Brahm's Lullaby	Frosty the Snowman Misty Hey Jude Peter Gunn You're a Grand Old Flag This Old Man

⁸¹ Virginia Commonwealth University, "Songs for Interval Recognition," VCU Music Theory, http://www.people.vcu.edu/~bhammel/theory/resources/macgamut_theory/songs_interval_recogn ize.html (accessed February 2015).

	Greensleeves So Long, Farewell (Sound of Music)	Jesus Loves Me Star Spangled Banner
Major 3rd (M3)	When the Saints I Can't Get Started Kum Ba Yah Sweet Hour of Prayer From the Halls of Montezuma	Beethoven's Fifth Swing Low, Sweet Chariot Summertime Giant Steps Come Rain or Come Shine Bessie's Blues
Perfect 4th (P4)	Here Comes the Bride Oh, Christmas Tree 'Round Midnight We Wish You a Merry Christmas Auld Lang Syne Aura Lee Amazing Grace	Shave and a Haircut Oh Come All Ye Faithful Almighty Fortress is Our God Bizet's "L'Arsienne" I've Been Working on the Railroad
Tritone (TT)	Maria (West Side Story) The Simpsons	Blue Seven (Sonny Rollins) European Siren
Perfect 5th (P5)	Twinkle, Twinkle Theme from 2001 Whisper Not (Benny Golson) Theme From Peanuts Bags Groove	The Way You Look Tonight Mozart's Minuet in G Flintstones Star Spangled Banner
minor 6th (m6)	The Entertainer Morning of the Carnival Go Down Moses	Please Don't Talk About me When I'm Gone You're Everything (C. Corea)
Major 6th (M6)	Theme from "The Sting" NBC Dashing Through the Snow	Nobody Knows the Troubles I've Seen O-ver There
minor 7th (m7)	There's a Place for Us (West Side Story) Old Star Trek Theme Somewhere (West Side Story)	Watermelon Man (H. Hancock) Theme from American in Paris
Major 7th (M7)	Theme from Fantasy Island Superman Bali Hai (South Pacific)	I Love You (Cole Porter)
Perfect 8th (P8)	Somewhere Over the Rainbow A Christmas Song Let it Snow Blue Bossa	Willow Weep for Me

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VITA

EDUCATION

2010 - 2012 Colorado State University, Fort Collins, CO

Master of Music Degree in Percussion Performance (May 2012)

Summa Cum Laude

Pi Kappa Lambda

Primary Percussion Instructor: Eric Hollenbeck

Primary Jazz Instructor: Shilo Stroman

2005 - 2009 University of South Carolina, Columbia, SC

Bachelor of Music with Emphasis in Education (December 2009)

- Cum Laude

Performance Certificate in Percussion (December 2009)

- Graduated with Distinction in Music Performance

Primary Percussion Instructor: Scott Herring

Primary Jazz Instructor: Jim Hall

Additional Study

Yousif Sheronick (World Percussion), Brad Dutz (World percussion), Chris Wabish (World percussion), Kyle Forsthoff (World percussion), Pat Schlecker (percussion), Steve Hearn (percussion), Colin Campbell (drumset), Mike Tetreault (percussion), James Ross (percussion), Robert van Sice (percussion), Andrew Markworth (marching percussion), Lee Beddis (marching percussion), Brian Tinkel (marching percussion), Ian Hale (marching percussion), Seth Adams (marching percussion), Chris Rapacki (marching percussion), Jaye Ingram (percussion), Jason Frith (percussion), Matthew Jones (percussion)

Professional Development

Day of Percussion - Percussive Arts Society's Kentucky Chapter

- 2015 (Lexington, KY) Event Coordinator

Day of Percussion - Percussive Arts Society's Kentucky Chapter

- 2014 (Lexington, KY) Planning Committee
- 2014 (Lexington, KY) Artist Relations Staff

Percussive Arts Society International Convention

- 2014 (Indianapolis, IN)

Day of Percussion - Percussive Arts Society's Kentucky Chapter

- 2013 (Lexington, KY) Artist Relations Staff

Percussive Arts Society International Convention

- 2013 (Indianapolis, IN)

College Band Directors National Association Convention

- 2013 (Greensboro, NC)

Percussive Arts Society International Convention

- 2010 (Indianapolis, IN)

American Bandmasters Association Convention

- 2008 (Charleston, SC)

Midwest Band and Orchestra International Convention

- 2008 (Chicago, IL)

Day of Percussion - Percussive Arts Society's South Carolina Chapter

- 2007 (Clemson, SC) Guest Performer with Ridge View High School Percussion Ensemble
- 2006 (Conway, SC)

TEACHING

Collegiate Level

Graduate Teaching Assistant - University of Kentucky, Lexington, KY (2012 - Current)

- Sabbatical Replacement for Professor James Campbell (Spring 2013)
- Drumline Instructor for the University of Kentucky Marching Band (2012 2013)
- Percussion Ensemble Assistant Conductor (2013 Current)
- Percussion Methods Class Instructor (2013 Current)
- Freshmen Skills Class Instructor (2012 Current)
- Private Lessons Instructor for Undergraduate Percussion Majors (2012 Current)

Adjunct Percussion Instructor - Laramie County Community College, Cheyenne, WY (2012)

Instructor - Colorado State University, Fort Collins, CO (2011-2012)

- Percussion Methods Class Instructor

Other Professional Appointments

Director of Percussion - Central Kentucky Youth Orchestra, Lexington, KY (2014 - Current)

Performer - Blue Steel Caribbean Ensemble, Lexington, KY (2014 - Current)

Music Arranger - Woodford County High School, Versailles, KY (2014 - Current)

Residency - Lafayette High School, Lexington, KY (2014)

Blogger - Percussive Arts Society, Indianapolis, IN (2014 - Current)

Music Arranger - Cane Bay High School, Summerville, SC (2014 - Current)

Student Delegate - Percussive Arts Society, Indianapolis, IN (2013 - Current)

Director of "Blue Steel" Caribbean Ensemble - Lexington, KY (2012 - 2013)

Board of Directors - Palmetto Percussion (WGI), Boiling Springs, SC (2012 - Current)

Music Arranger - Hanahan High School, Hanahan, SC (2012 - 2013)

Percussion Instructor - Woodford County High School, Versailles, KY (2013 - Current)

Music Arranger - Boiling Springs High School, Boiling Springs, SC (2009 - 2012)

Director of Percussion - Boiling Springs High School, Boiling Springs, SC (2009 - 2012)

Residency - Adair County High School, Columbia, KY (2012)

Percussion Instructor - Preston Middle School, Fort Collins, CO (2012)

Percussion Instructor - Colorado State University Marching Band, Fort Collins, CO (2011)

Residency - Loveland High School, Loveland, CO (2011)

Residency - Fossil Ridge High School, Fort Collins, CO (2011)

Percussion Instructor - Palmetto Percussion, Boiling Springs, SC (2010)

Music Arranger - Ninety-Six High School, Ninety-Six, SC (2010)

Percussion Instructor - Boltz Middle School, Fort Collins, CO (2010)

Percussion Instructor - University of South Carolina Summer Music Camp, Columbia, SC (2007, 2009 - 2010)

Percussion Instructor - Spring Valley High School, Columbia, SC (2007, 2010)

Director of Percussion - Spring Valley High School, Columbia, SC (2010)

Percussion Instructor - Longleaf Middle School, Columbia, SC (2009)

Student Teacher - Chapin Middle School, Chapin, SC (2009)

Student Teacher - Chapin High School, Chapin, SC (2009)

Residency - Salem Community High School, Salem, IL (2009)

Percussion Instructor - Brookland-Cayce High School, Cayce, SC (2009)

Music Arranger - Brookland-Cayce High School, Cayce, SC (2009 - 2010)

Music Arranger - Blacksburg High School, Blacksburg, SC (2009)

Director of Percussion - Gilbert High School, Gilbert, SC (2006 - 2008)

Residency - Pikney Elementary School, Columbia, SC (2008)

Percussion Instructor - University of South Carolina Marching Band, Columbia, SC (2007)

Percussion Instructor - Vertigris Indoor Ensemble (WGI), Irmo, SC (2007)

Residency - Summit Parkway Middle School, Columbia, SC (2006)

Residency - Ridge View High School, Columbia, SC (2005)

Student Recital Mentoring

Adam Schwartz BM Senior Recital - University of Kentucky, Lexington, KY (2014)

Kelsey Moorhouse BM Senior Recital - University of Kentucky, Lexington, KY (2014)

Connor Shafran BM Freshman Composition Recital - University of Kentucky, Lexington, KY (2014)

Tim Wilburn BM Senior Recital - University of Kentucky, Lexington, KY (2013)

Aaron Marsala BM Senior Recital - University of Kentucky, Lexington, KY (2013)

Michael McSweeney BM Senior Recital - University of Kentucky, Lexington, KY (2013)

Stewart Stevens BM Senior Recital - University of Kentucky, Lexington, KY (2013)

Bryan Angel BM Senior Recital - University of Kentucky, Lexington, KY (2013)

Kelsey Walls BM Senior Recital - University of Kentucky, Lexington, KY (2013)

Brad Davis BM Junior Recital - University of Kentucky, Lexington, KY (2013)

Joe Frank Williams MM Recital - University of Kentucky, Lexington, KY (2013)

RESEARCH / CREATIVE ACTIVITIES

Professional Ensembles

Lexington Philharmonic Orchestra - Substitute Assistant Principal Percussion (Fall 2014)

Lexington Philharmonic Orchestra - Section Percussion Extra (2012 - Current)

Lexington Philharmonic Orchestra - Substitute Principal Percussion (Spring 2013)

Lexington Philharmonic Orchestra - Substitute Principal Timpani (Fall 2012)

Lexington Singers Orchestra - Section Percussion (Fall 2012)

Blue Steel Caribbean Ensemble - Event Coordinator / Director (2012 - 2013)

Kollective Percussion Ensemble - Percussionist (2012)

Fort Collins Symphony Orchestra - Section Percussion Extra (2012)

Fort Collins Wind Symphony - Section Percussion (2010 - 2011)

Palmetto Percussion Indoor - Instructor / Coordinator (2010)

Palmetto Concert Band - Section Percussion (2007 - 2010)

Carolina Crown Drum and Bugle Corps - Timpanist (2006, 2008)

International/National Invitations / Performances

Workshop – Tennessee Technological University, Cookeville, TN (April 2015)

- Presentation of a Tuning and Pedaling Method for Timpani

Conductor - Percussive Arts Society International Convention, Indianapolis, IN (November 2014)

- Showcase Concert with the University of Kentucky Percussion Ensemble

Performer - Percussive Arts Society International Convention, Indianapolis, IN (November 2014)

- Showcase Concert with the University of Kentucky Percussion Ensemble

Workshop - University of the Cumberlands, Williamsburg, KY (November 2014)

- Presentation of a Tuning and Pedaling Method for Timpani

Workshop - Campbellsville University, Campbellsville, KY (November 2014)

- Presentation of a Tuning and Pedaling Method for Timpani

Performer - WRFL-FM, Lexington, KY (August 2014)

- Live performance on radio

Workshop - Madison Central High School, Richmond, KY (August 2014)

- Presentation of a Tuning and Pedaling Method for Timpani

Lecture - Campbellsville University, Campbellsville, KY (November 2013)

- Lecture and performance of the music of composer Alejandro Viñao

Performer - Shanghai Oriental Arts Center, Shanghai, China; Yangzhou Concert Hall, Yangzhou, China; Hangzhou Grand Theatre, Hangzhou, China; Tianjin Grand Theatre Concert Hall, Tianjin, China; National Centre for the Performing Arts, Beijing, China (May 2013)

- Showcase Concerts with the University of Kentucky Symphony Orchestra

Performer - Central China Television, Beijing, China (May 2013)

- Live Broadcast Showcase Concert with the University of Kentucky Symphony Orchestra
- Performer College Band Directors National Association Annual Conference, Greensboro, NC (2013)
 - Showcase Performance with the University of Kentucky Wind Symphony
- Lecture Colorado State University Department of Music, Fort Collins, CO (Spring 2012) Clinic titled "History of the Marching Arts"
- Performer Percussive Arts Society International Convention, Indianapolis, IN (November 2010)
 - New Literature Session with the Colorado State University Percussion Ensemble
- Performer American Bandmasters Association Annual Convention, Charleston, SC (2010)
 - Showcase Performance with the Palmetto Concert Band
- Performer Midwest Band and Orchestra International Convention, Indianapolis, IN (December 2008)
 - Showcase Performance with the Palmetto Concert Band

Artistic Collaborations

Andy Bliss

- Coordinated a performance of John Luther Adams' monumental work *Inuksuit* (Spring 2015) Yousif Sheronick
- Performed with the University of Kentucky Percussion Ensemble (Spring 2015)

Dieter Hennings

- Performed Musica Casera by Baljinder Singh Sekhon, II at Percussive Arts Society International Convention (Fall 2014)

Andy Harnsberger

- Performed Palmetto Moon on his guest artist recital (Fall 2013)

Caroline Goulding

- Performed Tchaikovsky's Violin Concerto with the Lexington Philharmonic Orchestra (Fall 2013)

George Daughtery

- Performed Daughtery's work Bugs Bunny at the Symphony II with the Lexington Philharmonic Orchestra (Summer 2013)

Christine Brewer

- Performed Richard Wagner's Götterdämmerung with University of Kentucky Symphony Orchestra featuring Brewer as a soloist (Spring 2013)

Mike Mower

- Performed World Premiere of Mower's Concerto Maxo Mosso (Spring 2013) Miles Osland

- Performed World Premiere of Mower's *Concerto Maxo Mosso* with University of Kentucky Wind Symphony featuring Osland as a soloist (Spring 2013)

Itzhak Perlman

- Performed Tchaikovsky's Violin Concerto with the University of Kentucky Symphony Orchestra (Fall 2012)

Frederic Macarez

- Performed World Premiere of Macarez's Errances-Escales with University of Kentucky's Percussion Ensemble featuring Macarez as a soloist (Fall 2012)

John Nardolillo

- Performed concerts with the University of Kentucky Symphony Orchestra under the direction of Mr. Nardolillo (Fall 2012 - Current)

Matt Dusk

- Performed popular tunes by crooners Sinatra, Bennett, etc. with the Lexington Philharmonic Orchestra as part of the Picnic with the Pops Series

Scott Terrell

-Performed regularly with the Lexington Philharmonic Orchestra under the direction of Mr. Scott Terrell (Fall 2012 - Current)

Robert van Sice

- Masterclass performance of Sueyoshi's Mirage pour marimba (Fall 2011)

Line Upon Line

-Workshop performance of Estudios de Frontera (Fall 2011)

Wes Kenney

- Performed concerts with the Colorado State University Symphony Orchestra under the direction of Mr. Kenney (2010 and 2011)

David Holsinger

- Performed at Midwest Band and Orchestra International Convention with Holsinger as conductor (December 2008)

Dan Moore

- Performed with Moore on his guest artist recital (2008)

Julie Hill

- Performed with the University of South Carolina's Percussion Ensemble Concert (Spring 2008)

So Percussion Group

- Performed John Cage's "Drumming" with the University of South Carolina Percussion Ensemble

Marvin Hamlisch

- Performed as a featured member of the orchestra during Hamlisch's show (Spring 2007)

Donald Portnoy

- Performed concerts with the University of South Carolina Symphony Orchestra under the direction of Mr. Portnoy (2007)

Anders Astrand

- Performed with the University of South Carolina's Percussion Ensemble Concert (Fall 2007)

Susan Powell

- Performed with the University of South Carolina's Percussion Ensemble Concert (Fall 2005)

Published Recordings

"Works by Warren Benson" (CD) Label: © 2012 David B. Henderson Studios - The Kollective Percussion Ensemble

"Ionization by Edgar Varese" (CD) Label: © 2012 Alex Harmon Music - The University of Kentucky Percussion Ensemble

"Rainfall" (Web) Label: © 2011 C. Alan Publications - Ignite Series

"Letters of Liberty" (CD) Label: © 2010 Classical Heritage Foundation - Maiden

"2008 Midwest Clinic: Palmetto Concert Band" (CD) Label: © 2009 Mark Records - Palmetto Concert Band

Published Articles

Arvay, Brandon. "What Teaching Really Is." WAVE vol. 3, issue 39 (2014), http://dansr.com/vandoren/articles/521/what-a-teacher-really-is/.

Brandon Arvay, "Band Director's Maintenance Guide for Timpani," Winds and Percussion Journal.

World Premieres

Tranferencia by Glenn Kotche (2014)
Water by Alejandro Viñao (2014)
The Jackal's Wedding by Joe W. Moore III (2013)
Next Move by Anders Astrand (2013)
American Symphony by Adam Schoenberg (2013)

Concerto Maxo Mosso by Mike Mower (2013) 4BY4 by John Psathas (2012)
Errances-Escales by Frederic Macarez (2012)
Rub-a-dub-dub-Dub by Charles Griffin (2010)
Tribute by James Barnes (2009)
A War Prayer by Tayloe Harding (2009)
Your Favorite Colors by Brad Meyer (2007)
The Rivers by John Fitz Rogers (2006)

Honors / Awards / Grants

School of Music Grant in Aid - University of Kentucky Graduate School (2014 - 2015) School of Music Grant in Aid - University of Kentucky Graduate School (2013 - 2014)

Pi Kappa Lambda - Colorado State University (2012)

School of Music Grant in Aid - University of Kentucky Graduate School (2012 - 2013)

Department of Music Scholarship - Colorado State University Department of Music (2011 - 2012)

Winter Guard International World Championship Gold Medal - Palmetto Percussion Indoor (2010)

Distinction in Music Performance - University of South Carolina (2009)

Drum Corps International World Finalist - Carolina Crown Drum and Bugle Corps (2008)

Drum Corps International World Finalist - Carolina Crown Drum and Bugle Corps (2006)

"Outstanding Percussionist" - Carolina Crown Drum and Bugle Corps (2006)

School of Music Scholarship - University of South Carolina School of Music (2005 - 2009)

"Life" Scholarship - South Carolina Lottery (2005 - 2009)

Degree Recitals

DMA Lecture Recital - University of Kentucky, Lexington, KY (April 2015)
DMA Solo Recital - University of Kentucky, Lexington, KY (November 2014)
DMA Chamber Recital - University of Kentucky, Lexington, KY (October 2013)
MM Solo Recital - Colorado State University, Fort Collins, CO (April 2012)
BM Solo Recital - University of South Carolina, Columbia, SC (February 2009)

School Ensembles

University of Kentucky, Lexington, KY (Fall 2012 - Current)

 Symphony Orchestra, Wind Symphony, Contemporary Music Ensemble, Percussion Ensemble, Percussion Group, Steel Band, Women's Choir, University Chorus
 Colorado State University, Fort Collins, CO (Fall 2010 - Spring 2012)

- Symphony Orchestra, Wind Ensemble, Percussion Ensemble, University Choir, Faculty Chamber Ensemble, Opera

University of South Carolina, Columbia, SC (Fall 2005 - Fall 2009)

- Symphony Orchestra, Symphonic Band, Concert Band, Percussion Ensemble, Marching Band, Pep Band, Chamber Winds, Faculty Chamber Ensemble, University Choir, Opera

Professional Affiliations

American Federation of Musicians (2013 - Current) Pi Kappa Lambda (2012 - Current) Percussive Arts Society (2005 - Current)

SERVICE

Professional Committees

Website Content Subcommittee – Percussive Arts Society (2015)

- Collaborate with committee members to develop, locate, and maintain research, performance, and educational content for the Percussive Arts Society website

Community Outreach

Arvay/Perez Percussion Duo (2015)

- Present educational workshops to elementary school students on the music of West Africa National Conference on Undergraduate Research (2014)
- Moderator of oral research presentations, which focus on musical applications Lexington Philharmonic Discovery Concert Series (2013)
 - Present a performance, which introduces classical music and classical instruments to thousands of students in grades 2-5
 - Design and administer a demonstration of the percussion section to the participants of the concert series
- "Lexington Philharmonic Drums" (2013)
 - Present educational drum circles to children ages 2 8 years old during Kentucky Educational Television's (KET) "Super Saturday" event
- "Drums: From West Africa to Trinidad" University of Kentucky Steel Band (2012 Current)

 Present educational workshops to over 5,000 elementary and secondary school students annually

 An Evening of Christmas Music (2005 2009)
 - Present an hour program of holiday music to residents of hospitals, assisted living facilities, and nursing homes

Adjudication

Wayne State University Drumline Auditions – Wayne State University (2015)

Undergraduate and Graduate School of Music Auditions, Percussion - University of Kentucky Lexington, KY (Fall 2012 - Current)

Undergraduate Ensemble Placement Auditions, Percussion - University of Kentucky Lexington, KY (Fall 2012 - Current)

Undergraduate and Graduate Juries, Percussion - University of Kentucky, Lexington, KY (Fall 2012 - Current)

Undergraduate Juries, Percussion - Colorado State University, Fort Collins, CO (Fall 2010 - Spring 2012)

Undergraduate Juries, Winds; Brass; Percussion - Laramie County Community College, Cheyenne, WY (Spring 2012)

Solo and Ensemble Contest, Winds; Brass; Percussion - Poudre School District, Fort Collins, CO (Spring 2012)

Chair Placement Auditions, Percussion - Spring Valley High School, Columbia, SC (Spring 2010) University of South Carolina Summer Music Camp Band Placement Auditions - University of South Carolina, Columbia, SC (Summer 2009)

Student Accomplishments

Connor Shafran - Admission into University of Kentucky School of Music, Morehead State University School of Music (Spring 2013)

Hayden McNeil - Admission into University of Kentucky School of Music (Spring 2013)

Matthew Carroll - Admission into Colorado State University Department of Music, University of Northern Colorado School of Music (Spring 2012)

Josiah Gaiter - Admission into Colorado State University Department of Music (Spring 2012)