

**A NEW SIX-MALLET MARIMBA TECHNIQUE AND ITS PEDAGOGICAL
APPROACH**

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Abstract

This thesis presents a six-mallet technique developed by the author along with a pedagogical guide teaching that technique. Included in the thesis are the following components: 1) a DVD which demonstrates how to learn the technique, with performances of significant compositions for six mallets; and 2) a pedagogical survey of recommended works written for six mallets on a scale from relatively simple to highly complex, giving students a repertoire of pieces from which they can develop six-mallet marimba technique.

Preface

The current standard of marimba pedagogy in universities around the world is centered on learning four-mallet marimba techniques. Six-mallet techniques have only been explored by a few marimbists and have not entered university percussion pedagogy in a substantial way. As a result, there is only a small number of publications written on six-mallet techniques. Many works commissioned and composed for six mallets have had few performances and are generally unknown. Consequently, six-mallet technique has not been developed to any great extent.

In this thesis the author is presenting a method of playing with six mallets that provides a whole range of new musical possibilities including fuller sonorities and new colours on the marimba. Furthermore, the six-mallet independence featured in this method allows new melodic possibilities. The marimbist can thus raise the art of marimba playing to a higher level.

Acknowledgements

I would like to express my deep gratitude to Professor Adam Mason and Professor Brian Black, my research supervisors, for their guidance, enthusiastic encouragement, and valuable critiques of this research project. I would also like to thank my wife, Maggie, for her continuous support and also her patience with the countless sessions taking photographs. My grateful thanks are also extended to Joel Goodfellow, who performed the piano reduction of *Concerto for Six-Mallet Marimba and Strings* on the DVD, and to Eric Den Haan and Evan Peacock for doing the audio and video recording of the DVD. Finally, I wish to thank my parents for their support and encouragement throughout my years of study.

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Chapter 1. Introduction/Literature Review

To understand the development of six-mallet techniques, it is important to note that they have arisen from existing four-mallet techniques. During the last one hundred years, three major schools of four-mallet grips have emerged: the "traditional cross grip," the "Burton grip," and the "Musser-Stevens grip," shown in figure 1.¹ The main differences between the three grips are in how the mallets are placed in the hand. The traditional cross grip and the Burton grip are both considered cross grips because the mallets overlap in the hand, crossing each other. The Musser-Stevens grip is considered an independent grip because the mallets do not overlap in the hand; hence they are independent from each other. Although certain marimbists believe one grip is superior to the others, each has its advantages and weaknesses. Some marimbists switch grips for particular passages, while others use a single grip throughout with modifications where necessary. It is difficult to determine whether any of the main schools of four-mallet grips are superior to the others.

1. For more information on four-mallet techniques, see chapter four in Gary D. Cook, *Teaching Percussion 3rd* ed. (Belmont, CA: Thomson Schirmer, 2006): 93-156.



Figure 1: Four-Mallet Grips (Musser-Stevens grip 1 is a clear view of the finger positioning and Musser-Stevens grip 2 shows the actual playing position.)

Six mallets were first employed by xylophonists of the Ragtime and Vaudeville eras in the 1910s and 1920s.² The xylophonists made use of multiple mallets to grab the audience's attention. The developments were no more than gimmicks at the time, and never developed as a common practice.

In the early 1960s, the first serious attempts to expand the marimbist's technical palate emerged in newly composed concert pieces for five and six mallets. It is important to note that almost every early pioneer of six-mallet technique was a composer and/or arranger because there was no existing repertoire at the time. These pioneers included Keiko Abe (Japan) and Linda Pimentel (USA).³ Abe used the traditional cross grip and Pimentel used both the cross grip and the Musser-Stevens grip to create their individual

2. A summary on the use of six mallets in the Ragtime and Vaudeville eras is found in Timothy Andrew Jones, *A Survey of Arts and Literature Employing Extended Multiple Mallets in Keyboard Percussion; Its Evolution, Resulting Techniques and Pedagogical Guide* (Ann Arbor: ProQuest Information and Learning Company, 2004): 1-5.

3. Linda Pimentel has outlined her technique in Linda L. Pimentel, "Multiple Mallet Marimba Techniques," *Percussive Notes* (Fall 1976): 1-21. A great summary of Keiko Abe's technique is found in Pei-Ching Wu, *Extended Multiple Mallet Performance in Keyboard Percussion Through the Study of Performing Techniques of Flame Dance and Water Fairies by Wan-Jen-Huang* (Morgantown, West Virginia: West Virginia University Libraries, 2005): 20-23.

six-mallet techniques. Once the technique was established, Abe and Pimentel commissioned composers to write pieces which incorporated it. The compositions from this period employed six mallets in a limited way, primarily for additional notes to fill out block chords and to create fuller sonorities. Since the 1960s, Keiko Abe has passed on her six-mallet technique to many students. Among them are Rebecca Kite (USA) and Ludwig Albert (Belgium). The compositions written by and commissioned for these artists continue in the style of Keiko Abe's six-mallet writing, mainly using the mallets for additional sonorities, but not exploring six-mallet independence.⁴

Throughout the latter half of the twentieth century, another important school of six-mallet marimba playing developed in Mexico. This school took popular folkloric Mexican music, originally played by several marimbists at the same time on a single marimba, and arranged the parts for one player using six mallets. This style of six-mallet marimba playing was developed by Manuel Vleeschower (1921-2000) and Zeferino Nandayapa (1931-2010). Like Abe and Pimentel, Vleeschower and Nandayapa used the additional mallets to fill out sonorities, but did not explore six-mallet independence.⁵

Further innovations occurred in the late 1980s and several new six-mallet grips emerged. Currently, six-mallet technique has been developed to the greatest extent by Kai Stensgaard (Denmark), Robert Paterson (USA), Dean Gronemeier (USA), and Pei-Ching Wu (Taiwan). In 1987, Kai Stensgaard derived a six-mallet marimba technique from the Musser-Stevens grip. This technique continues the six-mallet Mexican marimba school;

4. For further information on Kite's and Albert's techniques, see Rebecca Kite, "Six Mallet Writing for Marimba." *rebeccakite.com*, 2008. <http://www.rebeccakite.com/library/Six%20Mallet%20Clinic%20Handout%202008.pdf> (accessed May 27, 2012) and Jones, *A Survey of Arts*, 10-12.

5. A detailed study of the Mexican marimba school is found in Zeferino Nandayapa, *marimba* (San Angel: Conaculta, 1988).

however, Stensgaard expands on the technical abilities of this tradition. He combines the Mexican approach of arranging folkloric music with influences of contemporary four-mallet marimba literature. As a result, Stensgaard's compositions demand a higher level of six-mallet proficiency. Even though Stensgaard's technique is quite extensive, with his grip it is not possible to attain full strength with the middle mallet. Therefore he does not seek six-mallet independence. His grip also exerts constant tension on the hands, making it difficult to use for a long period of time.⁶

The six-mallet innovations of Dean Gronemeier are extremely significant. In 1990, Gronemeier developed a six-mallet technique based on the Musser-Stevens four-mallet technique, which included a cross grip superimposed, allowing for six-mallet independence. Gronemeier's compositions pose technical challenges unseen in anyone else's writing up to this time. His technique allows the player to execute a one-hand roll with three notes at once and to play arpeggios with one hand like a pianist. With four-mallet technique, a one-hand roll can only yield two notes at once, and the ability to play arpeggios with one hand can be extremely difficult and often impossible to execute rapidly. These innovations greatly expand the sonorous and melodic possibilities of six-mallet technique allowing for an entirely new approach to six-mallet composing. Gronemeier has passed his technique down to his students, and in 2004, two dissertations were written on it by Timothy Jones and Marcus Reddick.⁷ While the grip developed by Gronemeier allows for six-mallet independence and the ability to execute one-hand, three-note rolls, it puts a lot of stress on the hands, making it extremely difficult to use for

6. Kai Stensgaard has described his grip in Kai Stensgaard, *The Six Mallet Grip* (Odense: Kai Stensgaard, 2008).

7. Jones, *A Survey of Arts*. Marcus D. Reddick, *A Pedagogical Approach to Six-Mallet Independence for Marimba* (Ann Arbor: ProQuest Information and Learning Company 2004).

a long period of time, which is the same problem with Stensgaard's grip. Additionally, Gronemeier's technique uses hand position locks to help ease the stress on muscles.⁸ This can be useful in some applications, but for works that require rapid changes and greater demands of dexterity, it is difficult to use the Gronemeier grip.

The next pioneer who has taken six-mallet marimba playing to a higher level is Robert Paterson. Paterson began developing his six-mallet technique in 1990, basing it on the Burton grip. Paterson is a professional composer and writes highly complex pieces for six mallets. Important to Paterson's technique and compositions is his interest in the expanded melodic and contrapuntal possibilities with six mallets. Paterson arguably writes for the highest level of six-mallet flexibility in his compositions. His six-mallet marimba pieces can be compared with Franz Liszt's highly virtuosic piano compositions such as the *Transcendental Études*. The technique that Paterson employs allows for independence of the mallets, however it does not utilize one-hand, three-note rolls or the one-hand arpeggios developed by Gronemeier.⁹

In 1994, Pei-Ching Wu developed her six-mallet grip based on the Burton Grip. Wu's technique is similar to Paterson's; however, she incorporates the hand position locks used in the Gronemeier Grip. Each lock in the Wu grip has a parallel lock to the Gronemeier grip; the difference is that the Wu grip uses the Burton grip instead of the Stevens grip as its base. One of Wu's technical trademarks is rapid arpeggios, created by turning the wrist and alternating between the hands to play fast sextuplets. While playing

8. The hand position locks are, essentially, positions in which the fingers wrap around the mallets to hold different intervals so the mallets do not wobble around, allowing for better mallet stability.

9. An overview of Paterson's technique is found in Robert Paterson, "Writings: Introduction to My Six-Mallet Technique," *Robert Paterson | Composer*, 2008. http://www.robpaterson.com/writings/essay-introduction_to_my_six-mallet_technique.html (accessed May 27, 2012).

arpeggios in this way was developed prior to Wu's technique, the way she incorporates them rhythmically is unique. Prior to Wu, these fast arpeggios were used for floppy hand-to-hand rolls. Wu took this concept, and using articulate mallets, precisely timed the turning of the wrist to produce sextuplets. Wu's contribution to disseminating this technique through commissioning pieces for six mallets is significant. In 1995 and 1996, she commissioned two pieces, *Flame Dance* and *Water Fairies* by Taiwanese composer Wan-Jen-Huang. These pieces utilize Wu's rapid arpeggios technique and primarily continue in the Abe tradition of six-mallet playing, only demanding a higher level of dexterity. Since then, Wu has commissioned nine more pieces including works by composers Pius Cheung, Chiung-Ying Chang, Ching-Wen Chao, Ching-Mei Lin, and Huan-Wei Lu. In 2005, Wu wrote her doctoral dissertation on six-mallet marimba playing, which related the technique specifically to *Flame Dance and Water Fairies* by Wan-Jen-Huang.¹⁰ She is currently the principal percussionist in the Ju Percussion Group of Taiwan, and performs six-mallet pieces around the world.

The technique I have personally developed is based on the enhancements of the Burton grip by Ed Saindon (USA) and Ney Rosauero (Brazil).¹¹ Saindon and Rosauero have slightly altered the Burton grip to allow for more finger control and further independence. While my technique is closely related to Robert Paterson's six-mallet technique, it differs in the mechanics, allowing for the technical developments by Gronemeier. The basis of my technique is to combine Paterson's flexibility with the achievements of Gronemeier, Stensgaard and Wu. All of their grips are highly refined;

10. Wu, *Extended Multiple Mallet Performance*.

11. Ed Saindon and Ney Rosauero have outlined their grips in Ed Saindon, "The Fulcrum Grip," *Percussive Notes* (December 2008): 46-47, and Ney Rosauero, "Crossing Grip Extensions," *Yamaha Educator Series*.

however, no single grip combines all of the six-mallet achievements developed thus far. Paterson does not make use of three-mallet, one-hand rolls and does not use advanced arpeggio independence. Both Gronemeier and Wu's techniques are rooted in locking hand positions and do not allow for a fluid and natural movement. Finally, Stensgaard does not explore advanced independence. With my technique, one can achieve the capabilities of Paterson's, Gronemeier's, Wu's, and Stensgaard's grips combined, allowing for a more natural, flexible and powerful grip.

One of the greatest challenges with six-mallet marimba playing is bearing the extra weight and strain on the hands for a long period of time. Every marimbist faces this challenge when developing four-mallet technique, and it continues to be a consistent endurance and "chops" issue. This issue is most prominent with the Musser-Stevens grip as the fingers control the horizontal height of the mallets, which exerts a constant strain on them, as seen in figure 1, Musser-Stevens grip 2. Many players, including Ney Rosauero, originally used the Musser-Stevens grip but switched to one of the two cross grips, as they did not have the time to work constantly on the muscle endurance and strength required to play with the Musser-Stevens grip for long periods of time. With six-mallet grips based on the Musser-Stevens grip, this problem is even greater. The grips developed by Gronemeier and Stensgaard put increasing amounts of pressure on the hands, making it difficult for even the conditioned six-mallet marimbist to build endurance. With the grip I present, the hand and palm are parallel to the mallets, allowing the fingers to wrap easily around the mallets, thus creating a very natural and loose grip with no extra pressure. With almost no strain on the hands, playing for a long period of time is not a problem. Further, because there is little strain on the fingers, the mallets can

quickly shift to different intervallic positions with no need of a lock, allowing for great flexibility and rapid changes.

A common problem with many six-mallet grips is that they do not allow for different combinations of mallet strikes. With Keiko Abe's compositions, the inner mallet is never used to strike by itself, and there are rarely two-note voicings with one of the three mallets lifted out of the way. With my technique, any of the six-mallets can be lifted and any combination of mallets can be used. A common application as shown in figure 2, involves lifting the middle mallet out of the way to play double stops with the outside and inside mallets.



Figure 2: Lifting the Middle Mallet

One of the main reasons that four-mallet players choose the Burton grip is for the power that it supplies. This same power is retained in my six-mallet technique. The outer mallet is positioned as a straight extension of the wrist, allowing for rapid powerful strokes with the same flexibility as a snare drummer. With the adaptation of Saindon's

fulcrum grip, the inner mallet can be controlled with the fingers, allowing for the same power as the outside mallet.¹² Most importantly, the middle mallet is held exactly like a percussionist holding a drum stick, with the thumb and index wrapped around, providing a solid fulcrum to give a powerful stroke, as shown in figure 3. From this secure foundation, each of the mallets can be played with strength, ideal for six-mallet independence.



Figure 3: Middle Mallet Comparison to Holding a Drum Stick

12. The fulcrum grip is a four-mallet grip that incorporates finger control along with wrist and arm motion. In the Burton grip, the wrist and arm are primarily used for the stroke. With the fulcrum grip, the fingers are used to manipulate the stroke of the mallets.

An important means of creating different timbres on the marimba is the use of multiple mallets with contrasting hardness and weight. As the marimba bars get bigger, generally a softer and heavier mallet is used to create a full sound, and as the marimba bars get smaller, a harder and smaller mallet is used to allow the bar to speak fully. Many compositions will deviate from this norm, and require smaller and more percussive mallets in the low end to create a rhythmic effect, or in the higher registers a softer mallet is used to sound more legato. When playing with six mallets, the performer usually has a graduated set of mallets, allowing for the entire range of the marimba to speak. This can be extremely helpful, but sometimes problematic. Many compositions have contrasting passages, requiring changes from smooth and legato sections, to more rhythmic and articulated sections. While every piece is unique in the way that certain registers of the marimba are emphasized more than others, and therefore requires a unique selection of mallets, a benefit of my technique is that the mallets can rotate into different positions. Thus, the middle mallet can become the inside mallet and the outside mallet can become the middle mallet, and so forth. One advantage is that, with a graduated set of mallets, the marimbist can move the mallets around to bring out certain chordal voicings, or to switch for passages that require changes from legato to staccato articulations. Figure 4 demonstrates switching the middle mallet with the inside mallet.

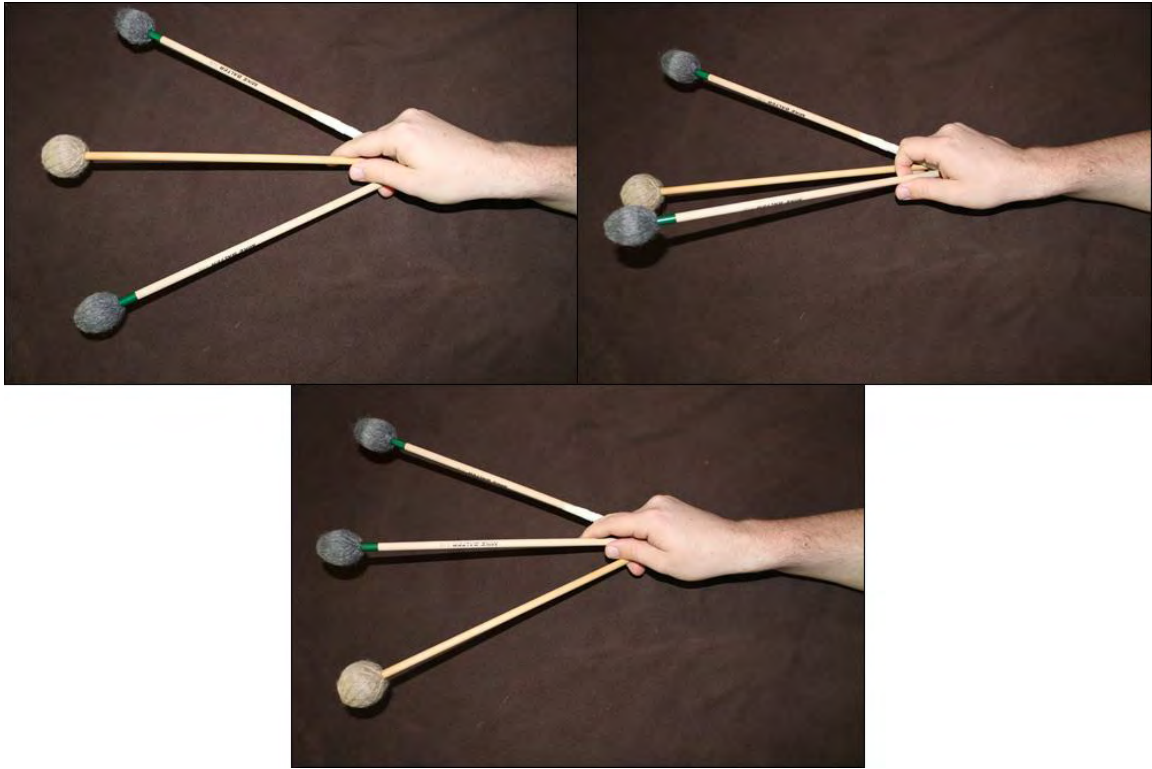
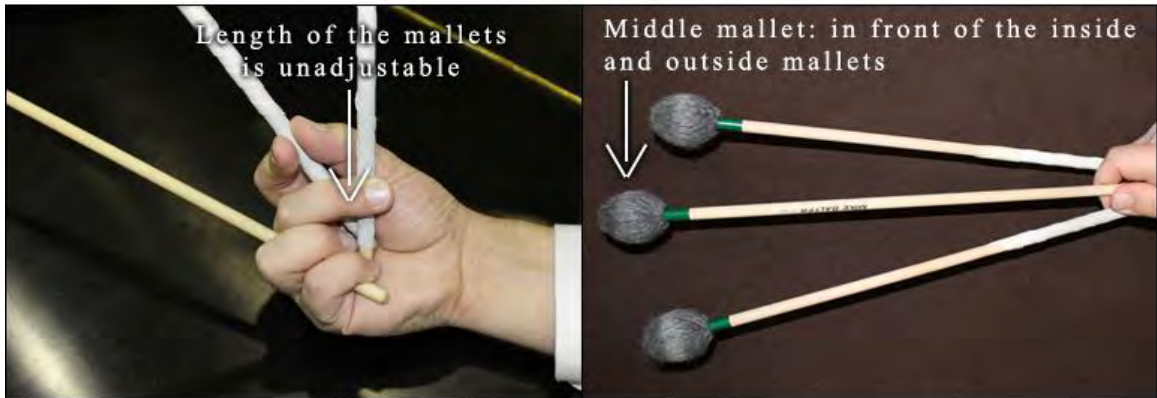


Figure 4: Rotating Mallet Positions

A common problem with the Gronemeier and Stensgaard grips is that the ends of the mallets rest against the centre of the palm vertically, and therefore the length of the mallets are not adjustable. Consequently, with their grips, the middle mallet sticks out slightly past the inside and outside mallets. This can be quite problematic for certain voicings as the middle mallet is forced to play the nodes of the bars creating a very thin sound.¹³ With the technique that I present, each mallet length can be extended or retracted, allowing for the mallets to avoid striking the nodes, as shown in figure 5.

13. The nodes are the points of the marimba bar which vibrate the least, and through which the string is wound.

Gronemeier/Stensgaard Grip



Six-mallet grip based on the Burton Grip:



Figure 5: Comparison of Mallet Length, Extension and Retraction

The grip I present is extremely flexible as each mallet can move slightly to adapt to any situation. Since the hands and mallets rest horizontally, there is minimal tension on the hands, making fewer demands on the performer's endurance or "chops". Any combination of mallets can be used, and all mallets can be played with strength, allowing for six-mallet independence. The mallets can rotate into different positions, allowing for contrasting articulations and the ability to bring out further musical subtleties. Most importantly, the mallets feel like a natural extension of the hand, creating a fluid technique that enables the performer to express the music without being distracted by the technique itself.

Chapter 2. The Method

2.1 The Grip

It is important to note that the grip presented provides a fundamental "model" or "structure" which can be modified to suit the needs of each player. Because everyone has different anatomy and physique with varying size of hands, length of fingers and strength of muscles, technique will vary from player to player. As it is impossible to teach every aspect of technique, the following grip will provide the building blocks to explore, develop and personalize six-mallet technique. The following chapters will present multiple ways to execute the musical passages. It is recommended that individuals experiment to find the most natural and efficient method of movement.

In order to explain stickings, movement and positioning, the mallets will be numbered consistently from the left as shown in figure 6. For clarity, figure 7 shows the names of each finger of the hand that I will be using.

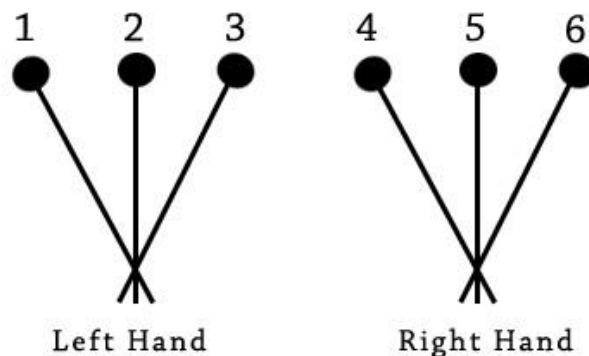


Figure 6: Mallet Numbering

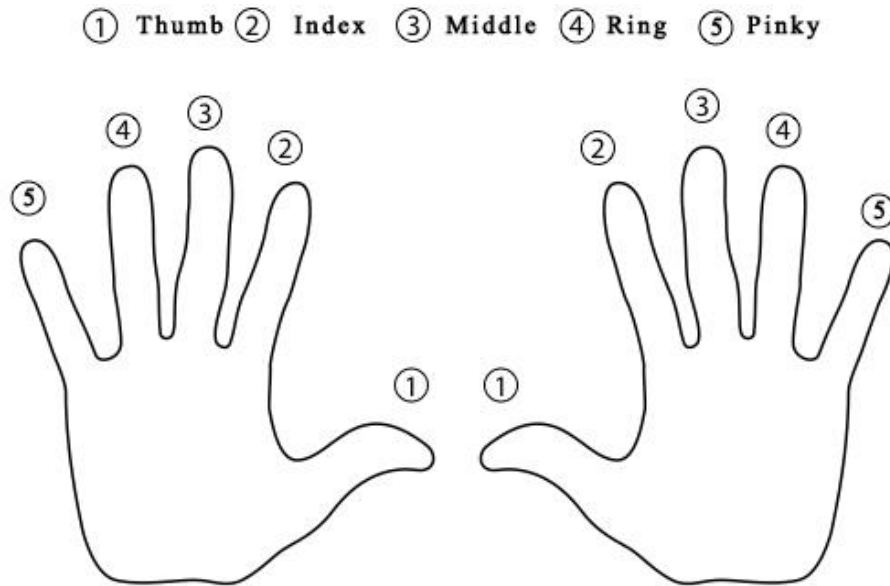


Figure 7: Diagram of the Hand

Before placing the mallets, it is essential that the two outer mallets in each hand be wrapped with a soft material like tennis tape. The wrapping will help keep the mallets in position and prevent them from clicking together when they move. The middle mallet is not to be wrapped as it is the one whose position is most often altered and is easier to manoeuvre without the additional width of the wrapping. Figure 8 shows the outer mallets wrapped with tennis tape.



Figure 8: Mallet Wrapping

Begin by holding the unwrapped mallet like a drumset stick and place it naturally on the palm. A fulcrum point is created between the index finger and the thumb. Wrap the pinky, middle and index fingers around the mallet, as shown in figure 9.

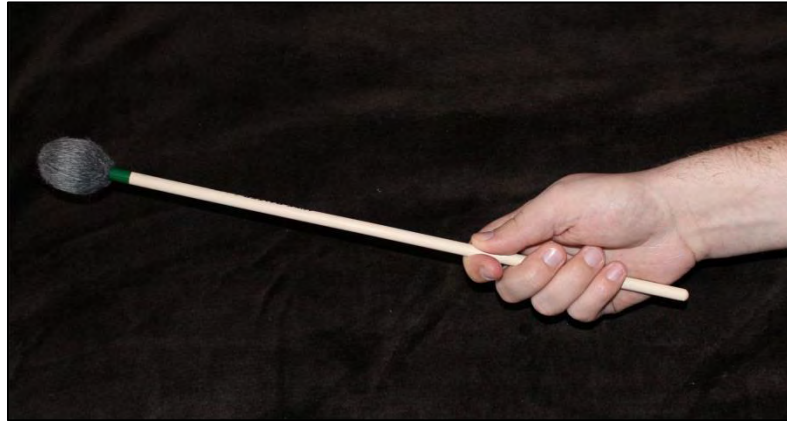


Figure 9: Positioning Three Mallets in Each Hand (photographs demonstrate the right hand)

With the palm facing up, slide the first wrapped mallet under the unwrapped mallet and between the index and middle finger. Continue sliding the mallet until the bottom of the mallet shaft is roughly at the end of the hand or the beginning of the wrist, shown in figure 10.

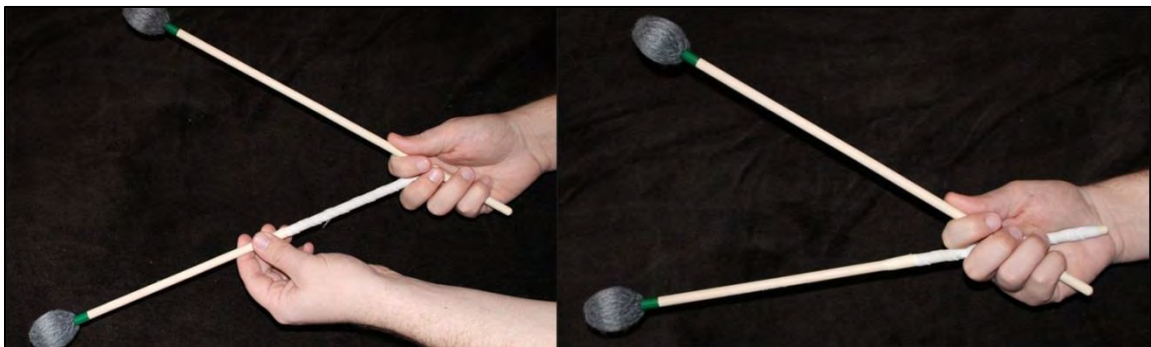


Figure 10: Sliding the Second Mallet

Lift the pinky and ring finger up (shown in figure 11) and place the final wrapped mallet over the positioned mallets. The final mallet should rest on the side of the thumb.

Wrap the pinky finger over the inside and middle mallets, and place the tip of the ring finger over the outside mallet, positioned in-between the index and middle finger. Finally, flip the mallets around so the palm is facing down, shown in figure 12.

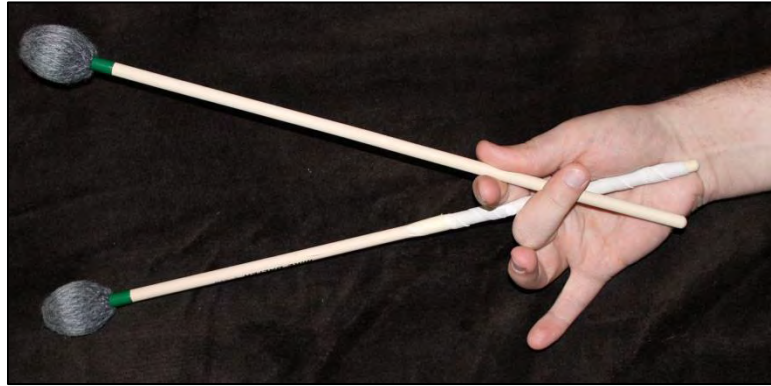


Figure 11: Lifting the Pinky and Ring Fingers

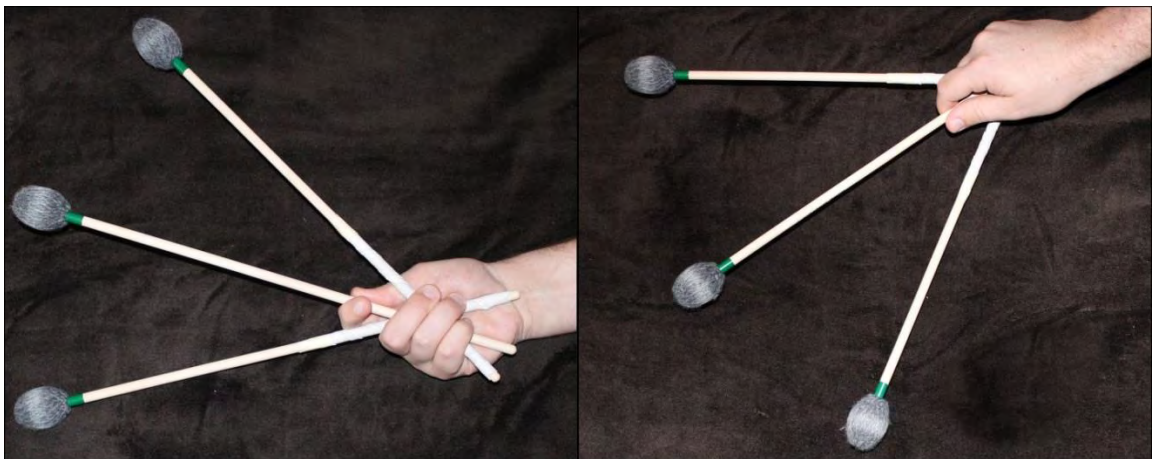


Figure 12: Final Grip

A common problem is how far the mallets should be placed at the base of the hand. There is not one ultimate position. Figure 13 shows two different placements. One of the major benefits of this grip is that each mallet can move around, adapting to each technical challenge of the piece being played. Different positions can be employed to avoid the nodal points of the marimba bars in the Mexican marimba six-mallet style and in executing different voicings that are now achievable by changing mallet positions.

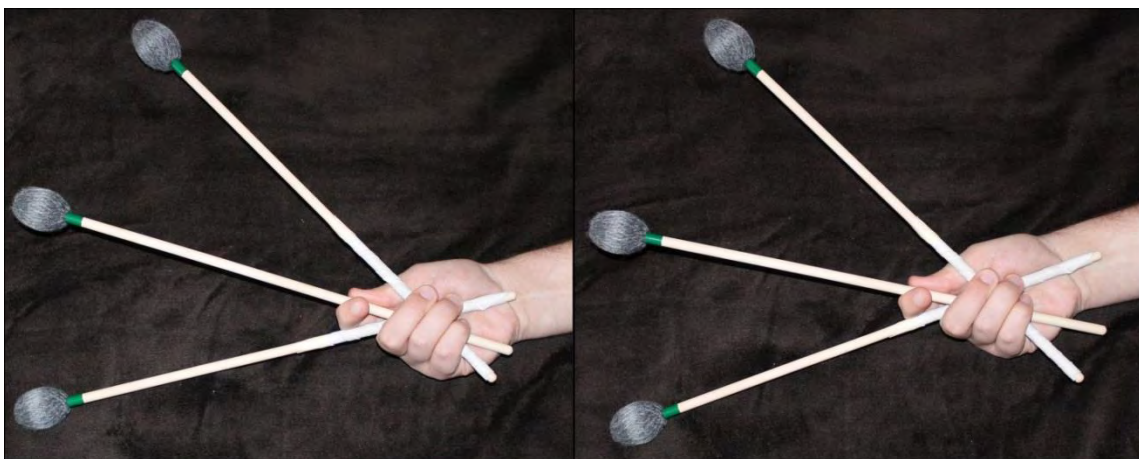


Figure 13: Different Mallet Positionings - The picture on the left is the most common or general positioning and the picture on the right displays a more choked-up grip (meaning gripping closer to the mallet head) giving great power for pieces that do not require large interval spreads.

2.2: Expansions and Contractions

The expansion and contraction of intervals between the mallets are made primarily by the movement of the thumb, index and ring finger. The difference in size of each player's hands and fingers will result in slightly different combinations of finger movement to gain successful results. For example, some will find it easier to use the thumb to move the mallets a certain way, and others may find the index more helpful. In general, different fingers will provide pressure to aid in stabilizing mallet position. It is important to stay relaxed and to move the muscles as naturally as possible.

Expansions and contractions are made only with the inside and middle mallets. The outside mallet remains stationary, just like in the Burton and Musser-Stevens grips. To expand and contract between the middle and outside mallets, use the thumb and index finger. For any interval larger than a second, both the thumb and index finger move and adjust the inside mallet. The middle mallet should feel just like holding a snare drum

stick with a "matched grip", or more specifically a "German grip".¹⁴ As for the interval of a second, the index finger moves to the other side of the middle mallet and holds it in position, shown in the final image of Figure 14. The thumb can then support the inside mallet.

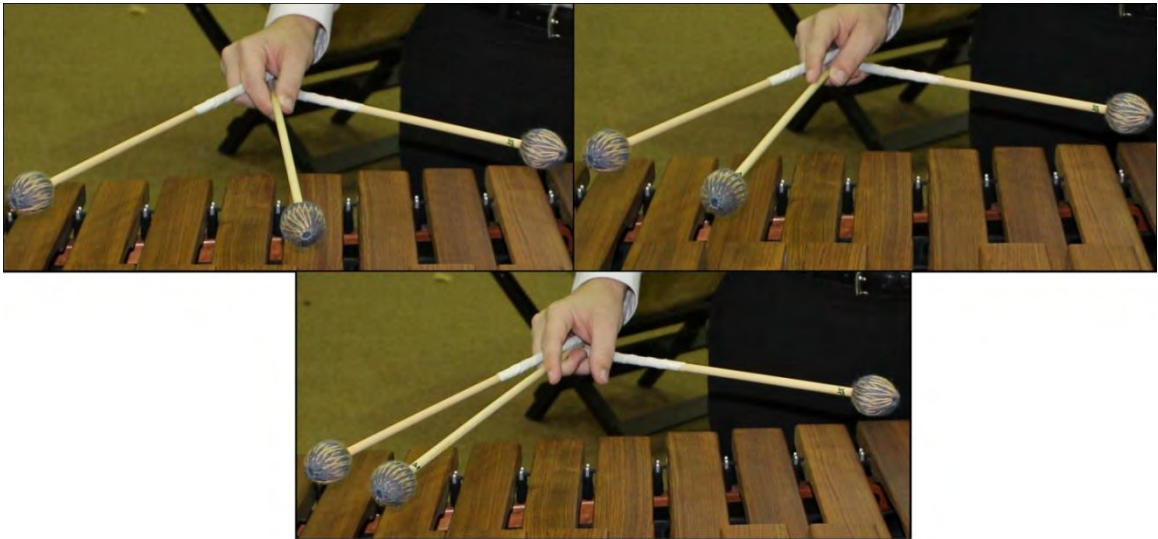


Figure 14: Moving Interval Positions Between the Outside and Middle Mallets

To expand and contract between the middle and inside mallets, the thumb, index and middle fingers are primarily used. For any interval larger than a second, both the thumb and index finger move and adjust the inside mallet. For smaller intervals, like intervals of a second, the thumb moves over top of the middle mallet. The index and middle finger may add extra support underneath the middle and inside mallets. Expansions and contractions with the middle and inside mallets are shown in figure 15.

14. The German grip is a method of holding drum sticks and mallets to play percussion instruments. In the German grip, the palms of the hands are parallel to the drumhead or other playing surface, and the stick is moved primarily with the wrist. The German grip is considered a matched grip because both the left and right hand are held the same.

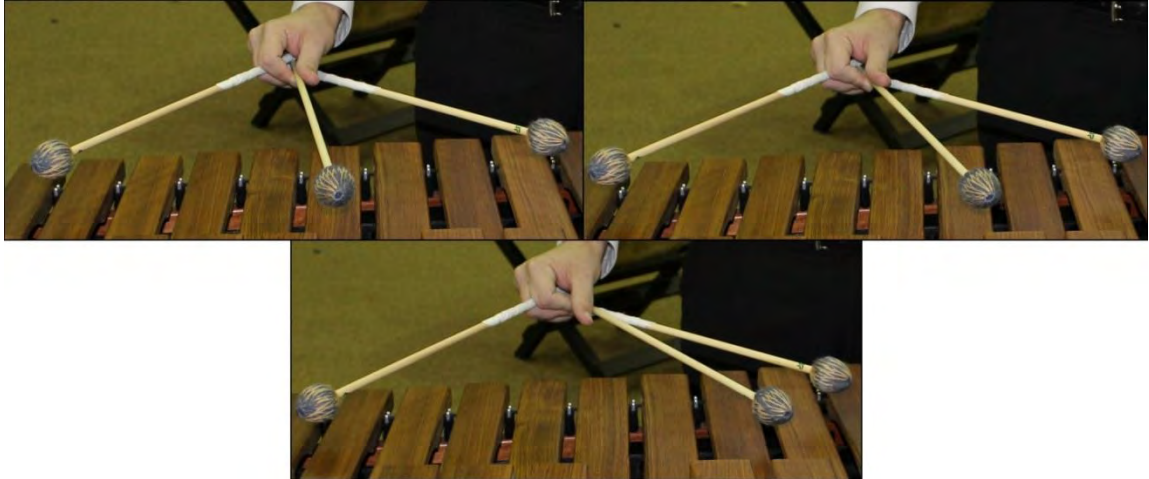


Figure 15: Moving Interval Positions Between the Inside and Middle Mallets

To expand and contract between the inside and outside mallets, the ring finger is primarily used. For wide intervals, the tip of the ring finger pushes the inside mallet out, shown in figure 16. For closer intervals, the ring finger wraps around the outside mallet, shown in figure 17. Additionally, the pinky finger acts as a spring providing opposition to the ring finger. When holding a wide interval and releasing the tip of the ring finger on the inside mallet, the pinky or spring releases the tension on that mallet, giving in enough so that the ring finger can wrap around the mallet to change intervals.

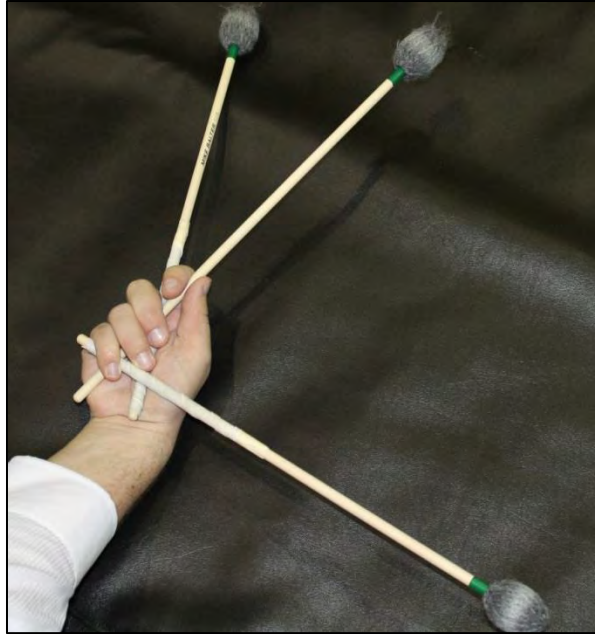


Figure 16: Using the Ring Finger to Push the Inside Mallet Outwards

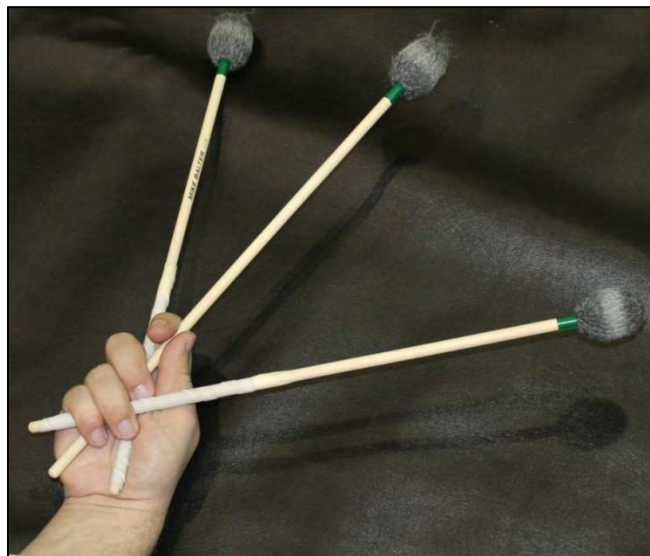


Figure 17: Using the Ring Finger to Pull the Inside Mallet Inwards

Many musical passages require the middle mallet to be lifted out of the way of the inside and outside mallets. This can be achieved by wrapping the index and thumb around the middle mallet, and pulling the mallet upward primarily with the index finger, shown in figure 18. Once lifted, a full range of intervals can be achieved with the inside

and outside mallets. This technique is used to achieve one-hand rolls including those on a single note, shown in figure 19.



Figure 18: Lifting the Middle Mallet

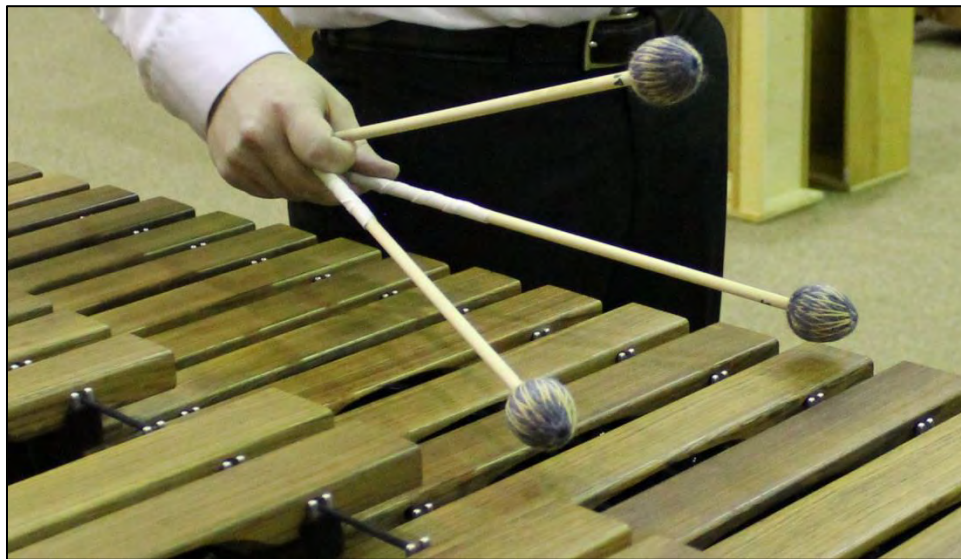


Figure 19: Lifting the Middle Mallet for One-Hand Rolls on a Single Note

2.3: Strokes, Part 1 (Stroke images show an exaggerated movement for clarity, the practical strokes generally start closer to the keyboard.)

Triple Vertical Stroke

The triple vertical stroke is a three-mallet, one-hand stroke to produce any three-note combination within the interval reach of one hand. It is executed in the same way as

a double vertical stroke in the four-mallet grips. The stroke is primarily made with the wrist, and the arm can be added if necessary. This stroke is demonstrated in figure 20.

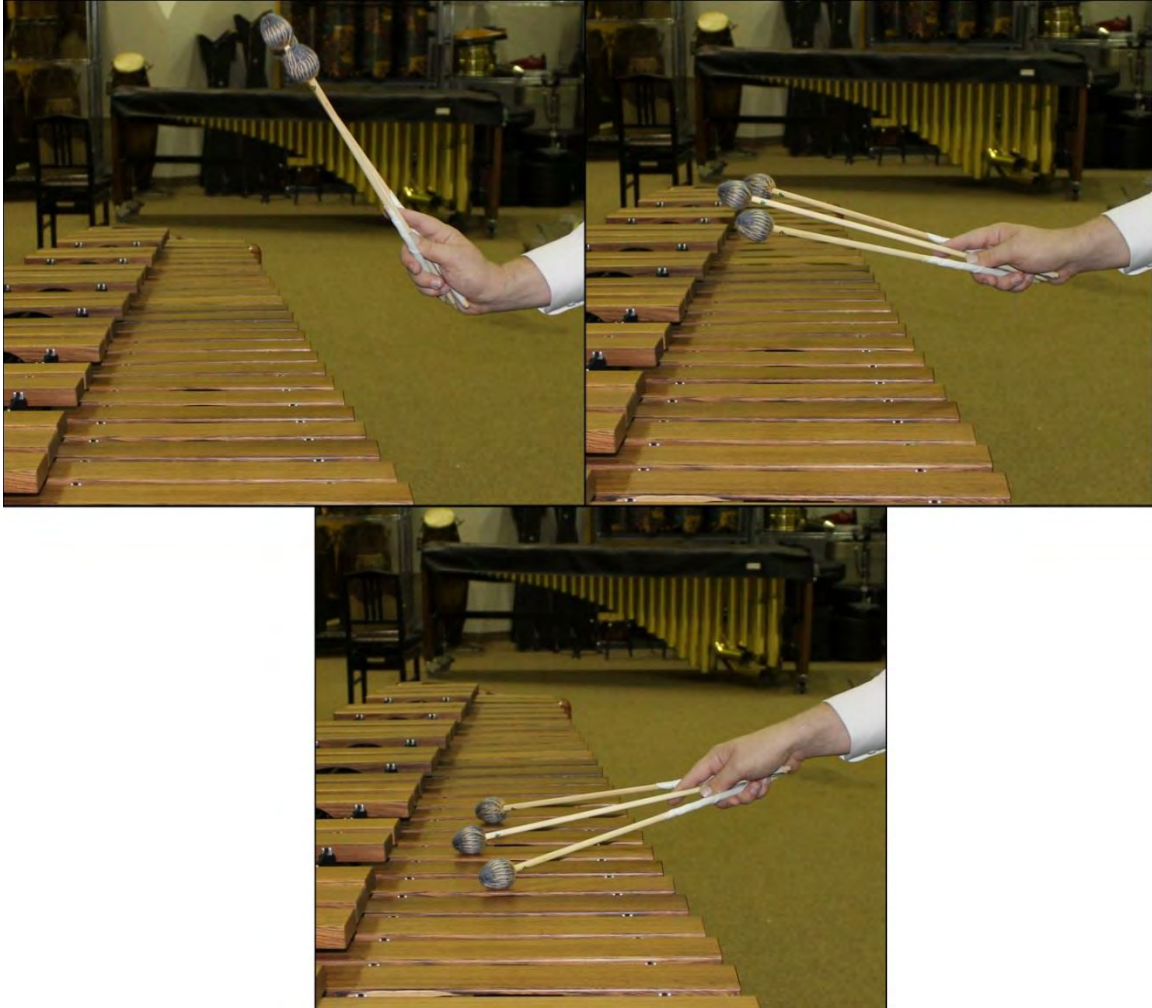


Figure 20: The Triple Vertical Stroke

Single Independent Stroke with the Outside Mallet

The single independent stroke with outside mallet is produced primarily by the wrist. The inside and middle mallets should move as little as possible. This stroke is extremely fluid and powerful; however, if needed the arm can aid in the motion. The single independent stroke is shown in figure 21.

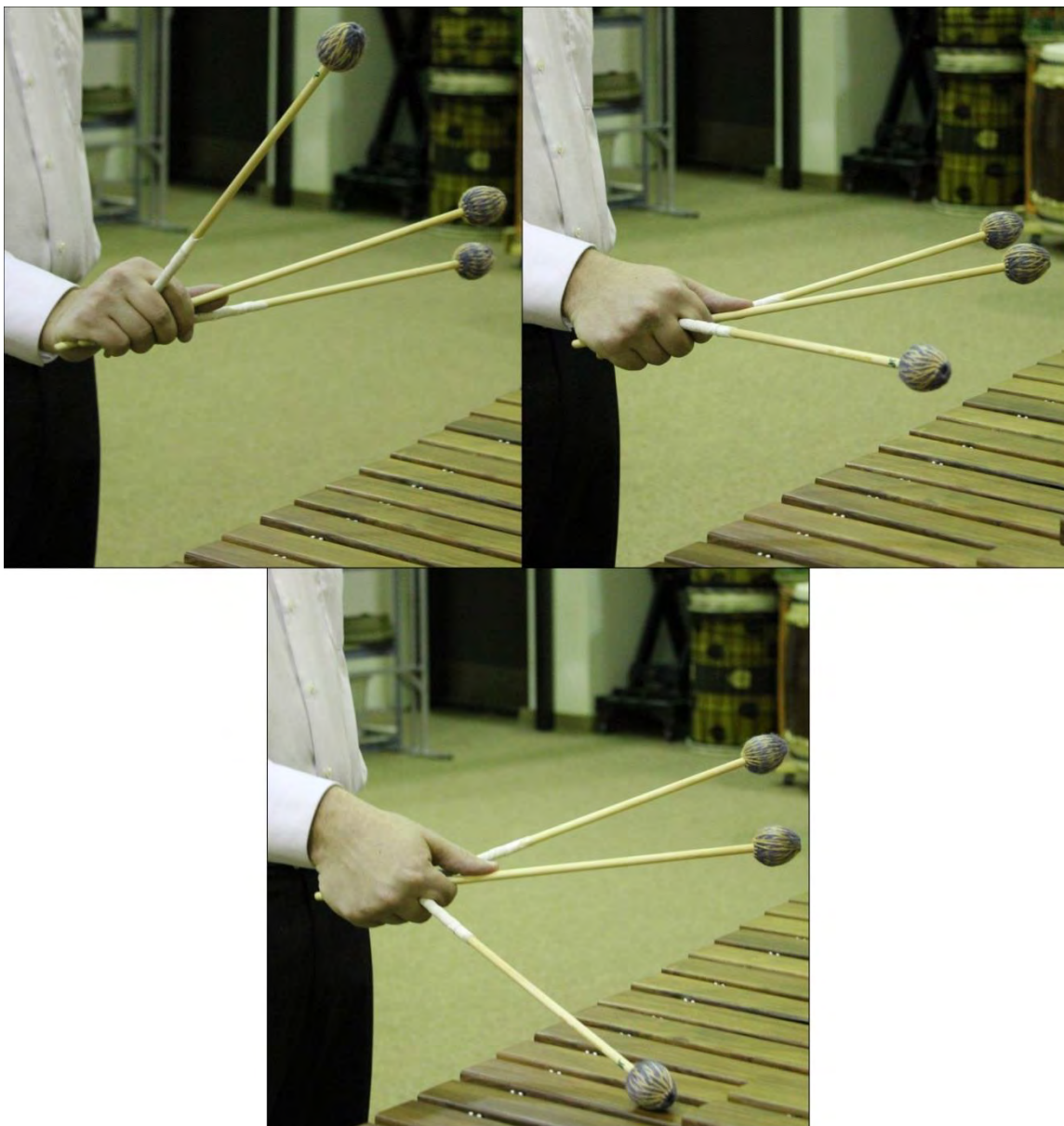


Figure 21: Single Independent Stroke with the Outside Mallet

In the composition *Tango the Cat* for solo six-mallet marimba by the author (ex. 1), the single independent stroke with the outside mallet is used extensively for the melody in measures 9-14. Because of the triple vertical strokes in measure 10, the melody is forced to be played exclusively by the outside mallet, requiring the performer to play consecutive fluid single independent strokes.

Excerpt 1: M. 9-12 in *Tango the Cat* by Joe Porter

Single Independent Stroke with the Inside Mallet

There are two methods of producing the single independent stroke with the inside mallet. The first way is by rotating and turning the wrist and arm inwards. This is the same motion as turning a knob to open a door. The only difference is in direction, turning inwards instead of outwards. This method is shown in figure 22.

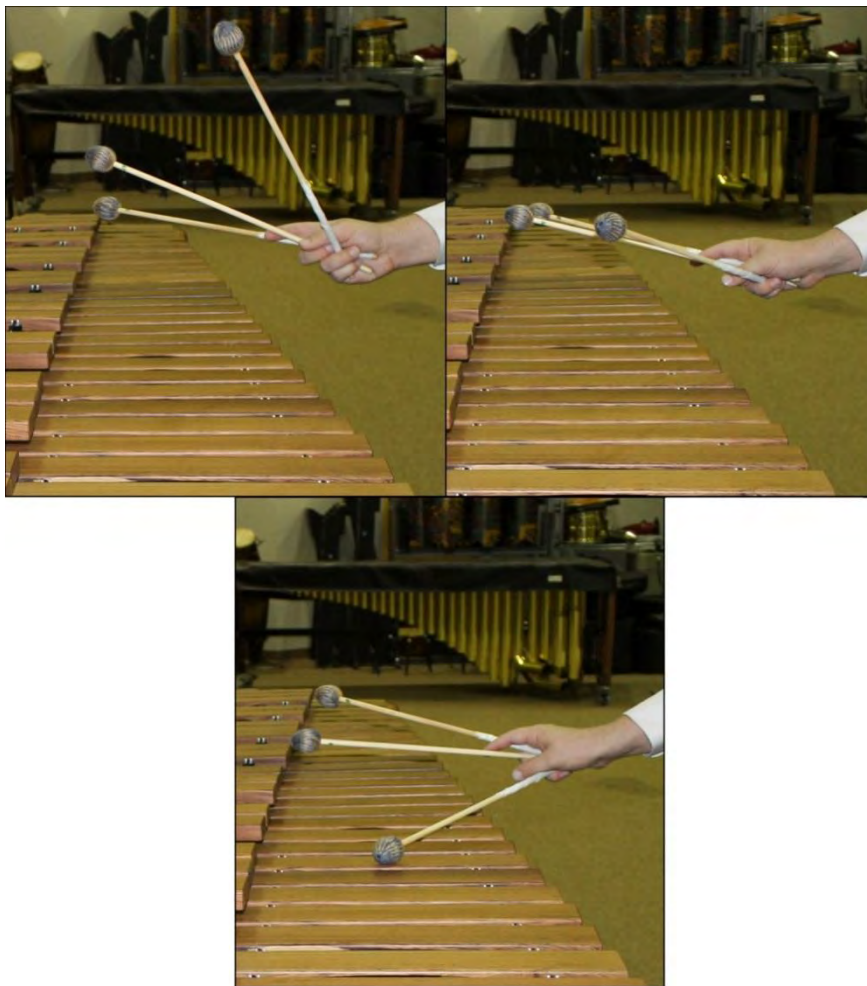


Figure 22: Single Independent Stroke with the Inside Mallet

The second method to create the single independent stroke with the inside mallet, is to incorporate Ed Saindon's fulcrum grip. In this way, rather than the arm and wrist producing the stroke, the fingers are used. To execute this stroke, the index finger must move from wrapping around the middle mallet to the inside mallet. The middle and outside mallets are held between the index and middle finger. The fulcrum is made by the thumb and index finger, and the middle, ring and pinky fingers can now control the stroke of the mallet by simply extending and retracting to produce the stroke (Figure 23).

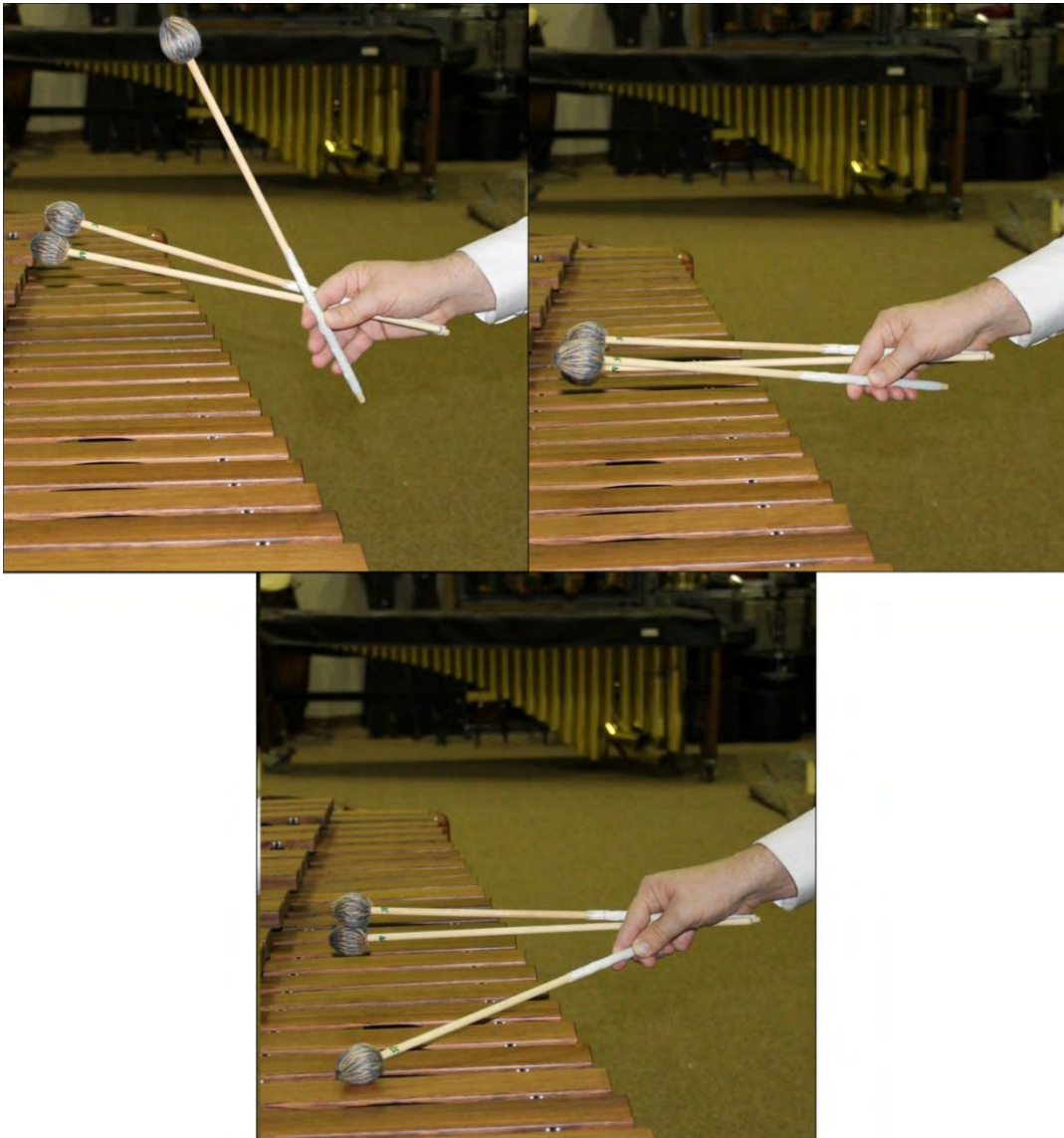


Figure 23: Fulcrum Grip: Single Independent Stroke with the Inside Mallet

Single Independent Stroke with the Middle Mallet

At first, the single independent stroke with the middle mallet takes the longest time to develop, but with practice it becomes easier. Many six-mallet grips avoid its use, but, it can become an extremely useful stroke. The key to producing the stroke is that it functions in the same way as the other single independent strokes; what is different is that the player must control the outer mallets while producing the stroke. In other words, when moving the middle mallet downward, the outside and inside mallets are pulled upward. Most of the pulling is done with the inside mallet, and the outside mallet generally stays in its natural resting place. To execute this stroke, begin with the mallets loose in the standard position to play a triple vertical stroke. Next, strike in the same way as that of a triple vertical stroke (Figure 20), and pull the inside mallet up with the middle, ring and pinky fingers. The outside mallet can lift with an added rotation of the wrist slightly inwards. To add power to the inside mallet stroke, the thumb and index finger can apply extra pressure to the downward stroke. The single independent stroke with the middle mallets can be seen in figure 24.

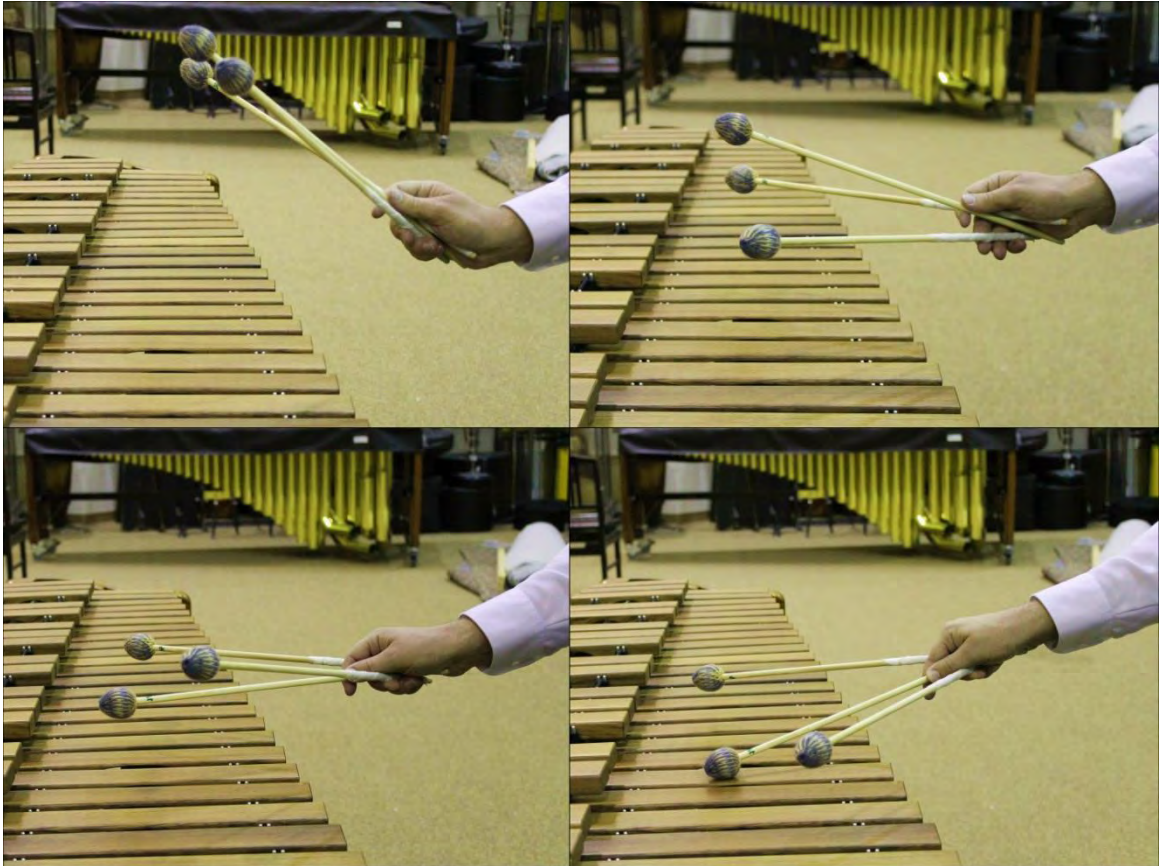


Figure 24: Single Independent Stroke with the Middle Mallet

Double Vertical Stroke with the Outside and Middle Mallets

The double vertical stroke with the outside and middle mallets is produced in a similar fashion as the triple vertical stroke. The main difference is that an outward rotation is added to keep the inside mallet from striking. This motion is shown in figure 25. Figure 26, demonstrates this stroke with a wider interval spread.

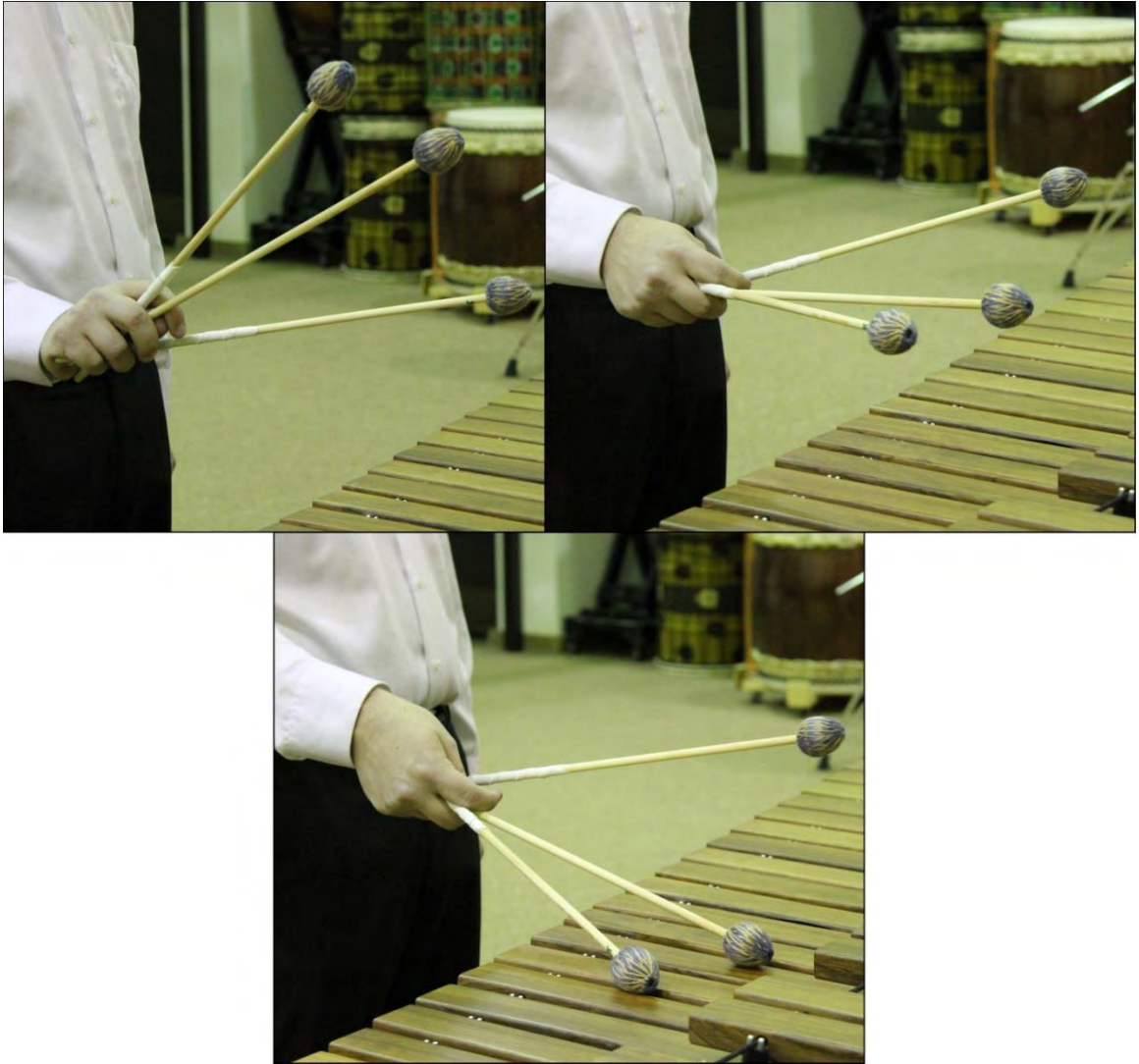


Figure 25: Double Vertical Stroke with the Outside and Middle Mallets



Figure 26: Double Vertical Stroke, Wider Spread

Double Vertical Stroke with the Inside and Middle Mallets

The double vertical stroke with the inside and middle mallets is exactly the same motion as the double vertical stroke with the inside and outside mallets, only the rotation is made inwards. This motion is shown in figure 27.

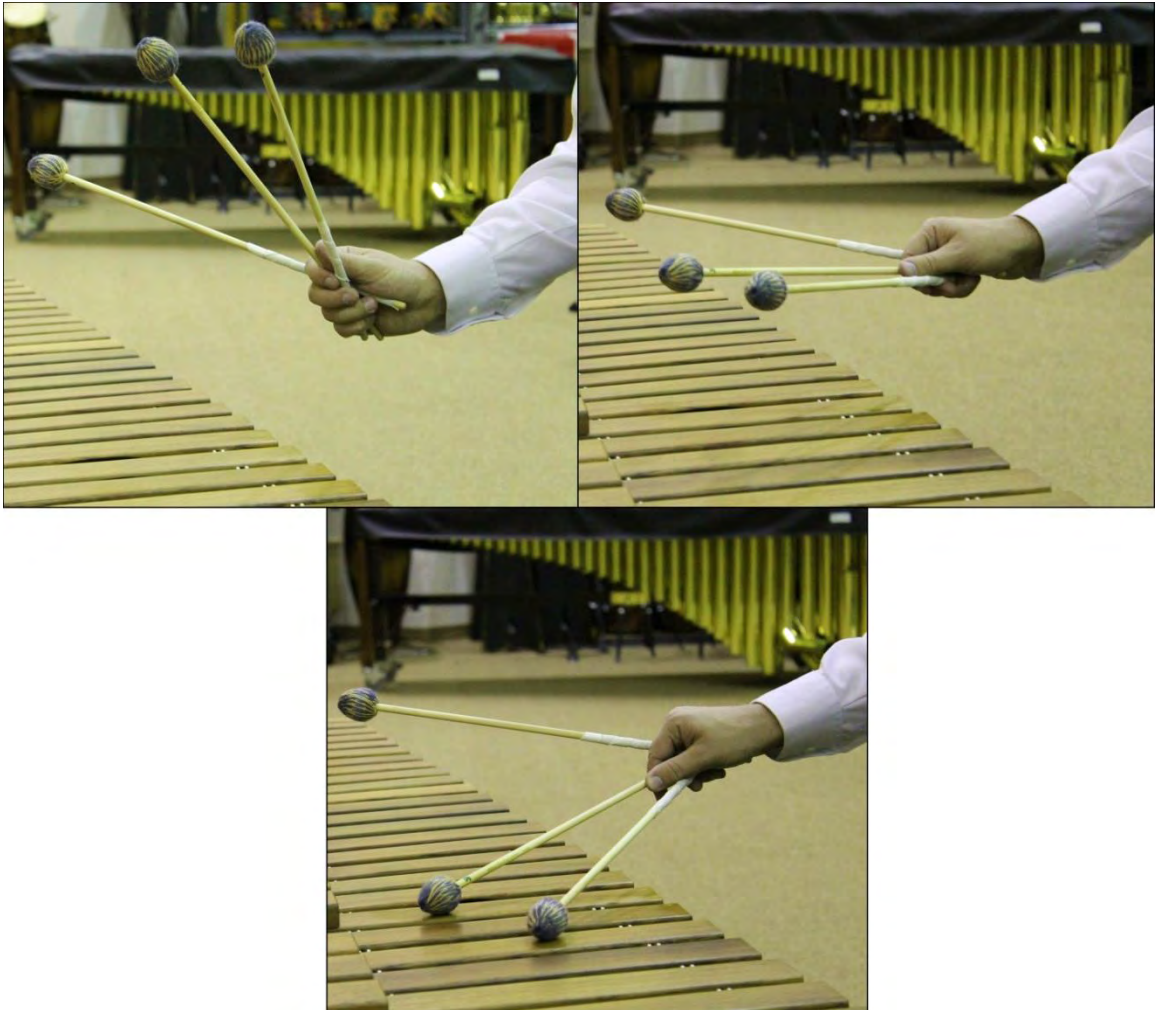


Figure 27: Double Vertical Stroke with the Inside and Middle Mallets

Double Vertical Stroke with the Outside and Inside Mallets

The double vertical stroke with the outside and inside mallets uses the same foundation as the triple vertical stroke. The difference is that the middle mallet is lifted by curling the index finger and supporting it with the thumb, shown in figure 28.



Figure 28: Double Vertical Stroke with the Outside and Inside Mallets

2.4: Chords

All chords and their unique voicings can be played with the single independent, double, and triple vertical strokes. One of the greatest challenges with six-mallet playing is finding the best chordal mallet positionings to project the purest and fullest sound. Often the player must be creative in utilizing a variety of hand positions to play certain chords. In measure 184 of *Komodo* by Robert Paterson (Excerpt 2), the right hand has a cluster chord of C, D and Eb. At first glance this chord may seem impossible to play, but with closer examination there is a simple solution, shown in figure 29.

Molto energio, relentless

firmly

185

(bring out lowest notes)

Excerpt 2: M.184: Right Hand Cluster Chord (C, D, Eb) in *Komodo* by Robert Paterson

Seems impossible

**Correct way by moving
the elbow outwards**



Figure 29: Chordal Mallet Position in M.184 of *Komodo* by Robert Paterson

Another common problem in the six-mallet literature is to play a simple triad in one hand, where the outer mallets are playing "white" keys, and the inside mallet is playing a "black" key. Without any alterations to the grip, the outer mallets will naturally strike the node of the bars, creating a poor sound. There are two common solutions to this

problem. The first, invented by Dean Gronemeier, is called the "manual pull".¹⁵ This method is produced by raising the hand, creating a greater angle to allow the middle mallet to reach the black key, without the outer mallets hitting the nodes of the bars. This method can be quite useful, however it forces the mallets to strike farther from the core and closer to the crown, producing a thinner sound, which is often not ideal. This method is shown in figure 30. The second solution is to adjust the length of the mallets in the hand, allowing the middle mallet to be in front of the outer mallets. Figure 31 shows this adjustment. This modification can be made as often as is needed in the piece. Figure 32 demonstrates this adjustment with the hand in playing position. This method provides the best sound but can take time to make the adjustment. Some pieces allow enough time for this adjustment, while others do not. Sometimes the best approach is to combine the two methods, only slightly adjusting the middle mallet, allowing the arm to raise a minimal amount to execute the manual pull, and thus producing a fuller sound.



Figure 30: The Manual Pull

15. Dean Gronemeier has outlined his technique and describes the manual pull in Dean Gronemeier, "Six Mallet Independence: A New Twist on an Old Idea," *Yamaha Educator Series*.

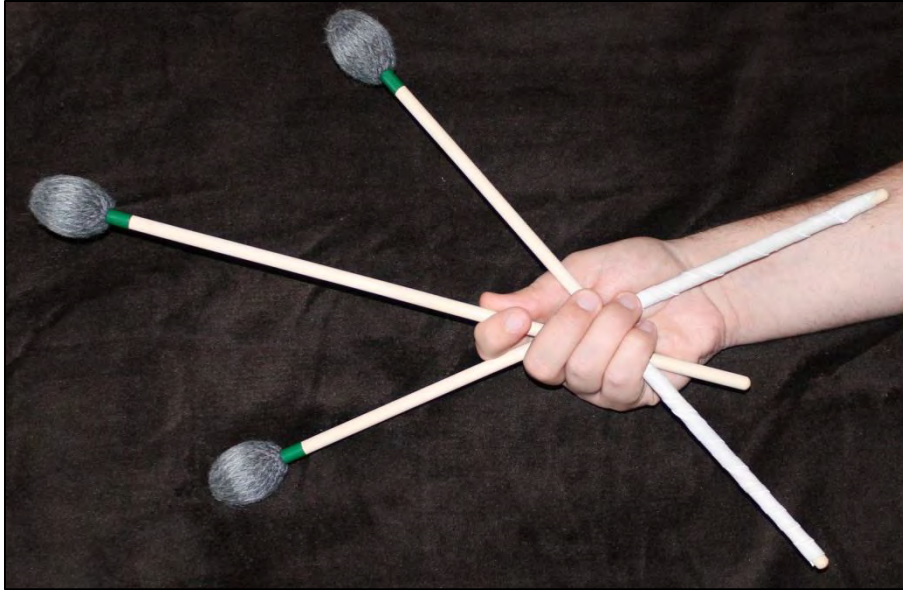


Figure 31: Adjusting Mallet Positions (In this example, the inside and outside mallets are moved drastically to show clarity. Real applications usually do not use that much adjustment.)



Figure 32: Playing Position: Result of Adjusting the Mallet Positions

2.5: Strokes, Part 2

Single and Double Alternating Strokes

At slow speeds the single and double alternating strokes can be broken down into a single independent stroke and a double vertical stroke. At faster speeds the motion changes into a teeter-totter-like movement. The mallets rock back and forth from a central pivotal axis shown in figure 33.

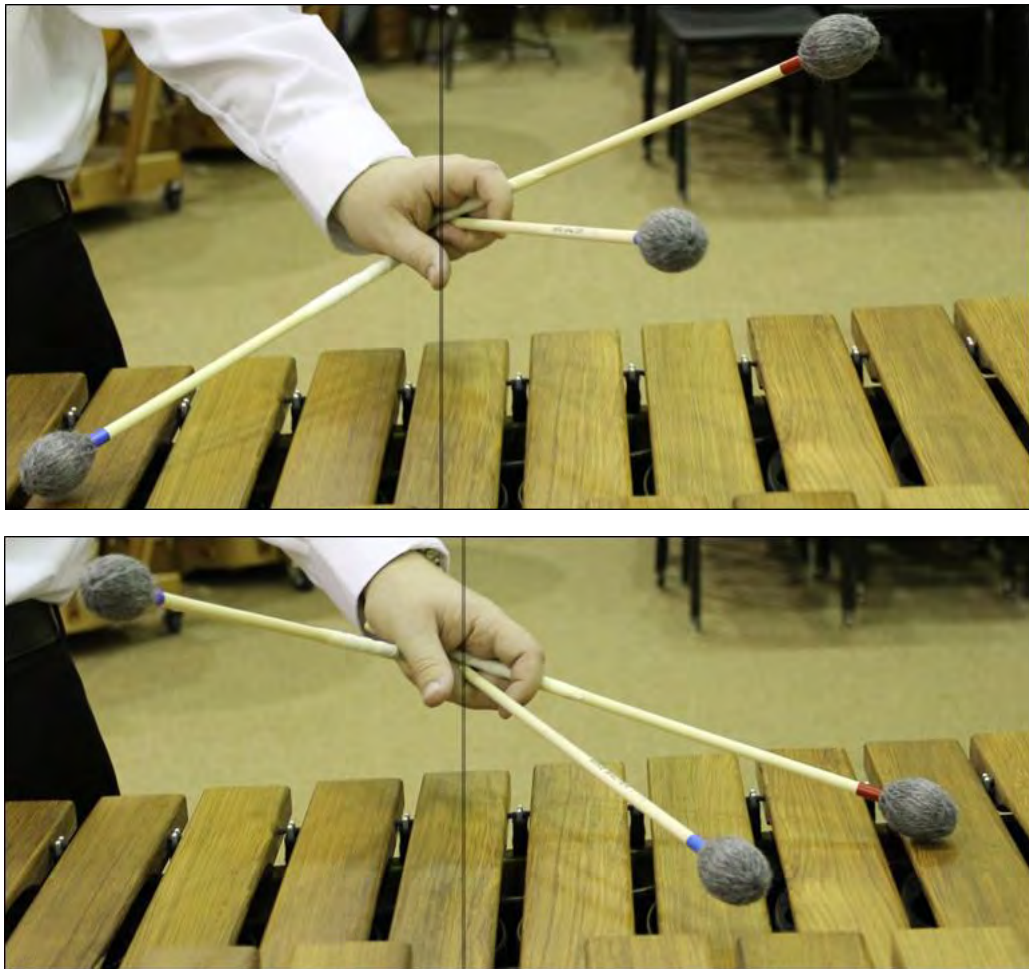
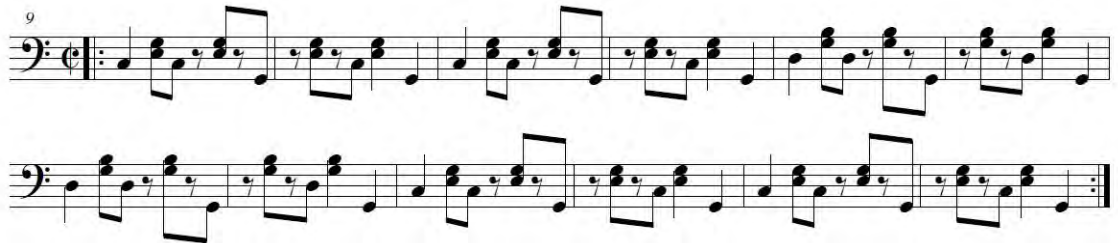


Figure 33: Single and Double Alternating Strokes with a Central Pivotal Axis

In the six-mallet Mexican marimba style, it is common for the left hand to have a bass ostinato while the right hand plays a harmonized melody. Excerpt 3, shows the bass line for the main theme in Kai Stengaard's marimba solo, *Salsa Mexicana*. This excerpt is

a great example of using single and double alternating strokes to create a full and harmonized bass line.



Excerpt 3: Bass Line from Kai Stensgaard's *Salsa Mexicana*

Single Alternating Strokes Between Two Mallets at a Time

There are three combinations for single alternating strokes between two mallets at a time: inside and middle, outside and middle, and inside and outside. In the first combination, alternating strokes of the inside and middle mallets, the inside stroke is produced by rapidly releasing the middle, ring and pinky fingers, shown in figure 34. A slight rotation of the arm can be added to produce a more powerful stroke. After the inside stroke is finished, the fingers rest in the perfect position to create a powerful middle stroke. To produce this, the middle, ring and pinky finger snap back into position, while the thumb and index push the middle mallet downwards. The wrist is added with a slight rotation to create an equally powerful middle stroke, shown in figure 35. This two-stroke combination lends itself to repetition, as each stroke sets up the next.



Figure 34: Releasing the Middle, Ring and Pinky Fingers



Figure 35: Completing the Middle Mallet Stroke

There is nothing unusual in the second combination, involving the outside and middle mallets. To alternate between the two, their single independent strokes must be rotated back and forth.

The last way, using the inside and outside mallets is the most efficient of the single alternating strokes. This method uses the same motion as the four-mallet Burton grip, produced simply by rotating the hand. Because the motion is a rotation, the middle

mallet is not affected and can remain in position, out of the way. This fluid rotation at high speeds turns into a one-hand roll. This technique will be explained in more detail in, 2.4 Rolls.

Independence of All Three Mallets

Independence of all three mallets can now be obtained by combining all of the techniques mentioned thus far. When utilizing three-mallet independence at high speeds, the arm can be added to help smooth the motion, creating constant momentum. This motion is similar to the Moeller technique used by drummers. The technique combines a variety of motions with the goal of improving hand speed, power, and control, while offering the flexibility to add accented notes at will. The Moeller method uses a whipping motion that allows gravity to do most of the work, enabling the drummer to play faster, while staying relaxed. The technique incorporates horizontal motion of the arm and the elbow moving outwards to play rapid strokes and moving back in to add the accents. The result is that the arm moves both vertically and horizontally, creating a constant circular flow, allowing the player to be completely relaxed. As the speed increases, the motion gets smaller and smaller, until it is mainly in the wrist and forearm. This motion is optimal in producing piano-like arpeggios in one hand holding three mallets. The motion can be broken down into three stages. In the first stage, the inside mallet strikes with the elbow tucked in to the side. In the second stage, the middle mallet strikes with the elbow beginning to move outwards. Finally, in the third stage, the outside mallet strikes with the elbow fully extended. To repeat the process, the elbow whips back into the first position, creating the constant cycle. This cycle is shown in figure 36. As the motion becomes more familiar, the movements can be reduced and made more efficient. In

measure 91 of *Decisions* for six-mallet marimba solo by the author, the bass ostinato requires the performer to utilize this technique, shown in excerpt 4.

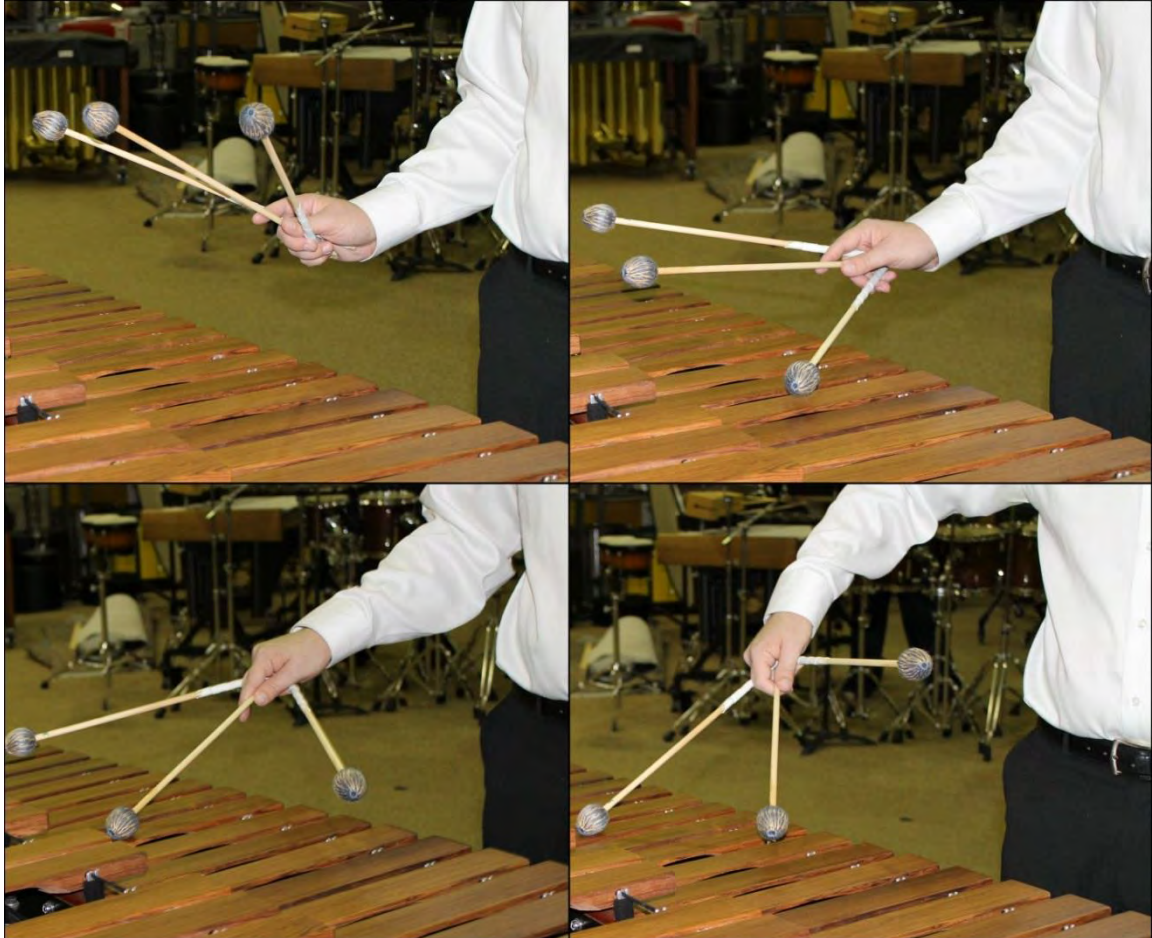


Figure 36: Independence of All Three Mallets Utilizing the Moeller Technique



Excerpt 4: M.91: Left Hand Bass Line in *Decisions* by Joe Porter

2.6: Rolls

Hand-to-Hand Roll: (Can be all six mallets or less)

The hand-to-hand roll is the simplest roll to execute. It can involve as little as two and up to six mallets. The roll is produced by alternating any combination of single

independent strokes, double vertical strokes, and triple vertical strokes. Excerpt 5 presents hand-to-hand rolls in the chorale of the author's six-mallet marimba solo, *Tango the Cat*. All of the hand-to-hand rolls in this excerpt are with double vertical strokes.

39 *rit.* Out of energy

Sleeping at Peace

43

50 Waking up

Rubato

Excerpt 5: Hand-to-Hand Rolls in the Chorale of *Tango the Cat* by Joe Porter

Hand-to-Hand Ripple Roll

The hand-to-hand ripple roll uses the same mallet combinations as the hand-to-hand roll, only the mallets strike one after the other, creating a ripple effect. There are two ways to produce this stroke: 1) by holding the mallets very loosely, and slightly angling them so that when striking, each one hits right after the other, and 2) by holding the outer mallets firmly and letting the middle mallet stay loose. In both methods the

hands and fingers can raise and lower each mallet, letting the player choose the order in which the mallets strike. Figure 37 shows three different interpretations of a hand-to-hand ripple roll. It is important to note that although the interpretations are written out metrically, the actual goal sound should be a smooth roll that does not need to be strict. Excerpt 6 shows the hand-to-hand ripple rolls in *Flame Dance* by Wan-Jen Huang.

The figure displays three distinct musical interpretations of a hand-to-hand ripple roll. Each interpretation is presented on a two-staff system (treble and bass clef). The first interpretation shows a sequence of eighth notes with triplet markings (3) above the first four notes of each group. The second interpretation features a similar sequence but with a different rhythmic grouping and triplet markings. The third interpretation also follows a similar pattern but with yet another rhythmic arrangement and triplet markings. The notation includes various note values, rests, and dynamic markings, illustrating the flexibility in how this technique can be written and performed.

Figure 37: Three Interpretations of the Hand-to-Hand Ripple Roll

Tempo rubato

104

106

108

Excerpt 6: Hand-to-Hand Ripple Rolls in *Flame Dance* by Wan-Jen Huang

One-Hand Rolls Between Two Mallets at a Time

One-hand rolls can be made between any of the two mallets. However, the inside and outside mallets create the strongest and most fluid motion and therefore are recommended for one-hand rolls. The one-hand roll with six mallets is no different than its counterpart with four mallets. The technique is a simple, relaxed and fluid rotation. Because the motion is a rotation, the middle mallet is not affected by the movement. This movement can be learned without the mallets in the hand. Find a flat surface, and place the arm parallel to the surface, but not touching. Then, simply rotate the arm and wrist, using the tips of the thumb and ring finger to strike the surface. This motion should feel the same with the mallets in hand. The only difference is that the muscles will need to develop to accommodate for the extra weight of the mallets. With this technique, it is

possible to execute all of the intervals that a four-mallet player can produce, anywhere from a unison up to an octave or even a tenth, depending on the length of the mallets and width of the bars.

An advantage to executing one-hand rolls with six mallets is that any of the mallets can rotate into the three positions, leaving the player with the ability to swap mallets for certain passages, and swap out to smoothen out rolls. A common example is when the left hand has a very soft mallet for the bass notes and then is required to execute a one-hand roll in a higher octave. The player can rotate the very soft mallet to a harder mallet in the lower outside mallet, creating a much more even sound in the higher register. Figure 38 shows an example of this rotation.

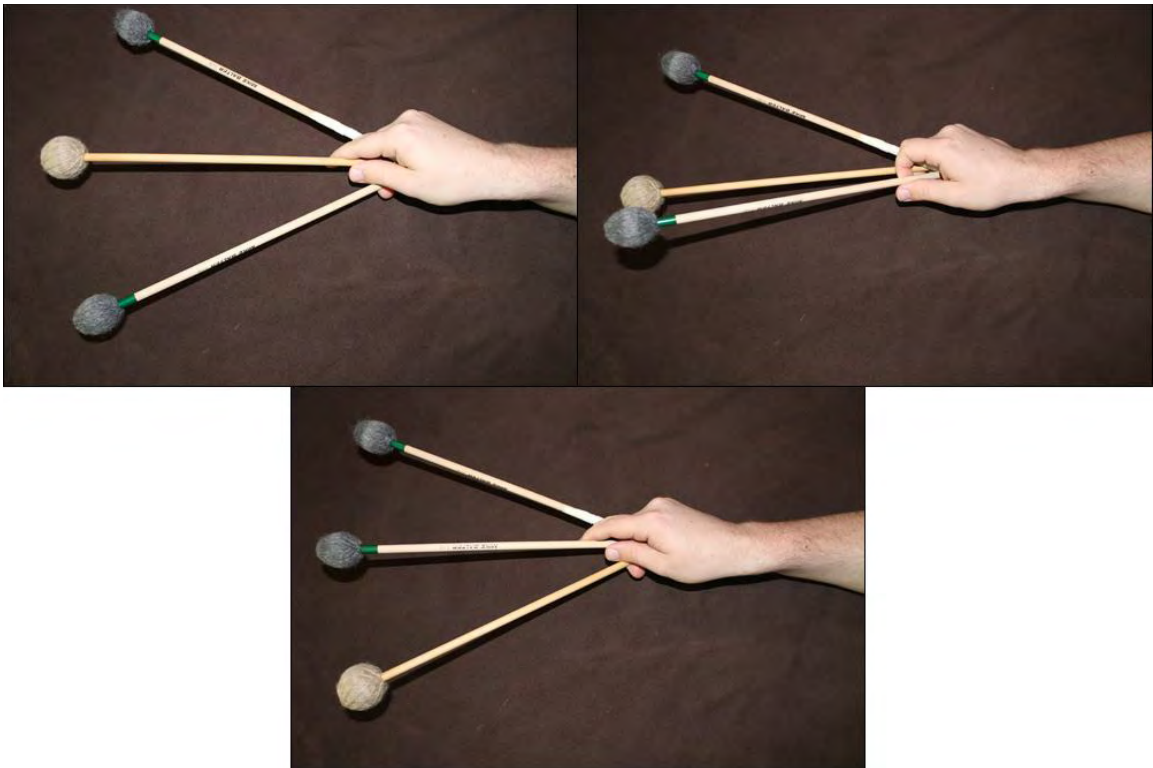


Figure 38: Swapping Mallet Positions

Three-Mallet, One-Hand Rolls

One of the greatest benefits from playing with six mallets is the ability to execute three-mallet, one-hand rolls. There are two ways of producing these rolls, and both may be used for the same application. Depending on the interval spread of the mallets, one may be easier than the other.

Three-Mallet, One-Hand Rolls by Alternation

The first method uses the combination of a single mallet followed by two mallets, or vice versa. The wrist oscillates to produce the sustained sound of a roll. Figure 39 demonstrates two different executions of this roll. This method is similar to the split-hand technique as used by South Indian kanjira players.¹⁶ Kanjira players separate the hand into two units: the thumb and index fingers, and the middle, ring and pinky fingers. To play a rapid succession of notes, they rotate between the two striking units, shown in figure 40. When executing this on the marimba, the first striking unit of the split-hand technique, the thumb and index finger feels like the single mallet; the second striking unit, the middle, ring and pinky fingers feels like the two mallet unit. In executing one-hand rolls this way, the movement combines a rotation with individual strikes. The key is to strike and rotate fast enough to produce the sound of a roll. Depending on the tempo of the piece, the player must select an appropriate roll skeleton.¹⁷

16. Further information on the split-hand technique can be found in Ganesh Kumar, *The Art of Kanjira*, DVD, produced by Chris Sampson (Houston, TX: Octogonal Madness, 2005).

17. A roll skeleton is essentially a rhythmic base to metre a roll. The tempo of the piece will determine the appropriate roll skeleton. The slower the tempo, the roll skeleton will need to be more subdivided. This concept is used by classical snare drum players to map out the smoothest possible roll for the pieces they are playing.

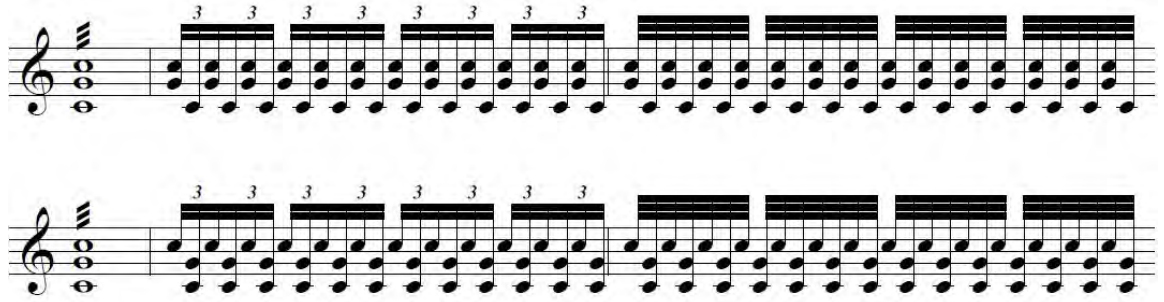


Figure 39: Three-Mallet, One-Hand Rolls by Alternation



Figure 40: Kanjira Split-Hand Technique (two striking units)

Three-Mallet, One-Hand Rolls by Independence

The second method to create three-mallet, one-hand rolls is to use three-mallet independence. In this method, each mallet strikes separately, and the motion is produced at high speeds to create the sound of a sustained roll. This method can be approached in two ways. The first is to apply the Moeller technique and let the hand and wrist create a fluid and circular motion. This method can be learned by practicing triplets at high-speeds. Figure 41, demonstrates two rhythmic interpretations of this roll. The end goal is to project the most sustained sound possible and therefore the exact rhythmic skeleton of the roll does not necessarily matter.

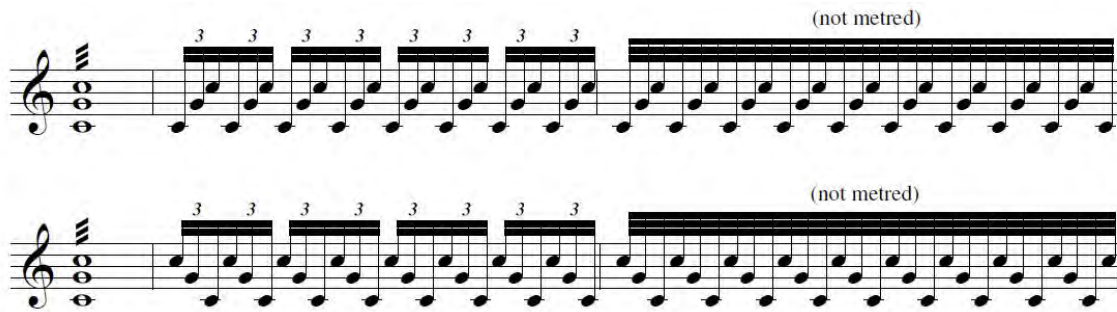
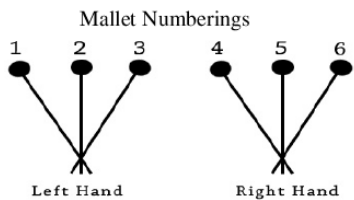


Figure 41: Three-Mallet, One-Hand Rolls

The second approach to learning this roll is to begin by executing the three-mallet, one-hand roll by alternation, and then completely relaxing and allowing the middle mallet to move freely. Eventually this free movement will become more controllable, and the power of the middle mallet can be adjusted. The index finger and/or the thumb can also adjust the height of the middle mallet to help it blend with the outer mallets.

Chapter 3. Technical Exercises

The exercises in this chapter are designed to develop a great proficiency in six-mallet technique. The exercises should be played in a variety of octaves, not just the written register. Chapter 3 isolates technique on individual hands and does not work on independence between the hands. To address independence such as rolling with one-hand while playing vertical strokes in the other, the author recommends learning repertoire that works on independence rather than solely playing exercises. For technical explanations of the exercises, it is important to refer to Chapter 2. It is also important to note that the exercises are designed strictly to focus on technique and some do not follow the voice leading of conventional tonality.



3.1: Triple Vertical Strokes

Exercise No.1 should be repeated with any diatonic intervals and chordal positionings.
 (Exercise No.2 shows an example of this)

Exercise No.1 Parallel chords (4/5/6)

Exercise No.2 Parallel chords with common Mexican marimba positioning

(4/5/6)

Exercise No.3 Moving the inside and outside mallets (4/5/6) (1/2/3)

Exercise No.4 Moving the inside and outside mallets (4/5/6) (1/2/3)

Exercise No.5 Moving the inside and outside mallets (4/5/6) (1/2/3)

Exercise No.6 Moving the inside and outside mallets (4/5/6) (1/2/3)

Exercise No.7 Moving the inside and middle mallets (4/5/6) (1/2/3)

Exercise No.8 Moving the inside and middle mallets (4/5/6) (1/2/3)

Exercise No.9 Moving the inside and middle mallets (4/5/6) (1/2/3)

Exercise No.10 Moving all three mallets (4/5/6) (1/2/3)

Triple Vertical Strokes

Exercise No.11 Moving the middle mallet
(4/5/6)

(1/2/3)

Exercise No.12 Moving the middle mallet

(4/5/6)

(1/2/3)

(1/2/3)

Exercise No.13 The manual pull 1

(4/5/6)

(1/2/3)

(1/2/3)

Exercise No.14 The manual pull 2

(4/5/6)

(1/2/3)

(1/2/3)

Exercise No.15 The manual pull 3

(4/5/6)

(1/2/3)

(1/2/3)

Exercise No.16 The manual pull 4

(4/5/6)

(1/2/3)

(1/2/3)

Exercise No.17 The manual pull 5

(4/5/6)

(1/2/3)

(1/2/3)

3.2: Single Independent Strokes

The following examples are shown in C major. However, it is important to practice each exercise in all major keys.

Exercise No.1: Scales Exercise No.1 should be played with each individual mallet. (4), (3), (5), (2), (6), (1)



Exercise No.2: Scales in octaves Exercise No.2 should be played by all combinations of left and right hand strokes:
(1+4), (1+5), (1+6), (2+4), (2+5), (2+6), (3+4), (3+5), and (3+6)



Exercise No.3: Scales, alternating right/left or vice versa

(3/4) (2/5) (1/6)



3.3: Double Vertical Strokes

The following exercises should be played with all three combinations of double vertical strokes: the outside and middle mallets (1 and 2) and (5 and 6), the inside and middle mallets (2 and 3) and (4 and 5) and the outside and inside mallets (1 and 3) and (4 and 6). The exercises should also be played in all major keys.

Exercise No.1 Expansion and contraction: up and down

(4, 5) / (4, 6) / (5, 6)



(2, 1) / (3, 1) / (3, 2)



Exercise No.1 consists of two staves. The top staff is in treble clef, 4/4 time, and the bottom staff is in bass clef, 4/4 time. Both staves feature a sequence of chords: (4,5), (4,6), and (5,6) in the treble, and (2,1), (3,1), and (3,2) in the bass. The exercise concludes with a 2/4 time signature change and a final 4/4 time signature.

Exercise No.2 Expansion and contraction: down and up

(5, 4) / (6, 4) / (6, 5)



(1, 2) / (1, 3) / (2, 3)



Exercise No.2 consists of two staves. The top staff is in treble clef, 4/4 time, and the bottom staff is in bass clef, 4/4 time. Both staves feature a sequence of chords: (5,4), (6,4), and (6,5) in the treble, and (1,2), (1,3), and (2,3) in the bass. The exercise concludes with a 2/4 time signature change and a final 4/4 time signature.

Exercise No.3 Parallel movement

(4, 5) / (4, 6) / (5, 6)



(2, 1) / (3, 1) / (3, 2)



Exercise No.3 consists of two staves. The top staff is in treble clef, 4/4 time, and the bottom staff is in bass clef, 4/4 time. Both staves feature a sequence of chords: (4,5), (4,6), and (5,6) in the treble, and (2,1), (3,1), and (3,2) in the bass. The exercise concludes with a final 4/4 time signature.

Exercise No.3 should be played with all diatonic intervals from a second to an octave.

3.4: Single and Double Alternating Strokes

The following exercises should be played in all major keys. The accidentals will teach the player to twist and maneuver the arm and wrist in different ways.

Exercise No.1 Triad permutation 1

(4, 5/6) (3, 1/2)

Exercise No.2 Triad permutation 2

(5/6, 4) (1/2, 3)

Exercise No.3 Triad permutation 3

(4/5, 6) (3/2, 1)

Exercise No.4 Triad permutation 4

(6, 4/5) (1, 2/3)

Exercise No.5 Adding lateral movement with the double vertical stroke: up and down

(4, 5/6) (3, 1/2)

Exercise No.6 Adding lateral movement with the double vertical stroke: down and up

(6, 4/5) (1, 2/3)

Exercise No.7 Adding lateral movement with the single independent stroke: up and down

(4/5, 6) (3/2, 1)

Single and Double Alternating Strokes

Exercise No.8 Adding lateral movement with the single independent stroke: down and up



All of the single and double alternating stroke exercises should be practiced using all diatonic intervals. Below is an example of exercise No.5 with fifths, instead of thirds.



3.5: Single Alternating Strokes Between Two Mallets at a Time

The following exercises should be played using all three combinations of single alternating strokes between two mallets: inside and middle (2/3, 4/5), inside and outside (1/3, 4/6) and outside and middle (1/2, 5/6). The exercises should also be played in all major keys.

Exercise No.1 Expanding and contracting: up and down

(4, 5) / (4, 6) / (5, 6)

(3, 2) / (3, 1) / (2, 1)

Exercise No.2 Expanding and contracting: down and up

(5, 4) / (6, 4) / (6, 5)

(2, 3) / (1, 3) / (1, 2)

Exercises No.3 and No.4 should be played with all diatonic intervals from a second to an octave.

Exercise No.3 Parallel movement: up and down

(4, 5) / (4, 6) / (5, 6)

(3, 2) / (3, 1) / (2, 1)

Exercise No.4 Parallel movement: down and up

(5, 4) / (6, 4) / (6, 5)

(2, 3) / (1, 3) / (1, 2)

3.6: Independence of All Three Mallets

First play all exercises in C major, followed by all major keys. For arpeggiation exercises 1 - 12, the following order of key signatures is recommended: [C, F, G, Gb] [B, Bb] [D, E, A] [Db, Eb, Ab]

[D, E, A] introduce an accidental which will require the incorporation of the manual pull technique and/or pushing forward. [Db, Eb, Ab] will be extremely difficult to execute with the written stickings. It is much easier by moving the elbow outwards and using alternate stickings. For example, a Db major chord with the right hand is easiest to stick this way: Db: 5, F: 4, Ab: 6
Exercise No.2 in the key of Db is shown in figure 42.

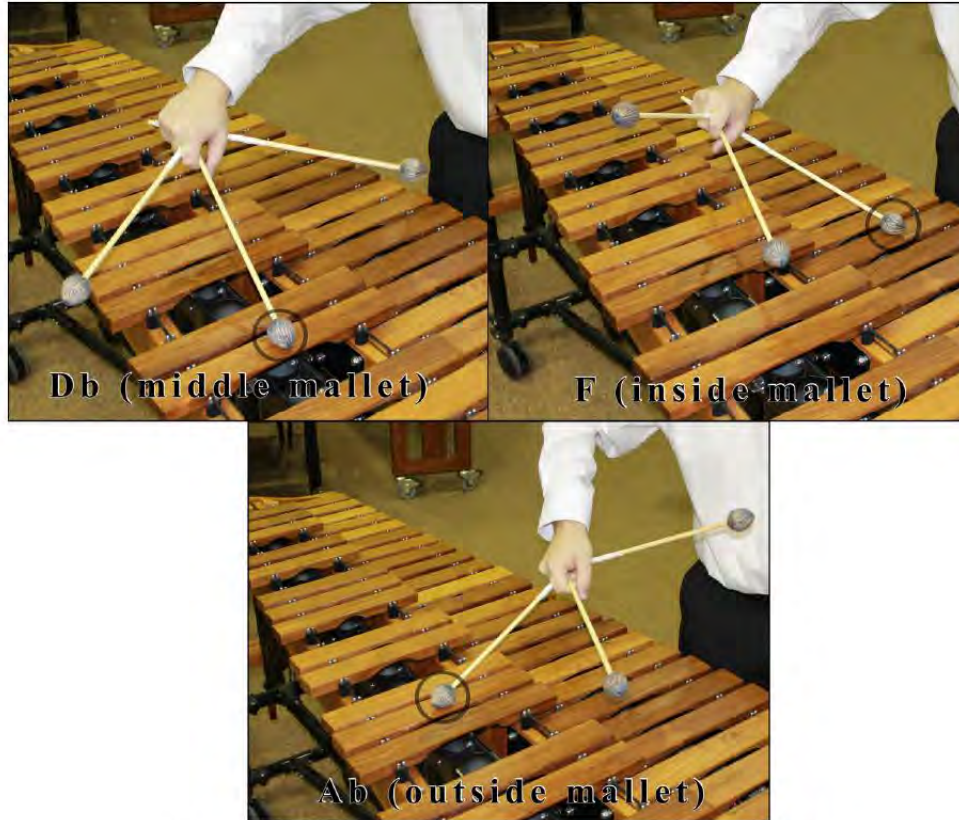


Figure 42: Sticking a Db Major Arpeggio in the Right Hand

Exercise No.1 Triad permutation 1

Musical notation for Exercise No.1 Triad permutation 1 in 4/4 time. The first staff shows a descending eighth-note arpeggio with stickings (6, 5, 4) and a triplet of eighth notes. The second staff shows an ascending eighth-note arpeggio with stickings (1, 2, 3) and a triplet of eighth notes. The third staff shows a descending eighth-note arpeggio with stickings (3, 3, 3, 3) and a triplet of eighth notes.

Exercise No.2 Triad permutation 2

Musical notation for Exercise No.2 Triad permutation 2 in 4/4 time. The first staff shows a descending eighth-note arpeggio with stickings (4, 5, 6) and a triplet of eighth notes. The second staff shows an ascending eighth-note arpeggio with stickings (3, 2, 1) and a triplet of eighth notes. The third staff shows a descending eighth-note arpeggio with stickings (3, 3, 3, 3) and a triplet of eighth notes.

Independence of All Three Mallets

Exercise No.3 Triad permutation 3
(5, 6, 4)

Musical notation for Exercise No.3, consisting of three systems. The first system is a single melodic line in the bass clef with four eighth-note triplets, labeled (5, 6, 4). The second system is a single melodic line in the treble clef with four eighth-note triplets, labeled (2, 1, 3). The third system is a three-part texture with eighth-note triplets in the treble, middle, and bass staves, each labeled with a '3'.

Exercise No.4 Triad permutation 4
(5, 4, 6)

Musical notation for Exercise No.4, consisting of three systems. The first system is a single melodic line in the bass clef with four eighth-note triplets, labeled (5, 4, 6). The second system is a single melodic line in the treble clef with four eighth-note triplets, labeled (2, 3, 1). The third system is a three-part texture with eighth-note triplets in the treble, middle, and bass staves, each labeled with a '3'.

Exercise No.5 Inverted triad permutation 1
(6, 5, 4)

Musical notation for Exercise No.5, consisting of three systems. The first system is a single melodic line in the bass clef with four eighth-note triplets, labeled (6, 5, 4). The second system is a single melodic line in the treble clef with four eighth-note triplets, labeled (1, 2, 3). The third system is a three-part texture with eighth-note triplets in the treble, middle, and bass staves, each labeled with a '3'.

Exercise No.6 Inverted triad permutation 2
(4, 5, 6)

Musical notation for Exercise No.6, consisting of three systems. The first system is a single melodic line in the bass clef with four eighth-note triplets, labeled (4, 5, 6). The second system is a single melodic line in the treble clef with four eighth-note triplets, labeled (3, 2, 1). The third system is a three-part texture with eighth-note triplets in the treble, middle, and bass staves, each labeled with a '3'.

Exercise No.7 Inverted triad permutation 3
(5, 6, 4)

Musical notation for Exercise No.7, consisting of three systems. The first system is a single melodic line in the bass clef with four eighth-note triplets, labeled (5, 6, 4). The second system is a single melodic line in the treble clef with four eighth-note triplets, labeled (2, 1, 3). The third system is a three-part texture with eighth-note triplets in the treble, middle, and bass staves, each labeled with a '3'.

Exercise No.8 Inverted triad permutation 4
(5, 4, 6)

Musical notation for Exercise No.8, consisting of three systems. The first system is a single melodic line in the bass clef with four eighth-note triplets, labeled (5, 4, 6). The second system is a single melodic line in the treble clef with four eighth-note triplets, labeled (2, 3, 1). The third system is a three-part texture with eighth-note triplets in the treble, middle, and bass staves, each labeled with a '3'.

Exercise No.9 Octave and fifth permutation 1
(6, 5, 4)

Musical notation for Exercise No.9, consisting of three systems. The first system is a single melodic line in the bass clef with four eighth-note triplets, labeled (6, 5, 4). The second system is a single melodic line in the treble clef with four eighth-note triplets, labeled (1, 2, 3). The third system is a three-part texture with eighth-note triplets in the treble, middle, and bass staves, each labeled with a '3'.

Independence of All Three Mallets

Exercise No.10 Octave and fifth permutation 2

(4, 5, 6) (3, 2, 1)

Exercise No.11 Octave and fifth permutation 3

(5, 6, 4) (2, 1, 3)

Exercise No.12 Octave and fifth permutation 4

(5, 4, 6) (2, 3, 1)

Exercise No.13 Scalar motion 1

(4, 5, 6) (3, 2, 1)

Exercise No.14 Scalar motion 2

(5, 6, 4) (2, 1, 3)

Exercise No.15 Scalar motion 3

(6, 5, 4) (1, 2, 3)

Exercise No.16 Scalar motion 4

(5, 4, 6) (2, 3, 1)

Exercise No.17 Lateral movement 1: up and down

(4, 5, 6) (3, 2, 1)

Independence of All Three Mallets

Exercise No.18 Lateral movement 2: down and up

Musical notation for Exercise No.18. It consists of two staves. The first staff has a treble clef and contains a sequence of eighth notes grouped in threes. The first group is labeled (6, 5, 4) and the second group is labeled (1, 2, 3). The second staff has a bass clef and contains a similar sequence of eighth notes grouped in threes, with the first group labeled (1, 2, 3).

Exercise No.19 Lateral movement 3: up and down

Musical notation for Exercise No.19. It consists of two staves. The first staff has a treble clef and contains a sequence of eighth notes grouped in threes. The first group is labeled (4, 5, 6) and the second group is labeled (3, 2, 1). The second staff has a bass clef and contains a similar sequence of eighth notes grouped in threes, with the first group labeled (3, 2, 1).

Exercise No.20 Lateral movement 4: down and up

Musical notation for Exercise No.20. It consists of two staves. The first staff has a treble clef and contains a sequence of eighth notes grouped in threes. The first group is labeled (6, 5, 4) and the second group is labeled (1, 2, 3). The second staff has a bass clef and contains a similar sequence of eighth notes grouped in threes, with the first group labeled (1, 2, 3).

Exercise No.21 Outside and inside mallet expansion and contraction 1

Musical notation for Exercise No.21. It consists of two staves. The first staff has a treble clef and contains a sequence of eighth notes grouped in threes. The first group is labeled (5, 4, 6) and the second group is labeled (2, 3, 1). The second staff has a bass clef and contains a similar sequence of eighth notes grouped in threes, with the first group labeled (2, 3, 1).

Exercise No.22 Outside and inside mallet expansion and contraction 2

Musical notation for Exercise No.22. It consists of two staves. The first staff has a treble clef and contains a sequence of eighth notes grouped in threes. The first group is labeled (5, 6, 4) and the second group is labeled (2, 1, 3). The second staff has a bass clef and contains a similar sequence of eighth notes grouped in threes, with the first group labeled (2, 1, 3).

3.7: Rolls

Exercises No.1 and No.2 should be played with all diatonic intervals, not just thirds as written.

Exercise No.1 Hand-to-hand roll

Exercise No.2 Hand-to-hand ripple roll

Exercises No.3 to No.9 should be played by the right hand and then the left hand.

For Exercises No.3 and No.4, all intervals between a second and an octave should be used.

Exercise No.3 One-hand roll 1

Exercise No.4 One-hand roll 2

Exercise No.5 Unison one-hand roll

Rolls

Exercise No.7 Three-mallet, one-hand roll 1

(4/5/6), (1/2/3)

Exercise No.7 Three-mallet, one-hand roll 1
(4/5/6), (1/2/3)
(Unmetred)

Exercise No.8 Three-mallet, one-hand roll 2

(6/5/4), (3/2/1)

Exercise No.8 Three-mallet, one-hand roll 2
(6/5/4), (3/2/1)
(Unmetred)

Exercise No.8 Three-mallet alternating one-hand roll 1

(5/6, 4), (2/3, 1)

Exercise No.8 Three-mallet alternating one-hand roll 1
(5/6, 4), (2/3, 1)

Exercise No.9 Three-mallet alternating one-hand roll 2

(6, 4/5), (3, 1/2)

Exercise No.9 Three-mallet alternating one-hand roll 2
(6, 4/5), (3, 1/2)

Rolls

For Exercises No.9 to No.13: depending on the size of intervals, it may feel more comfortable to use either of the three-mallet, one-hand roll techniques. It is recommended to practice both ways, making your technique more versatile to express the music.

Exercise No.9 Switching from two to three-mallet, one-hand rolls

(4/6, 4/5/6) (1/3, 1/2/3)

Exercise No.10 Combining the one-hand, three-mallet rolls 1

(4/5/6)

(1/2/3)

Exercise No.11 Combining the one-hand, three-mallet rolls 2

(4/5/6) (1/2/3)

Exercise No.12 Adding accidentals 1

Exercise No.13 Adding accidentals 2

Exercise No.14 Adding accidentals 3

(4/5/6) (1/2/3) (4/5/6) (1/2/3) (4/5/6) (1/2/3)

Exercise No.15 Adding accidentals 4

(4/5/6) (1/2/3)

Exercise No.16 Adding accidentals 5

(4/5/6) (1/2/3)

Chapter 4: Repertoire for Six-Mallet Marimba

The following repertoire list does not include every work written for six mallets, only those recommended by the author from a pedagogical perspective. The pieces are grouped into three levels from simple to complex. It is important to note that the level indicated is only from a technical standpoint and not from a musical perspective. For example, some pieces in the level 1 and 2 categories may be challenging musically, but simpler technically.

Level 1 includes pieces that primarily use the fundamental six-mallet techniques: triple vertical strokes, single independent strokes, and hand-to-hand rolls. Pieces in level 1 may include more techniques, but with simpler applications. The works in level 2 are more challenging in that they involve more techniques, and require greater endurance and overall independence. Level 3 uses any or all of the six-mallet techniques, and requires great demands of endurance, flexibility and control. These pieces are for the advanced level of six-mallet marimba players.

4.1: Level 1

Stensgaard, Kai: *Two Mayan Dances* (1985) – MarimPercussion

- I. *Latin Nebaj*
- II. *Manzanilla*

Latin Nebaj and *Manzanilla* are excellent entry-level pieces to start learning six-mallet marimba solos. They work well to introduce the six-mallet Mexican marimba style. Both dances use a simple left-hand ostinato with a melody in the right hand, voiced in octaves with the middle mallet adding the third. Since the pieces are in the key of C major, one does not need to worry about the added technical difficulty of working with accidentals.

The strokes used for *Two Mayan Dances* are: triple vertical strokes, single and double alternating strokes, hand-to-hand rolls, and one-hand, three-mallet rolls. The one-hand, three-mallet rolls may be substituted by three triple vertical strokes to make it easier.

Duration: approx. 4:00

Sejourne, Emmanuel: *6 Baguettes* (1988) – Editions Fuzeau, France

6 Baguettes is a great piece to start learning six-mallet technique. The piece starts and ends with a chorale and its core stems from the Mexican marimba tradition. The left hand carries an ostinato and the right hand has a lyrical melody over top. The piece uses single independent strokes, double vertical strokes, triple vertical strokes, double and single alternating strokes, and hand-to-hand rolls.

Duration: approx. 2:35

Albert, Ludwig: *Le 's D nce* (1998) – Beurskens Muziekkuitgeverij

Le 's D nce is a six-mallet marimba duet with congas. The marimbist is required to have a pod rattle attached to the ankle. The piece is a rhythmic solo based on a Peruvian folk song. The left hand has an ostinato using single independent strokes and the right hand develops a melodic statement, using single independent and triple vertical strokes.

Duration: approx. 2:45

Bohez, Fabian: *Marimbamania* – Beurskens Muziekkuitgeverij

Marimbamania is a six-mallet solo that primarily uses comfortable hand positions and is a nice introductory piece to develop some of the fundamentals of six-mallet technique. The piece uses hand-to-hand rolls, triple vertical strokes, single independent strokes, and double vertical strokes.

Duration: approx. 5:00

Meloud, Daniel: *Transitions* (1997) – Dutch Music Partners

Transitions is written for six-mallet marimba with string quartet or piano. The piece is a continuously-rolled chorale and uses only hand-to-hand rolls. Hand-to-hand ripple rolls may also be used. The piece can be approached as an etude to develop hand-to-hand rolls.

Duration: approx. 4:00

Abe, Keiko: *Itsuki Fantasy for Six Mallets* (1993) – Xebec Music Publishing Co.

Itsuki Fantasy is a piece written in the contemporary marimba style. The piece, based on a Japanese folk song, flows interweaving melodic lines, counter-point, colourful cluster chords and a sonorous chorale. *Itsuki Fantasy* presents many challenges from a hand-to-hand coordination perspective; however, the six-mallet technical manipulation aspect of the piece is simpler. The techniques used are: hand-to-hand rolls, single independent, and triple vertical strokes. Hand-to-hand ripple rolls may also be used.

Duration: approx. 6:00

Abe, Keiko: *Galilee Impressions for Six Mallets* (2007) – Xebec Music Publishing Co.

Galilee Impressions is written similarly to *Itsuki Fantasy* and presents the same technical challenges with the addition of the one-hand, three-mallet roll in the right hand, voiced in root position triads.

Duration: approx. 6:00

4.2: Level 2

Gronemeier, Dean: *Five Short Works* (1994) – M Baker Publications

- I. Genesis
- II. Cloud Mist
- III. Distinctive Personality

IV. Which Hunt

V. Roccata

Five Short Works may be played as individual solos, or together as a complete series. Each movement is etude-like and focuses on an area of six-mallet technique within a musical setting. The work is made up of highly contrasting pieces, from strongly rhythmic movements to slower chorales with rolled chords. *Five Short Works* is written idiomatically for the Gronemeier grip but is a great piece to build some of the fundamentals of six-mallet technique using any grip. The piece includes single independent strokes, double vertical strokes, hand-to-hand rolls, single and double alternating strokes, and extensive use of one-hand, three-mallet rolls. Hand-to-hand ripple rolls may also be used to interpret the hand-to-hand rolls. A detailed analysis of each movement can be found in Marcus Reddick's dissertation.¹⁸

Duration: approx. 18:00

Stensgaard, Kai: *Cumbia*: (2010) – MarimPercussion

Cumbia is a six-mallet marimba solo that continues in the Mexican marimba tradition, but is written in a Latin Cumbia style.¹⁹ *Cumbia* is a great piece to start developing six-mallet technique at the intermediate level. It includes single independent strokes, double vertical strokes, triple vertical strokes, double and single alternating strokes, and one-hand, three-mallet rolls.

Duration: approx. 3:00

18. Reddick, *A Pedagogical Approach*, 98-139.

19. Cumbia is a musical style and dance that is felt in duple metre (2/4). The style started in Colombia around the 1820's during the country's struggle for independence. It began as the musical expression of the national resistance, and was sung and danced in the streets.

Waldrop, Michael: *Memphis: The Sixth Chakra* (2011) – drop6 media

The Sixth Chakra was written with a blues and funk influence, which is a reference to the musical style of Memphis. The piece is unique in the literature as it provides musical genres (blues and funk) that are not typical for six-mallet marimba solos. The piece may be performed with an optional accompaniment CD. The techniques used are: triple vertical strokes, double vertical strokes, double and single alternating strokes, one-hand rolls, and hand-to-hand rolls.

Duration: approx. 4:20

Pimental, Linda: Arrangement of *Wild Horesman* by Robert Schumann from "The Solo Marimbist Volume Two" – Per~Mus Publications Inc.

Linda Pimental's arrangement of Schumann's *Wild Horseman* can be used as an etude for learning some of the harder aspects of six-mallet technique. The arrangement includes one-hand, three-mallet independence in both hands, the manual pull, triple vertical, double vertical, and single independent strokes.

Duration: approx. 1:00

Mellits, Marc: *Paranoid Cheese* (2001) – Marc Mellits

Paranoid Cheese is a great duet for marimba and violin. The piece was commissioned by the Paterson Duo and the fourth movement, "Wedge IV," features six mallets. The entire movement solely uses hand-to-hand rolls and thus develops that technique while exploring unique chordal voicings.

Approx. duration of the entire work: 15:00

Griffith, Joan: *Jazz Suite for Marimba* (1998) – Pleasing Dog Music

Jazz Suite for Marimba was commissioned by Rebecca Kite. The second movement, *December's Bell*, is scored for six mallets. The piece uses a stride piano influenced left-hand bass line with a melody of mixed strokes over top. Some players use five mallets to perform the piece but it is recommended to use six, as it will help to develop the player's six-mallet technique. The techniques used are: single independent strokes, triple vertical strokes, the manual pull, double vertical strokes, one-hand rolls, and hand-to-hand rolls.

Approx. duration of the entire work: 10:30

Yermish, Howard: *To Play, To Dance* (1991) – Howard Yermish Music

To Play, To Dance is an excellent groove-oriented piece to further develop many of the fundamentals of six-mallet technique. The work was written for Robert Paterson. The techniques used are: single independent strokes, triple vertical strokes, double vertical strokes, single and double alternating strokes, one-hand rolls, and hand-to-hand rolls.

Duration: approx. 5:00

Stensgaard, Kai: Arrangement of *Gloria from Misa Criolla* by Ariel Ramirez (1996) –
MarimPercussion

Stensgaard's arrangement of *Gloria* is a marimba solo strongly influenced by the six-mallet Mexican marimba tradition. The rhythmic roots of the original piece adapt well to the marimba. The player is also required to play wind chimes suspended under the marimba, a cymbal above, and a foot bell or rattle. The arrangement includes triple vertical strokes, triple vertical ripple strokes, double vertical strokes, single independent strokes, single and double alternating strokes, and hand-to-hand rolls.

Duration: approx. 5:00

Stensgaard, Kai: *Zita*: (2006) – MarimPercussion

Zita is a melodic solo that is influenced by the six-mallet Mexican marimba tradition and the contemporary marimba style. The piece includes single independent strokes, double vertical strokes, triple vertical strokes, and single and double alternating strokes.

Duration: approx. 5:20

Mcloud, Daniel: *Somewhere In-Between* (1998) – Dutch Music Partners

Somewhere In-Between is primarily a four-mallet solo; however, the middle section of the piece features six mallets. The six-mallet section uses a variety of techniques, and because it is relatively short, it makes a great piece to start developing some of the harder aspects of six-mallet technique. The techniques include: single independent strokes, double vertical strokes, triple vertical strokes, single and double alternating strokes, one-hand rolls, and some arpeggio six-mallet independence.

Duration: approx. 5:00

Hixon, Shirley: *Two Scenes for Marimba* (1976) – Permuis Publications

I: *Flaming Dawn*

II: *Portrait of Twilight*

Two Scenes for Marimba is a six-mallet marimba solo written in a chorale style. The piece has an interesting harmonic structure and almost completely uses hand-to-hand rolls with the exception of a few single independent, double vertical, and triple vertical strokes. Hand-to-hand ripple rolls may be used as well. The piece is challenging, requiring difficult chordal voicings. The manual pull technique is also required.

Duration: approx. 6:00

Jenny, Jack: *Ethos* (1978) – Per~Mus Publications

Ethos is a six-mallet solo dedicated to Linda Pimentel and is written idiomatically for her six-mallet technique. The piece involves constantly evolving time signatures, close voicings and ends with a slow chorale. The techniques used are: double vertical strokes, triple vertical strokes, and hand-to-hand rolls.

Duration: approx. 4:00

Paterson, Robert: *Stillness for Oboe and Marimba* (2011) – Bill Holab Music

Stillness is a beautiful duet for oboe and marimba that is primarily in a chorale style. The piece can be used to gain more experience with hand-to-hand rolls. The techniques used in the piece are: hand-to-hand rolls, single independent strokes, single alternating strokes between two mallets at a time, double vertical strokes, and triple vertical strokes.

Duration: approx. 6:00

Paterson, Robert: *Clarinetrix for Bass Clarinet and Marimba* (2011) – Bill Holab Music

Clarinetrix is a clever duet for Bass Clarinet and Marimba. The title plays off the idea of a bass clarinet playing dominatrix. The piece incorporates a variety of extended techniques and is influenced by jazz. The primary techniques used in the piece are: single independent strokes, double vertical strokes, triple vertical strokes, single alternating strokes between two mallets at a time, one-hand rolls, and hand-to-hand rolls.

Duration: approx. 4:30

Stensgaard, Kai: *Hexagram* (2010) – MarimPercussion

Hexagram was written in the contemporary marimba style and is one of Stensgaard's few pieces that deviate from the six-mallet Mexican marimba tradition. Most of his six-mallet marimba solos present many challenges from a hand-to-hand independence perspective,

however with *Hexagram*, most of the challenges are technical. The techniques used are: single independent strokes, double vertical strokes, triple vertical strokes, single and double alternating strokes, hand-to-hand rolls, and one-hand rolls.

Duration: approx. 7:00

Jones, Timothy: *Contemplation* (2004) – Woodbar Music Press

Contemplation is a six-mallet marimba solo which contrasts chorale passages with ostinato-based grooves. Because the piece only uses "white keys," it is great for working on six-mallet independence. The techniques used are: hand-to-hand rolls, single independent strokes, triple vertical strokes, one-hand, three-mallet rolls, and independence of all three mallets.

Duration: approx. 8:00

Cabezaz, Marcos: *Quele Quele* (2011) – NIRO Music-Edition

Quele Quele is a six-mallet marimba solo that stems from the six-mallet Mexican tradition. However, it includes Brazilian, Afro-Cuban and jazz influences. *Quele Quele* brings a unique rhythmic Latin jazz flavour to the six-mallet literature. The techniques used in *Quele Quele* include: single independent strokes, triple vertical strokes, single alternating strokes between two mallets at a time, and one-hand rolls.

Duration: approx. 4:00

4.3: Level 3

Cabezaz, Marcos: *Zoe* (2009) – Marcos Cabezaz

Zoe is written in the same style as *Quele Quele*. The techniques used in *Zoe* are: single independent strokes, triple vertical strokes, double vertical strokes, single and double

alternating strokes, single alternating strokes between two mallets at a time, one-hand rolls, and one-hand, three-mallet rolls.

Duration: approx. 5:00

Stensgaard, Kai: *Salsa Mexicana* (2001) – MarimPercussion

Salsa Mexicana is a great six-mallet marimba solo that highlights the style and technical facility of the six-mallet Mexican marimba tradition. The main challenges of the piece are advanced independence between the hands and endurance, or "chops". The left hand has a few challenging ostinatos using single and double alternating strokes. The right hand has an independent melody over the left hand ostinato. The piece requires great control of the single independent strokes and the performer wears a foot bell and rattle.

Approx. duration of the entire work: 4:00

Stensgaard, Kai: *Concierto Mexicano* (2006) – MarimPercussion

Concierto Mexicano is one of the first concertos to feature a substantial use of six mallets. This occurs in movements II and III, with the six-mallet sections generated from Stensgaard's previous solos: *Two Mayan Dances* and *Salsa Mexicana*. The entire work is inspired by folkloric music from Mexico. *Concierto Mexicano* is a great piece to integrate six mallets with a symphony or wind orchestra.

Duration: approx. 21:00

Gronemeier, Dean: *Coming Home* (1997) – Grone Publications

Coming Home is six-mallet marimba solo that highlights many of the six-mallet innovations by Gronemeier and is one of the first pieces to utilize one-hand, three-mallet independence as an important recurring element throughout the work. The other highlight of the work is the extensive use of one-hand, three-mallet rolls in both hands. The piece

demands great technical facility and stamina from the performer. Since the piece is based on F major and D minor, most of the playing is on the "white keys," making it a great piece to work on some of the advanced techniques with six mallets. The techniques used are: single independent, double vertical, and triple vertical strokes, hand-to-hand rolls, one-hand, three-mallet rolls, and independence of all three mallets in both hands.

Duration: approx. 10:00

Gronemeier, Dean: *Tied By Red* (1995) – Grone Publications

Tied by Red is a six-mallet marimba solo that depicts the battle between man, Satan and temptation. The piece has many contrasting sections from chorales to driving grooves. *Tied by Red* highlights many of the technical innovations by Gronemeier. The techniques used include: single independent, double vertical, and triple vertical strokes, hand-to-hand rolls, one-hand, three-mallet rolls, single alternating strokes between two mallets at a time, the manual pull, and arpeggio independence in the right hand.

Duration: approx. 11:00

Gronemeier, Dean: *2HT2HDL* (1996) – Grone Publications

- I. Game Risk
- II. Trouble In Somewhere
- III. Single Man's Aggression

2HT2HDL may be the most demanding of Gronemeier's works for six mallets. This piece is a continuous development of difficult permutations, fast interval changes and physically demanding grooves. It requires a great deal of control among mallets and athletic movement behind the marimba. The techniques used in the piece are: single independent, double vertical, and triple vertical strokes, single and double alternating

strokes, hand-to-hand rolls, single alternating strokes between two mallets at a time, the manual pull, one-hand, three-mallet rolls, and independence of all three mallets.

Duration: approx. 18:00

Hause, Evan: *Circe* (2000) – Evan Hause

Circe is a six-mallet marimba solo commissioned by Rebecca Kite. The piece is quite challenging and virtuosic. The mallet permutations are difficult and require the marimbist to be flexible and athletic. The techniques used are: single independent strokes, double vertical strokes, triple vertical strokes, hand-to-hand rolls, ripple arpeggiations, and one-hand rolls.

Duration: approx. 10:00

Jones, Timothy: *Tarantella* (2004) – Woodbar Music Press

Tarantella combines tarantella dance rhythms blended with a melody in the style of Tom Waits. The piece continues in the Gronemeier six-mallet tradition and incorporates hand-to-hand rolls, single independent strokes, triple vertical strokes, one-hand, three-mallet rolls, and independence of all three mallets.

Duration: approx. 7:00

Paterson, Robert: *Tongue and Groove* (2008-09) – Bill Holab Music

Tongue and Groove is a duet for alto saxophone and marimba. The title is borrowed from carpentry, a method of fitting similar objects together edge to edge. Paterson captures this idea musically through tonguing on the saxophone and the groovy feel of the marimba part. The rhythmic interplay between the two parts fits precisely together. Because of the advanced rhythmic interplay, great technical facility with six mallets is required. The techniques used in the piece are: single independent strokes, double vertical strokes, triple

vertical strokes, single and double alternating strokes, single alternating strokes between two mallets at a time, and hand-to-hand rolls.

Duration: approx. 8:00

Paterson, Robert: *Braids* (1998/2000) – Bill Holab Music

Braids is a whimsical duet for violin and marimba. In this piece, Paterson brings to life the musical imitations of watching his wife braid her hair. The piece is quite challenging and the techniques used are: single independent strokes, double vertical strokes, triple vertical strokes, and hand-to-hand rolls.

Duration: approx. 7:30

Paterson, Robert: *Duo for Flute and Marimba* (1998-99) – Bill Holab Music

- I. Allegro Misterioso
- II. Playfully Seductive
- III. Vivace

Movement I employs six mallets, and movement III, five mallets. The piece was composed for the Kesatuan duo; Karen DeWig, flute and Ingrid Gordon, marimba. *Duo for Flute and Marimba* presents most of its challenges rhythmically. The techniques used in the piece are: single independent, double vertical and triple vertical strokes, single alternating strokes between two mallets at a time, and one-hand rolls.

Duration: approx. 15:00

Paterson, Robert: *Links & Chains* (1996/2000) – Bill Holab Music

The title of the piece reflects the structure of the music; linking motives together and looping them to form chains. There are also missing links throughout the piece, spots where notes have been dropped out and placed in other parts of the piece, or lost entirely.

To simulate this, the marimbist must have great technical facility. The techniques used are: single independent strokes, double vertical strokes, triple vertical strokes, single alternating strokes between two mallets at a time, and one-hand rolls.

Duration: approx. 5:15

Paterson, Robert: *Fantasia for Tuba & Marimba* (1992) – Bill Holab Music

Fantasia for Tuba & Marimba is Paterson's first duet for marimba and another instrument. The piece is truly unique and displays wonderful sonorities. *Fantasia* is quite challenging and the primary techniques used are: single independent strokes, double vertical strokes, triple vertical strokes, single alternating strokes between two mallets at a time, and hand-to-hand rolls.

Duration: approx. 5:30

Paterson, Robert: *Merry Go Round* (1988-90) – Bill Holab Music

Merry Go Round is Robert Paterson's first six-mallet marimba solo. The piece is a clever imitation of a typical merry-go-round experience. *Merry Go Round* can serve as a great piece to begin studying the harder six-mallet literature. The techniques used in the piece are: single independent strokes, double vertical strokes, triple vertical strokes, single and double alternating strokes, and one-hand rolls.

Duration: approx. 3:00

Paterson, Robert: *Komodo* (2004) – Bill Holab Music

Komodo is perhaps one of the greatest works ever written for six-mallet marimba. It requires extreme dexterity and fluidity from the performer. Paterson is creative in finding unique hand positions that display full and colourful six-mallet sonorities of the marimba. *Komodo* was written to feature the deep resonance of the low end of the five-octave

marimba. The techniques used in the piece are: single independent, double vertical, and triple vertical strokes, single and double alternating strokes, hand-to-hand rolls, single alternating strokes between two mallets at a time, and one-hand rolls.

Duration: approx. 6:30

Paterson, Robert: *Piranha* (2007) – Bill Holab Music

Piranha is another great and cleverly written six-mallet marimba solo. The piece is quite colourful and provokes the imagery of piranhas. The piece requires great technical facility with six mallets. Contrary to *Komodo*, *Piranha* highlights the upper registers of the marimba. The techniques used in the piece are: single independent, double vertical, and triple vertical strokes, single and double alternating strokes, hand-to-hand rolls, and ripple arpeggiations.

Duration: approx. 5:40

Lefkowitz, David: *Miniature V: All At One Point* (1992) – Whole>Sum Productions

All At One Point is an advanced six-mallet marimba solo written for Robert Paterson. In both hands, the outer mallets are played with medium-hard yarn mallets, and the middle mallets are played with super-ball mallets (extra-soft rubber mallets). The super-ball mallets produce a rich sound that rings longer than the ordinary yarn mallets. *All At One Point* is a great example of a piece that is written for six mallets, in which the individual colours of the mallets are emphasized, requiring great control of the marimbist particularly in relation to handling the middle mallets. The techniques used are: single independent strokes, double vertical strokes, and single alternating strokes between two mallets at a time.

Duration: approx. 8:00

Porter, Joe: *Tango the Cat* (2011) – Porter Publications

Tango the Cat is a fun theatrical six-mallet marimba solo with many contrasting sections. Each section portrays actions of Tango the cat, including running and playing, sneaking around intensely, falling asleep and everything in between. The marimbist is also required to wear a foot bell or rattle. The piece combines the Mexican marimba tradition with elements of contemporary marimba playing. The Mexican-influenced main theme requires advanced independence between the hands. The left hand has a bass ostinato against a busy right-hand melody. The piece is also challenging technically, and a great facility with six mallets is required. The techniques used in the piece are: single independent strokes, double vertical strokes, triple vertical strokes, single and double alternating strokes, one-hand rolls, and hand-to-hand rolls.

Duration: approx. 5:00

Porter, Joe: *Decisions* (2012) – Porter Publications

Decisions is an advanced six-mallet solo with grand gestures. The piece was written with a section specifically isolating three-mallet independence in the left hand. The piece requires a great deal of chops with single independent strokes, one-hand rolls, and three-mallet independence. The techniques used in the piece: one-hand rolls, three-mallet independence, single independent, double vertical and triple vertical strokes, the manual pull, and single alternating strokes between two mallets at a time.

Duration: approx. 7:00

Porter, Joe: *Concerto for Six-Mallet Marimba and Strings* (2012) – Porter Publications

- I. *I Should Have Listened*
- II. *Don't Worry 's Aligh*
- III. *Maybe I's N Aligh ...*
- IV. *Who Cares*

Concerto for Six-Mallet Marimba and Strings is the first marimba concerto with strings to feature six mallets throughout the entire piece. A piano reduction of the work is also available. The entire piece highlights many of the major technical innovations with six mallets. The Concerto includes several challenging aspects of six-mallet marimba playing, including a great technical facility, and advanced independence between the hands. The piece incorporates all of the six-mallet techniques.

Duration: approx. 15:00

Huang, Wan-Jen: *Flame Dance* (1995) – Wan-Jen Huang

Flame Dance is the first six-mallet marimba solo written in Taiwan. The piece was commissioned by Pei-Ching Wu with the Ju Percussion Group. *Flame Dance* is an advanced rhythmic piece that displays the expanded sonorous palate with six-mallet technique. The piece also highlights Pei-Ching Wu's trademark six-mallet technique; the turning of the wrist to play fast triplet-based arpeggios, which she calls the "arpeggio technique." A detailed analysis of the work can be found in Pei-Ching Wu's dissertation.²⁰ The techniques used in the piece are: triple vertical strokes, single independent strokes, the arpeggio technique, double vertical strokes, single and double alternating strokes, and hand-to-hand ripple rolls.

20. Wu, *Extended Multiple Mallet Performance*, 72-89.

Duration: approx. 5:00

Huang, Wan-Jen: *Water Fairies* (1996) – Wan-Jen Huang

Water Fairies is the second six-mallet marimba solo commissioned by Pei-Ching Wu and the Ju Percussion Group. The different combinations of six-mallet technique are used to present various layers of timbre, requiring great technical facility from the performer. Many fast interval changes increase the level of difficulty in this piece. Interval changes with fast changes pose one of the most difficult challenges to the marimba player with six mallets. *Water Fairies* is in the same style as *Flame Dance* and highlights six-mallet technique both rhythmically and colourfully. A detailed analysis of the work can be found in Pei-Ching Wu's dissertation.²⁰ The techniques used in the piece are: triple vertical strokes, single independent strokes, double vertical strokes, single and double alternating strokes, the arpeggio technique, the manual pull, and hand-to-hand rolls.

Duration: approx. 6:00

Huang, Wan-Jen: *Moonlight Beyond Woods* (2005) – Wan-Jen Huang

Moonlight Beyond Woods is the third six-mallet marimba solo by Wan-Jen Huang, commissioned by Pei-Ching Wu. Again, it requires great technical facility with six mallets. The techniques used in the piece are: triple vertical strokes, single independent strokes, double vertical strokes, single and double alternating strokes, the arpeggio technique, the manual pull, hand-to-hand rolls, and hand-to-hand ripple rolls.

Duration: approx. 6:00

DVD and Conclusion

The DVD is meant to serve as a summary and visual representation of this thesis. It is nearly impossible to describe every aspect of six-mallet technique, and that is why the DVD is of utmost importance. It is important to use both the thesis and DVD together. A performance of *Concerto for Six-Mallet Marimba and Strings* by Joe Porter concludes the DVD. The concerto serves as an appropriate summary as it involves all of the six-mallet techniques presented in this thesis and demonstrates the musical application of the grip.

I hope this thesis will help in providing insight on six-mallet marimba playing. I anticipate that it will be beneficial for both players and composers in performing and composing music for six mallets. For many years the compositions for six mallets have been limited due to the technical restrictions of the grips for which they were written. With the grip presented, the composer can write complex music for the marimba by integrating all of the six-mallet techniques. Expanded contrapuntal and melodic possibilities are available with six-mallet independence and compositions can feature new sonorities with expanded harmonic textures. The technique will open new doors for the marimba, and the art of marimba playing and its repertoire will continue to develop, reaching new horizons.

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