THE 1986 NATIONAL ENDOWMENT FOR THE ARTS COMMISSION: AN
INTROSPECTIVE ANALYSIS OF TWO MARIMBA WORKS, REFLECTIONS
ON THE NATURE OF WATER BY JACOB DRUCKMAN AND VELOCITIES
BY JOSEPH SCHWANTNER, TOGETHER WITH THREE RECITALS OF
SELECTED WORKS BY KEIKO ABE, CHRISTOPHER DEANE,
PETER KLATZOW, WAYNE SIEGEL,
GITTA STEINER, AND OTHERS

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The marimba is rapidly achieving greater importance as a solo percussion instrument. Solo compositions for the marimba have been commissioned and performed only in the last sixty years. The 1986 National Endowment for the Arts Solo Marimba Commission is considered one of the most important commissioning projects in the history of marimba literature. Two compositions created through this project, *Velocities* by Joseph Schwantner and *Reflections on the Nature of Water* by Jacob Druckman have become two of the most influential works in contemporary marimba music. This thesis will focus on a historical perspective of the project, as well as theoretical aspects and performance issues related to these two compositions.

The National Endowment for the Arts (NEA) issued a consortium commissioning grant through the Percussive Arts Society (PAS) in 1986 to three internationally renowned marimbists, William Moersch, Leigh Howard Stevens and Gordon Stout. Three Pulitzer Prize winners were brought together to compose three new works for the marimba. The resulting pieces were: *Reflections on the Nature of Water* by Jacob Druckman, *Velocities* by Joseph Schwantner, and *Islands from Archipelago: Autumn Island* by Roger Reynolds.

A brief history of the classical concert marimba and the development of solo marimba
literature is provided in the second chapter. The fourth and fifth chapters provide individual
information about the pieces, including concise biographical information about the composers and
an analysis of the two compositions.
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CHAPTER 1

SIGNIFICANCE OF THE NEA SOLO MARIMBA COMMISSIONING PROJECT

The marimba is rapidly achieving greater importance as a solo percussion instrument. Solo compositions for the marimba have been commissioned and performed only in the last sixty years. This thesis will explore the 1986 National Endowment for the Arts Solo Marimba Commission, considered one of the most important commissioning projects in the history of marimba literature. Two compositions created through this project, Velocities by Joseph Schwantner and Reflections on the Nature of Water by Jacob Druckman have become two of the most influential works in contemporary marimba music. This thesis will focus on a historical perspective of the project, as well as theoretical aspects and performance issues in these two compositions.

Previously, solo literature available to the marimbist consisted primarily of classical guitar, violin, cello, and piano transcriptions. Until the 1970s, most solo marimba compositions were written by percussionists. This resulted partially because composers were not familiar with the possibilities of this unique instrument. Two main problems arose with marimba pieces being written by percussionists. First, the compositions were generally written to be technically comfortable for the player to perform. Avoiding awkward intervals and leaps resulted in a limited development of compositional techniques. Second, if the marimba was to be acknowledged by the public at large as a legitimate solo concert instrument, then established composers would have to become involved in composition process. By the 1980s, a major
commissioning project was needed in order to advance on the evolution of solo marimba repertoire.

The National Endowment for the Arts (NEA) issued a consortium commissioning grant through the Percussive Arts Society (PAS)\(^1\) in 1986 to three internationally renowned marimbists, William Moersch, Leigh Howard Stevens and Gordon Stout. Three Pulitzer Prize winning composers were brought together to compose three new works for the marimba. The resulting pieces were: *Reflections on the Nature of Water* by Jacob Druckman, *Velocities* by Joseph Schwantner, and *Islands from Archipelago: Autumn Island* by Roger Reynolds. This type of project had never occurred in the history of marimba literature.

The success and influence of these compositions have brought worldwide attention to the potential of the marimba as a solo concert instrument. Although a worthy composition, *Islands from Archipelago: Autumn Island* by Roger Reynolds has not received the amount of performances or the recognition that Schwantner and Druckman achieved with their pieces. For this reason, the composition by Reynolds will not be included in this thesis.

\(^1\) PAS is a music service organization promoting percussion education, research, performance and appreciation throughout the world.
CHAPTER 2

OVERVIEW OF SOLO MARIMBA LITERATURE

A Brief History of the Classical Concert Marimba

At the time of the National Endowment for the Arts commissioning project, the modern marimba was less than one hundred years old. The first chromatic marimba with keys arranged in the standard keyboard system was produced by Sebastián Hurtado of Guatemala in 1894 and was referred to as the marimba doble.¹ Sebastián Hurtado wanted to improve the existing Guatemalan marimba so that both traditional Guatemalan music and European concert music could be performed on the instrument. He constructed a prototype of the modern marimba by replacing the traditional gourd resonators with flared wooden boxes and by increasing the number of keys to a range of five and one half octaves.² This chromatic keyboard marimba was introduced in the United States by the Hurtado family marimba band as early as 1908 and was later popularized by the Hurtado Brothers’ Royal Marimba Band in America and Europe.³

The first manufactured chromatic marimba came into use in the United States orchestras in 1910. These earliest marimbas were made by the John C. Deagan and Ulysses G. Leedy Drum Companies. In The Book of the Marimba, Frank MacCallum mentions that the finest marimbas were manufactured between 1910 and 1920.⁴ During this period, Deagan and Leedy companies both produced their own five-octave Marimba-Xylophones. Irving Jacob states in his article,

The constructional Development of the Marimba, “It should be pointed out that the United States is the first country to manufacture the marimba commercially. The Guatemalan marimbas are privately made and made to order only.”

Clair Omar Musser (1901-1998), performer, conductor, arranger, and marimba designer, was one of the leading figures in the development of the marimba in the United States. He joined the Deagan Company during the early 1930’s and designed a series of marimbas for that company. The first marimba he designed was the Century of Progress marimba, built for the 100-piece Century of Progress Marimba Symphony Orchestra, directed and conducted by Musser for the “Century of Progress Exposition” in Chicago in 1933. The next Deagan marimba designed by Musser was the King George Marimba for Musser’s 100-piece International Marimba Symphony Orchestra’s 1935 European tour. This ensemble gave its final performance in Carnegie Hall, New York City on May 16, 1935. The final Deagan marimba designed by Musser before he left the Deagan Company was the Imperial marimba. Unlike the Century of Progress and King George marimbas which were made specifically for the members of these ensembles for specific concert tours, the Imperial marimba was a commercially available marimba. The Imperial marimba was advertised in the Deagan general company catalogues and was available in various ranges. The largest Imperial marimba showed in the catalogue was a four and a half octave instrument, from C to F. Musser left the

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5 Irving Jacob, “The constructional Development of the Marimba,” *Percussionist* vol. 31 no. 3 (Spring 1974): 147.

Deagan Company shortly after World War II, and established his own company, Musser Marimbas, Inc., in 1948 where he designed the Canterbury marimba. The Canterbury marimba was a four and one third octave instrument from A to C.\(^7\)

Musser foresaw a future for the marimba orchestra in the United States just as Keiko Abe, the Japanese marimba virtuoso, would later see an opportunity for the instrument in her country. Abe predicted a future where marimbists would be able to perform in ensembles with other instrumentalists as equal counterparts. She also envisioned the marimba being elevated to the level of a legitimate solo concert instrument. In order to achieve this goal, Abe stated “...the marimba must have a clear, focused sound with pure intonation and timbre—not the sound of ethnic and folk instruments.”\(^8\)

In 1963, Yamaha, one of world’s largest musical instrument manufactures, began designing and manufacturing marimbas. After several meetings and interviews with professional marimbists in Japan, Yamaha chose Abe to be their design consultant. Abe had been performing on a four-octave Musser marimba before the first four-octave Yamaha marimba was made in 1971. In 1973, Yamaha developed a four and one-half octave marimba, the YM 5000, which quickly became Abe’s favorite concert instrument. Abe brought this new Yamaha model on her first U.S. performance tour in 1977, arranged by Michael Rosen. Abe presented Japanese marimba music at the 1977 PASIC in Knoxville and at a total of thirteen universities.\(^9\)

\(^7\) Ibid.
\(^8\) Rebecca Kite, “Keiko Abe’s Quest: Developing the Five-Octave Marimba,” *Percussive Notes*, vol. 36 no. 2 (April 1998): 52.
\(^9\) Ibid.
In 1980, Abe expressed her need for a five-octave instrument for her music to the Yamaha Corporation. This expanded instrument would be made by adding an additional half octave of marimba bars to the bass register of her existing four and one half-octave instrument.\textsuperscript{10} The new range of this instrument extended down to the C two octaves below middle C.

Abe was inspired to write her own compositions utilizing the newly expanded range of her prototype model. She requested that Yamaha begin commercial production of the new five-octave instrument. This request was based on positive responses she received while on tour with her extended four-and-one-half octave marimba at Carnegie Hall, the PASIC in Indianapolis, and at numerous universities across the United States in 1981. Yamaha finished the first five-octave marimba in 1984. Abe used this instrument to tour the United States and perform at the 1984 PASIC. The YM 6000 has since become Abe’s standard performance instrument.\textsuperscript{11}

The five-octave marimba (C-c’’’) has become the standard concert performance marimba. A number of other manufacturers followed Yamaha’s lead in creating their own versions of the five-octave marimba. Marimbists have the option to play on a variety of professional quality five-octave marimbas made by various companies such as Adams, Coe, DeMorrow, Kolberg, Kori, Malletech, Marimba One, Musser, and Yamaha.

\textsuperscript{10} Ibid, 53.
\textsuperscript{11} Ibid, 54.
Development of Solo Marimba Literature

The marimba first became popular as a vaudeville instrument after Guatemalan marimba bands began to perform throughout the United States in the beginning of the twentieth century. Transcriptions of orchestral works, piano pieces, and popular music from the United States were performed on marimbas to suit this venue. Until the 1950’s, original solo literature written expressly for the marimba was virtually non-existent. Marimbists were still primarily performing transcriptions at their recitals as late as 1947. Celso Hurtado, son of Sebastián Hurtado, gave Carnegie Hall’s first solo marimba recital on April 7, 1947. The program consisted entirely of transcriptions arranged by Celso, including works by Niccolo Paganini, Johannes Brahms, Camille Saint-Saëns, Frédéric Chopin, Franz Liszt and others.\(^\text{12}\)

Clair Omar Musser made his contribution to the development of literature written specifically for the solo marimba around the 1940s. He composed many solo marimba preludes and etudes, in addition to numerous ensemble arrangements for marimba symphony orchestras. Musser’s compositions were among the earliest in solo marimba repertoire. Only a few of Musser’s compositions are commercially available and published.

Renowned Australian-American composer Percy Grainger was the first composer to write for the marimba in an orchestral score. His orchestral suite, \textit{In a Nutshell} (1916) utilized the marimba and the \textit{nabimba}\(^\text{13}\). \textit{Nabimba} was one of the first marimbas constructed by Deagan.


The *Nabimba* was different from the standard marimba in that it had membranes which vibrated in metal resonators and included an extremely low bass register. These were common features of the marimbas of Central America. After the marimba increasingly appeared in orchestral percussion sections, composers began to write concertos for the marimba, giving the instrument a solo role. The first concerto written for the marimba was *Concertino for Marimba* (1940) by Paul Creston. The piece was commissioned by Frederique Petrides for Ruth Jeanne, timpanist of the all-female orchestra, Orchestra Classique, in New York. After World War II, the first postwar composition for the marimba by a major composer was Darius Milhaud’s *Concerto for Marimba, Vibraphone and Orchestra* (1947), transcribed from his *Suite for Piano and Orchestra*. This concerto was commissioned by Jack Connor, and premiered by the St. Louis Symphony with Connor as the soloist. Later, Robert Kurka composed *Concerto for Marimba and Orchestra* (1956) for Vida Chenoweth. Chenoweth is regarded as a leading figure in marimba performance. She was the first person to record solo classical marimba music for a commercial recording which became available in 1962.

The marimba was first introduced to Japan in 1950 by the American missionary, Dr. Lawrence Lacour, a formal member of Musser’s 1935 International Marimba Symphony Orchestra. Japan’s musical environment began to accept this new instrument after several performances of marimba recitals given by the missionary. In mid-1960, the recordings of Vida

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Chenoweth, and other mallet musicians, like Milt Jackson, Lionel Hampton, and Red Norvo were beginning to be imported to Japan. Around this time Jack Conner visited Japan and performed Milhaud’s marimba concerto with the Japan Philharmonic. These activities further contributed to Japan’s interest in the marimba.

As the marimba became more popular in Japan, Keiko Abe felt it was important to have original works written especially for the marimba. She began to commission, and encouraged well-known Japanese composers to write for the instrument. In 1968, Abe planned a concert of new commissioned works for the marimba, including both solo and chamber works. The program included: *Dialogue for Marimba and Three Instruments* (1968) by Takekuni Hirayoshi, *Divertimento for Marimba and Alto Saxophone* (1968) by Akira Yuyama, *Two Movements for Marimba* (1965) by Toshimitsu Tanaka, *Time for Marimba* (1968) by Minoru Miki, *Torse III* (1968) by Akira Miyoshi and *Quintet for Marimba, Contrabass, and Three Flutes* (1968) by Teruyuki Noda.18

Abe’s virtuosic playing of the instrument has inspired many composers to write new works for the marimba. Fifty-four pieces were written for her by thirty-two composers between the years of 1964 and 1986.19 These new works have greatly contributed to the development and expansion of solo marimba literature. She has also composed more than fifty works for the marimba herself.

Several pieces for the marimba were being written in the United States at the same time of Abe’s initial impact on the Japanese marimba repertoire. However, these compositions were

mainly written by marimbists. The American marimba community desired works to be written by well-known composers. The NEA commission project was one of the first instances involving both established Western composers and performers.
CHAPTER 3

BACKGROUND OF THE NEA COMMISSIONING PROJECT

The 1986 National Endowment for the Arts Consortium

The NEA consortium project was conceived by marimbist William Moersch in New York City in the summer of 1984. Moersch, devoted to performing new music for marimba, spent the 1970s exploring new American and European marimba concertos. He also studied many Japanese compositions for the marimba, especially the works that were commissioned or composed by the Japanese marimba virtuoso, Keiko Abe. Abe’s first album, *Contemporary Music from Japan: Works for Marimba*, included marimba works commissioned by Keiko Abe and written by major composers in Japan. This recording was available in the U.S. around 1969.\(^1\) The encounter with this recording acted as an important inspiration for Moersch to begin his own commissioning projects. In an interview in *Percussive Notes*, Moersch explained: “I began seriously commissioning new music in 1980. I started with private contacts and funds and have been leading up to this ‘major league’ commission through [the] NEA (National Endowment for the Arts).”\(^2\)

Moersch described the prerequisites of the marimba commissioning consortium project grant in the interview:

The consortium is formed of three or more soloists or ensembles of like instrumentation. The consortium must demonstrate new music performance experience and a wide geographical range. The NEA supplies funds to the composers for their commissions,

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though no funds are given for performance expenses. Each member of the consortium agrees to perform each work at least twice.\textsuperscript{3}

Moersch invited Leigh Stevens, Gordon Stout, and Michael Rosen to join him in applying for the grant. The application for the grant had a deadline of August 31, 1984. The consortium was notified of their approval in April of 1985, with the actual project beginning in January of 1986. The consortium meetings were held at Stevens’ marimba company, Malletech Inc., on West 83\textsuperscript{rd} street in New York City. The Percussive Arts Society (PAS) was chosen as the non-profit channel for the purposes of the grant application. PAS President Thomas Siwe agreed to sponsor the grant application. Siwe scheduled the premier of the marimba works for the 1986 Percussive Arts Society International Convention (PASIC) in the Kennedy Center, Washington, D.C. in celebration of the 25\textsuperscript{th} Anniversary of PAS. The second performance of these pieces took place on March 17, 1987 in Merkin Hall in New York City.

Interactions between the Performers and the Composers

The four marimbists decided that each player would select a composer to be approved by the other members of the consortium. Originally, Moersch chose Jacob Druckman, Stout chose Roger Reynolds, Stevens chose John Corigliano and Rosen suggested Mel Powell. However, Moersch, Stevens and Stout “were not wild about Mel Powell.”\textsuperscript{4} Rosen did not offer another composer so the project eventually proceeded without Rosen or a fourth composer. Mel Powell

\begin{flushleft}
\textsuperscript{3} Ibid.
\textsuperscript{4} William Moersch, interview by author, 21 October 2004, electronic mail.
\end{flushleft}
subsequently received the Pulitzer Prize in Music for his work, *Duplicates: A Concerto for Two Pianos and Orchestra* in 1990.

In accordance with the NEA grant guidelines, each member of the consortium was to perform each piece twice. For this reason, the consortium did not want compositions that were customized for a specific player in the group. On the other hand, because of the upcoming premiere, the composers and players were matched up in pairs based on each marimbists’ initial composer selection. Moersch was paired with Druckman, Stevens with Corigliano, and Stout with Reynolds.

Originally, Corigliano had a “theatrical theme”\(^5\) for his composition. In a telephone interview, Stevens stated that Corigliano had an idea for the piece starting with a six-mallet section, changing to five, four, three and then ending the piece with very fast and loud two-mallet playing.\(^6\) Stevens explained that the sketches for the piece started with three mallets held in each hand. The right hand would play one-handed rolls with three mallets creating a sustained chord while the left hand played a moving line.\(^7\) This was a new technique that had not been attempted before. Corigliano’s idea for the closing section of the work was to compose for two mallets. He thought the performer could “make a lot more sound with just two than with four [mallets].”\(^8\) However, William Moersch did not want to play pieces using six mallets, which made Corigliano “sort of lose his way a little bit with the piece.”\(^9\) In addition, Stevens

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\(^5\) Leigh Howard Stevens, interview by author, 22 October 2004, telephone conversation.
\(^6\) Ibid.
\(^7\) Ibid.
\(^8\) Ibid.
\(^9\) Ibid.
mentioned to Corigliano that four mallets were more versatile than two. According to Stevens, after that occurred, Corigliano “lost some of his enthusiasm to write the piece.”10 As this was happening, the Metropolitan Opera approached Corigliano with a commission to be completed in eighteen months. Corigliano decided to completely withdraw from the NEA marimba consortium after this new opportunity became available to him.

Corigliano’s withdrawal left Stevens with no music to premiere at the scheduled PASIC performance. Fortunately, a marimba solo with tape, Atamasco and the Wooden Shelter by Christopher Stowens, was composed for Stevens to solve this problem. Scott Stevens, a percussionist in New York City, was aware of Corigliano’s withdrawal and commissioned composer Stowens to write a solo marimba work for Stevens to perform at the 1986 PASIC.11

On the evening of November 7, 1986, five of the eventually six movements from Reflections on the Nature of Water by Druckman were premiered by Moersch; along with Islands from Archipelago: Autumn Island by Reynolds premiered by Stout; and Christopher Stowens’ Atamasco premiered by Stevens at PASIC. Stowens’ piece took the place of the planned Corigliano composition only for that day’s concert. It was not a part of the NEA commission.

Moersch recalls that he received the last page of the fifth movement from Druckman only two weeks prior to the premiere concert.12 Moersch mentioned that Druckman never set an

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10 Ibid.
exact goal of how many movements he was going to compose. Druckman thought the piece might have seven movements, but stopped after finishing only six. He then decided on an order for those six movements. All six movements of *Reflections on the Nature of Water* were premiered on March 17, 1987 in Merkin Hall, New York.

After Corigliano’s withdrawal, Stevens asked Joseph Schwantner to join the consortium commission. Schwantner immediately agreed to join the project due to his long musical relationship with Stevens beginning at the Eastman School of Music, where Schwantner was a teacher and Stevens was a student. Schwantner’s *Velocities* was completed in August of 1990 and premiered by Stevens on October 27, 1990 in Gothenburg, Sweden. The American premiere took place in November of the 1990 PASIC held in Philadelphia, PA.

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CHAPTER 4

REFLECTIONS ON THE NATURE OF WATER BY JACOB DRUCKMAN

Biographical Information on Jacob Druckman

Jacob Raphael Druckman was born in Philadelphia on June 26, 1928 and passed away on May 24, 1996. His early musical training included instruction on piano and violin, and also playing the trumpet in jazz ensembles. He began composing as early as age fifteen. From 1938 to 1940 he received theory, composition and violin lessons from Louis Gessensway and studied solfège and score reading with Renée Longy in 1945. Druckman was accepted by Aaron Copland into a composition class at the Berkshire Music Center at Tanglewood in the summers of 1949 and 1950. In 1949, he attended the Julliard School of Music, where he studied with Peter Mennin, Vincent Persichetti and Bernard Wagenaar where he received his bachelor’s and master’s degrees. In 1954, he continued his studies with Tony Aubin at the Ecole Normale de Musique in Paris on a Fulbright Fellowship.

Druckman would go on to teach at the Juilliard School of Music, Bard College, Brooklyn College, and Tanglewood. He was director of the Electronic Music Studio in the Columbia-Princeton Electronic Music Center, Brooklyn College, and Yale University where he was the chairman of the music department in 1976.

Druckman composed a considerable amount of music in the genres of orchestral, chamber, vocal, and electronic music. He won the Pulitzer Prize in Music in 1972 for his first large orchestral work, Windows. In the spring of 1982, he was Resident-In-Music at the American
Academy Institute of Arts and Letters in Rome. In April of the same year he was appointed as a composer-in-residence with the New York Philharmonic for four years.

Throughout his career Druckman demonstrated various contemporary compositional styles such as Neo-Classicism, twelve-tone procedures, New Romanticism and Abstractionism. Druckman’s compositional development had a consistent element of passionate expression combined with a highly intellectual organization of pitches and rhythms.¹ In the last years of his life, Druckman was a professor of composition at the School of Music at Yale University.

Analysis

Druckman stated, “Reflections on the Nature of Water is a small payment towards a very large debt. There were primarily two composers, Debussy and Stravinsky, whose music affected me so profoundly during my tender, formative years that I had no choice but to become a composer. It is Debussy that I doff my hat with these reflections on his magical preludes.”²

Jacob Druckman’s son, Daniel Druckman, explained in an interview that it was not Debussy’s Preludes to which his father was referring, but rather Debussy’s Reflets dans l’eau, “Reflections in the Water” from his first series of Images (1905).³ The source of the title can be seen through this connection. Perhaps this was the very inspiration for the piece. A relationship between Reflections on the Nature of Water and Reflets dans l’eau clearly exists, and can be found in form and thematic material as well.

³ Daniel Druckman, interview by author, 3 March 2005, electronic mail.
Form

Together, Debussy’s *Images I* and *II* contain a total of six pieces. Druckman’s composition also contains six movements. *Reflections on the Nature of Water* is a musical statement about abstract views of the several different forms that water may take. Druckman states, “Reflections on the Nature of Water considers some of the many aspects of water through the liquid sounds of the marimba.”\(^4\) Instead of using descriptive terms to give tempo indications; Druckman labels each of the six movements with a caption that describes the character of a given form of water: “Crystalline,” “Fleet,” “Tranquil,” “Gently Swelling,” “Profound,” or “Relentless.”\(^5\) As such: Movements I, III and V are lyrical and movements II, IV and VI are fast. Therefore, the piece’s movements are constructed in a slow – fast – slow – fast – slow – fast format. Each movement has its own specific structure (Figure 1).


The first movement, entitled “Crystalline,” begins with a rapid gesture which employs grace notes. Eight different grace note gestures are presented in the first five measures. They can be marked (1) through (8) (Example 1). Gesture (1) returns in measure 18, followed by gestures (2), (3), (5), (6), (7), and (8). This is labeled as section A1 in the above figure. Section A2 begins at measure 29 with a reoccurrence of gestures (1) through (7), but eliminates gesture (8). Druckman’s interesting notation of grace notes should be mentioned here. Grace note gestures (1) to (7) are notated on the beat with the principle note written with a large note-head at the beginning of each figure. Gestures (3) through (8) are indicated with diminuendo dynamic markings. Therefore, performers are to strike the first note on the beat with a louder dynamic, and then fade out. This method differs from the traditional method of playing grace notes. These grace notes occur after the primary note, rather than before it. In this way, a “falling snow or falling ice” effect is created which serves to depict the essence of the title.
The movement starts with new material at measure six. Here, the two inside mallets (mallets 2 and 3) play a minor-second roll which is sustained for three measures while each of the outside mallets play a single note at a slightly louder dynamic level. The same type of material later returns at measure 22 in section A1.

The tonal center of this movement is obscured due to fragmented grace note gestures and sustained minor second intervals which blur the tonality. An article by percussionist Payton MacDonald presents a theory of tonal centers through his analysis of the piece. MacDonald suggests that the pitch “A” defines one of the tonal centers. The repeated A’s ground the second part of the work, starting at measure 16, and repeat at measures 19, 20, and 21. This repetition gives a strong sense of centricity to that pitch.6

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The climax of the movement occurs at measure 29 which is approximately two-thirds of the way through the piece. This section uses new interval material comprised of minor thirds and sixes, with a dynamic marking of ff, the loudest of the entire movement. The climactic point in “Crystalline” resembles the climactic point in Debussy’s *Reflets dans l’eau*, which also occurs two-thirds of the way through the piece with new material in a new key demonstrating a similar approach to form. Additionally, the original thematic material from “Crystalline” and *Reflets dans l’eau* both occurs three times in each piece.

The second movement, entitled “Fleet,” starts with the element of an open fifth permutation as its main motivic material. This permutation gesture, which is played with a mallet sticking order of 4 – 3 – 1 – 2, is idiomatic of marimba technique and facilitates fast tempos. This permutation gesture is used throughout the entire movement. This initial gesture is then followed by another motive: a stream of continuous thirty-second notes on the same pitch. The shape of the permutation gesture is used as a basis for most of the rest of the movement. From beat four of measure five, the 4 – 3 – 1 – 2 sticking is played consistently, with some pitch variations taking place. For the first time in the piece, in measure nine, the permutation stays within the same four pitches for the entire measure. Beginning at measure ten, dramatic accent motives frequently and unpredictably appear and interrupt the permutation texture. From measure 23, a combination of all the motivic material is used: variations of the permutation gestures, accents, and a stream of repeated thirty-second notes.

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7 Four mallets are numbered from the left to right as 1 – 2 – 3 – 4.
8 Payton MacDonald, “Disappear Swiftly: An Analysis of ‘Fleet’ from Druckman’s *Reflections on the Nature of Water,*” *Percussive Notes*, vol. 41 no. 3 (June 20003): 38.
Written with a *sforzando* marking in measure ten, the accents pose a challenge for the player. The permutations are played between *p* and *ppp* dynamic levels while using the right hand to quickly move between the lower and upper registers to strike the accents. The use of the right hand here is indicated by the composer’s marking of *m.d.* “*M.d.*” is an abbreviation for *main droite* which means “right hand” in French. This section requires the player’s right hand to cross the left hand to play the accents which occur in the lower register. MacDonald suggests cataloging these accented notes to define the tonality. The accents are c, e”, a”, B, e””, f’, c, e””, g”, B, Bb, c””, f””, and e”. With the exception of the Bb accent in measure 20, all of the accents fall within a C-major diatonic scale. The movement ends with an open fifth chord of G, D, and F, C, which again lies within a C Major scale. It is therefore possible to define C as the tonal center of the movement.

Almost all of the dynamics of the permutation gestures in this movement are soft, moving between *ppp* and *mp* ranges, except for brief and surprising accents. The accents in the first three measures are significant because they are directly followed by a series of soft continuous thirty-second notes on the same pitch. These notes, G#, B, and F#, can be written as a pitch-class set of [0, 2, 5]. In Debussy’s *Reflets dans l'eau*, there are only three notes in the main theme: Ab, F, and Eb. These three notes also create a pitch-class set of [0, 2, 5].

The third movement, entitled “Tranquil,” is divided in three sections, and resembles the first movement in form: A, A1, and A2. The main difference is that the third section is much shorter in comparison to the first movement. Movement III begins with the right hand playing
double-stops in the interval of a major second in a dotted eighth-sixteenth note rhythm followed by two eighth-note rests and an eighth-note in a triplet grouping. The left hand plays a sustained major second one-handed roll immediately after the right hand (Example 2). The initial rhythm returns in measure 19, which is the beginning of section A1. However, the double-stop figures are now inverted to minor sevenths, from the original interval of major seconds. In measure 30, the double-stops reoccur in the interval of a major second in the bottom voice, but in this instance the rhythmic interval is augmented (Example 3).


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Most of the double-stops consist of notes A and B throughout the movement. “F” is the first note to appear beside the notes A and B in this movement. At measure 4, “F” appears again, followed with a one-handed roll between Eb, Ab, which releases on C. These notes create an F minor seven chord. This chord spells the first four notes of an ascending passage at measure 8. The note “F” also appears as the first note of many phrases, as in measures 6, 9, and 10 in Section A. At measure 20, “F” is written out as a half note, which is notated as the longest note without rolling. The F minor seven chord appears together horizontally as a roll at measure 23 with the right hand playing Eb, Ab, and the left hand playing C and F. At the end of the movement, the right hand plays a one-handed roll between Eb and Ab, which moves to C, and F, again creating the F minor seven chord. The piece ends with the one-handed roll between F and C at a \textit{ppp} dynamic level. “F” is clearly the tonal center of this movement.

The fourth movement, entitled “Gently Swelling,” is the most technically challenging movement of the piece. This movement has four sections: A, B, A1, and B1. The left hand ostinato plays a very important role in setting the form of the movement. There are three distinct ostinato figures which are impressionistic, wavelike gestures. These ostinatos are composed of different pitches and are all written in the same rhythm (Examples 4a-4c). The first ostinato has a note contour of first going up, and then down (Example 4a). The contour of the second ostinato is first going up and then going down at the fourth note (Example 4b). The contour of the third ostinato is inverted from the first ostinato: going down first, and then up (Example 4c). The third ostinato does not occur until section B. Section B, an inserted
mysterioso section, creates a sense of anxiety. Section A1 starts at measure 31 when the first ostinato returns, and section B1 begins at measure 45 when the third ostinato reoccurs. The intervals of the seventh and fourth permeate the entire movement. Their importance can be seen in the main thematic material of this movement. This material does not occur at the beginning, but is found in the middle of the piece at measure 29 with the descending line of a 4-3-1-2 permutation figure (Example 5). This figure is based entirely on alternating minor sevenths and perfect fourths with a tritone in between. In addition, the first pitch of each permutation figure is a perfect fourth lower than the previous figure.

Example 4a. First ostinato in Movement IV, “Gently Swelling”, measures 1-3

![Example 4a Image]

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Example 4b. Second ostinato in Movement IV, “Gently Swelling”, measures 10-12

![Example 4b Image]

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Movement V, entitled “Profound,” is the most abstract movement of the work. Although the shortest in terms of pages, movement V often takes the longest to perform. With no bar lines in the entire movement, Druckman opts to use time indicators instead. Markings of 5”, 10”, 15” and 20” can be found at the top of the page. He also explains that “each system represents approximately 20 seconds”⁹ on the score. There are ten systems total, which make the piece approximately three minutes and twenty seconds long. The movement can be divided in four sections based on the unique beaming of the note stems. “An improvisational feel with punctuated grace note swells bring this movement to a quiet ending.”¹⁰

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The last movement, entitled “Relentless,” is a driving movement based on sixteenth note triplet figures. It starts with a triplet motive figure in the interval of a major second, Eb and F, followed by a single note “F” and a sixteenth rest. All of the accents are played by the left hand in this movement, which create the main melodic line (Example 6). In measure three, the interval of a major second stays the same but is followed by a “Db” note, and then a “Gb” is added to replace the rest in the triplet figure. The notes D-flat and G-flat are played by the right hand, which is the first half of the permutation figure: 4-3-1-2. These two motives return later in the piece, starting in measure 28, which is the beginning of section A1. Again, the triplet motive figure at measure 1 happens at measure 52 as it does in section A2.
The climax occurs at measure 50, two-thirds of the way through this movement. Here, the sixteenth triplet pattern is played by the right hand against the sixteenth duplet pattern of the left hand. The duplet pattern is created by a descending interval of a major seventh, and each grouping is transposed down by a perfect fifth (Example 7). At the end of this measure, the
dynamic reaches a fff, the loudest dynamic of this movement. This last movement also resembles the first and third movements in their form, which create the pillars of the work.


Interval Usage

Many variations on the interval of a second, such as its inversion, the seventh, or its expansion, the ninth, are used extensively throughout the work. The intervals of fifths, fourths and tritones are other compositional elements which are utilized. Druckman uses all of these intervals to create fleeting gestures, which unify all of the movements.

Druckman frequently requires the player to carry the interval of a fifth in each hand separated by a minor second. In measure 7 of “Crystalline,” mallets 2 and 3 roll between an F# and G while the outer mallets sparsely play perfect fifths (Example 8). This same figure is reinforced when it is repeated at measure 11, but landing on D, A, Bb, and F this time.

The main motive, played in a 4-3-1-2 sticking permutation in the second movement is also based on this interval gesture. The right hand plays notes E and A followed by the left hand playing C# and G#. Again, two intervals of perfect fifths are only separated from each other by a minor second.

In the fourth movement, “Gently Swelling,” this interval gesture is presented at the climax in measures 27. This is the first time both hands play double stops with the right hand playing G#, C#, and the left hand playing C, and F. The same double stops occur later at measure 51, but are transposed up by an interval of a major third in measure 57.

A combination of sevenths and tritones also occur several times in the work. In “Crystalline,” the intervals of minor sevenths and tritones are used to create grace note gestures. Besides the permutation gestures in the second movement, the arpeggiated passages at measure 16 are created by the intervals of minor seconds, tritones, major ninths and perfect fourths. In “Tranquil,” the rapid thirty-second note ascending passages are composed of minor sevenths,
tritones, perfect fourths and their inversion, the perfect fifth. Minor sevenths, tritones and perfect fourths also dominate the ostinatos and the main thematic material at measure 29 in the fourth movement. The grace note gestures in the fifth movement are mainly built with minor and major sevenths, minor and major ninths, tritones, and perfect fourths and fifths. Major sevenths, minor sevenths, and major ninths are all used in Movement VI to create fast descending passages.

**Texture and Rhythm**

The texture switches between monophonic and polyphonic styles between the different movements. Slow movements I, III and V are characterized by one voice containing a sustained roll while a second voice plays an entirely different figure. The fourth movement clearly has two different voices due to the ostinato in the bottom voice. The texture of the other two fast movements, II and VI are monophonic.

An interesting rhythmic correlation can be observed between movements II and III. The second movement’s *poco meno* (mm 28-34), is interrupted by double stops in the high register. These occurrences break up the thirty-second notes played by a 4-3-1-2 permutation. Each time the music returns to the figure after an interruption, the figure is repeated an additional time. In effect; this expands the duration of the permutation gesture. The first permutation consists of three groupings at measure 28. It later becomes four groupings when it returns at measure 29. The next return of the permutation totals six groupings, and seven after that. However, the groupings of five do not appear until after the groupings of seven. Groupings three, four, six,
and seven are created by two tritone double stops separated by a major second. This differs from the beginning of the movement. One conjecture is that Druckman places the “five” grouping at the end written in the interval of a perfect fifth (Example 9).


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It is possible that the rhythmic idea for the main theme of the third movement is derived from the end of the second movement. The rhythmic intervals become larger each time between the double stops. At measure 1, the rhythmic intervals between the double stops are two sixteenth-note rests and then two eighth-note rests within a triplet. The dynamic level decreases when the duration between the two double stops is expanded. Contrarily, the dynamic level increases when the duration between the two double stops is shortened (Example 10).
MacDonald states that Druckman’s choice of using 32\textsuperscript{nd} notes to compose the second movement is not arbitrary.\textsuperscript{11} The use of the 32\textsuperscript{nd} notes gives a “black” visual effect to the page which reflects the feeling of swift movement. Notation in Debussy’s \textit{Reflets dans l’eau} comes to mind. Debussy uses mostly 32\textsuperscript{nd} notes and even 64\textsuperscript{th} notes to notate similar gestures.


Performance Considerations

Every movement of \textit{Reflections on the Nature of Water} has a unique approach in style and technique. In the first movement, the grace notes are to be played “as fast as possible but separate and distinct”, as indicated by the composer. The notes with larger note heads are primary notes, which are emphasized in the figure. The roll at measure 6 is performed continuously for three measures long, while the outer two mallets are reaching out to play a soft and short note. In order to reach the outer notes, the roll might break for a millisecond, but the performer must try not to re-attack the roll after this short break.\textsuperscript{12} Moersch published an errata of \textit{Reflections on the Nature of Water} in \textit{Percussive Notes} which indicated the final notes

\begin{footnotesize}
\textsuperscript{12} This is one of William Moersch’s suggestions posted in the message board on the marimba.org website.
\end{footnotesize}
are played as tremolos in the first movement.\textsuperscript{13} He also performs tremolos in his recording, but there is no tremolo indication in the score. However, Daniel Druckman performs this ending without the roll in his recording.

Moersch suggests “all of the abbreviated 32nds in movements II and IV are to be played as articulated 32nds, not as tremolos”\textsuperscript{14} (Examples 11a and 11b). It is difficult to articulate all the thirty-second notes at the fast tempo of an eighth note equals 138 in the second movement. A choice of harder mallets and strict timing can help the articulation of the thirty-second notes. Beginning at measure ten, the right hand is to play the accents at the appropriate spot on the marimba bars to create a full tone and to prevent breaking the bars.


All the single double-stop tremolos are played with the one-handed roll technique\(^{15}\) in the third movement. Traditional hand to hand rolls are played from measure 21 until measure 25. However, at measure 23, the right hand is required to leave out the tremolos in the top stave briefly to play the double stops in the middle stave (Example 12).

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\(^{15}\) A roll is played with one hand alone.

Movement IV, the most technical challenging movement, requires each hand to be independent and shape dynamics individually. Players should practice the left hand ostinatos first before adding the right hand.

The most abstract movement, “Profound,” has no bar lines written on the staves. Moersch suggests using a metronome to practice at quarter note equals 60. The composer indicates the elapsed time in five-second increments, and each line is approximately twenty seconds long. Players can practice and think that the movement is in 5/4 meter and has four measures per system. For example, bar lines can be drawn on the systems along with marking beats from 1 through 5 to help find the pacing of the movement (Example 13).

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Movement VI requires the performer to play the left hand double stops in a very strict tempo with sustained intensity, which captures the character of “Relentless.”

There are rests and spaces written in the music which need to cooperate with body movement. Physical movement behind the marimba is another issue to be considered in a...
performance of this piece. The body-movements are designed to connect phrases, engage the silence and the continuity of the composition.

The piece is composed for a low F, a four-and-two-third octave marimba. However, an option was given by Druckman to perform the piece on a four-and-one-third octave marimba. He indicates the transposition of the lower notes by an octave higher in parenthesis. The indications can be seen at the last note of measure 19 and the first note of measure 20 in the third movement (Example 10) and all of the low “F” notes in the sixth movement.
CHAPTER 5

VELOCITIES BY JOSEPH SCHWANTNER

Biographic Information of Joseph Schwantner

Joseph Schwantner was born in Chicago, Illinois on March 22, 1943. His first musical experience was in playing the classical guitar at age eight. He started composing studies and etudes as early as age eleven to improve his own skills on the guitar. Later, he played tuba and sang in his high school chorus. While still in high school, he began to study theory, and compose jazz music. *Offbeat*, one of his early jazz compositions, won the National Band Camp Award in 1959.¹

Schwantner received his Bachelor of Music degree in composition from the American Conservatory of Music in Chicago in 1964 under Bernard Dieter. He later studied with Anthony Donato and Alan Stout at Northwestern University, where he received his Master of Music degree in 1966 and completed a doctorate in 1968. He has held teaching positions at Yale University, Eastman School of Music and at the Julliard School of Music. He was elected to the American Musician Academy in Music and Letters in May of 2002.²

Schwantner took a leave of absence from the Eastman School of Music from 1982 to 1985 and served as composer-in-residence with the Saint Louis Symphony Orchestra. At this time the orchestra was conducted by Leonard Slatkin and Schwanter was participating as part of the

Meet the Composer/Orchestra Residencies Program. This program was funded by the Exxon Corporation, the Rockefeller Foundation and the National Endowment for the Arts.³

Schwantner has utilized various compositional techniques throughout his career. In his early work, *Consortium I* (1970) and *Consortium II* (1971), both commissioned by Musica Viva, Schwantner employed serialism “in its disregard for the usual structures of 12-note technique.”⁴ From 1977 to 1979, his compositional style moved “from a concentration on serial procedures to a greater stylistic variety”⁵, such as tone colour and tonal centers. He received the Pulitzer Prize in 1979 for his orchestral work, *Aftertones of Infinity* (1978), which was commissioned by the American Composers Orchestra. This piece reveals an increasing use of tonal centers. However, Schwantner’s tonal centers were basically created through various pitch sets, instead of the traditional use as tonic-dominant functions. In his marimba solo, *Velocities*, the harmony and thematic elements are basically developed from a series of pitch sets. He also used the same technique to compose the keyboard part of his *Concerto for Percussion and Orchestra* (1994). Both of these percussion works show the influence of minimalism, particularly in the repeated rhythmic and melodic figures.

Schwantner has composed only three solo works, all for keyboard instruments: *In Aeternum II* (1972) for solo organ, *Veiled Autumn* (1987) for solo piano, and *Velocities* (1990) for solo marimba.

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⁴ Ibid.
The First Draft vs. the Published Score of *Velocities*

Stevens stated that Schwantner was very open to his input about *Velocities*. Some revisions were made upon Stevens’ suggestions. Originally, the piece contained a total of 346 measures. In the preliminary version, the ending contained an explosive pattern of notes that only appeared for the last three measures of the piece. Stevens told Schwantner that he wanted to “rock out” at the end. So Schwantner expanded the ending, adding an additional ten measures to satisfy Stevens’ request.

Schwantner utilized the interval of a fourth extensively throughout most of the transitional segments of this piece to create a series of cascading notes. Stevens suggested that Schwantner create one additional measure before the “brutale” ending. He explained that in the original score which was sent to him, all of the cascading transitions until that point of the piece had been built on the interval of a perfect fourth. The measure before the closing section contained a string of notes comprised of the interval of a perfect fifth. Stevens felt the element of the fourth was missing from the transition into the end, and this prompted him to suggest Schwantner to add the additional measure containing perfect fourths.

Another major revision of the piece was the 32\textsuperscript{nd} note figures in measure 177 and again in 182. Originally, Schwantner wrote for both hands to play sixteenth note figures in contrary motion containing large leaps. Stevens recalled that initially these two bars were technically

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6 Leigh Howard Stevens, interview by author, 22 October 2004, telephone conversation.
7 Ibid.
8 Ibid.
9 This added measure is measure 342 in the published score.
impossible to execute at the marked tempo of quarter note equals 120. Stevens rewrote the rhythm for these two bars using Schwantner’s 32nd note ideas from measures 183 to 188 (Example 14). He decided to only change the arrangement of the notes in the bass clef, leaving the order of the treble clef notes intact. The published version of this piece contains the exact additions Stevens made to these two measures.

Example 14. *Velocities*, measures 180-188

Schwantner VELOCITIES
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Analysis

*Velocities*, subtitled *Moto Perpetuo*, is built in a single arch-like allegro movement.

Schwantner created this composition by keeping the rhythmic durations consistent throughout the entire piece while changing other musical elements, such as texture, meters, timbre and tonality. Schwantner writes the following about his piece: “The music, as the title suggests, is characterized by continuously changing texture of rapidly articulated pitches within a framework

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10 Leigh Howard Stevens, interview by author, 22 October 2004, telephone conversation.
of continually shifting meters. The linear, harmonic and gestural elements of the work are derived from a series of four, five, six and seven-note pitch sets."\(^{11}\)

**Form**

The piece is cast in a large-scale A-B-A form, with an introduction and a coda including transitional passages between the sections. This arch form can be divided in five sections: Introduction, A, B, A’ and coda (Figure 2). Examination of the following table shows the symmetrical structure between the sections of *Velocities*.

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Figure 2. Form and Use of Scales of Velocities

<table>
<thead>
<tr>
<th>Sections</th>
<th>Measure numbers</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pitch set(s) of the major passages</td>
</tr>
<tr>
<td>Intro.</td>
<td>1-28</td>
<td>(Db, E, F, Ab)</td>
</tr>
<tr>
<td></td>
<td>7 notes</td>
<td>(Db, D, E, F, G, Ab, Bb, B)</td>
</tr>
<tr>
<td>Trans. 1</td>
<td>29-47</td>
<td>(E, G#, C, Eb) and its transpositions</td>
</tr>
<tr>
<td></td>
<td>4 notes</td>
<td>Transitional cascading passages containing intervals of 4ths and 2nds</td>
</tr>
<tr>
<td></td>
<td>5 notes</td>
<td>(Ab, Cb, Bb, D, Db) and its transpositions: (Db [C#], D, E, F, G, Ab, Bb, B [Cb])</td>
</tr>
<tr>
<td></td>
<td>7 notes</td>
<td>(Db, Eb, Fb, Gb, Ab, B, C)</td>
</tr>
<tr>
<td></td>
<td>6 notes</td>
<td>(Eb, Gb, Ab, Bb, C, Db)</td>
</tr>
<tr>
<td></td>
<td>7 notes</td>
<td>(Gb, Ab, Bb, C, Db, Eb, F)</td>
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<tr>
<td></td>
<td>7 notes</td>
<td>(Eb, F, G, Ab, Bb, C, D)</td>
</tr>
<tr>
<td></td>
<td>6 notes</td>
<td>(F, Ab, Bb, C, D, Eb)</td>
</tr>
<tr>
<td></td>
<td>6 notes</td>
<td>(Bb, C, Db, Eb, F, Ab) or (Bb, C, Db, Gb, F, Ab)</td>
</tr>
<tr>
<td></td>
<td>7 notes</td>
<td>(Db, Eb, F, Gb, Ab, Bb, C)</td>
</tr>
<tr>
<td>A</td>
<td>48-104</td>
<td>(F#, C#, G#, A, E, B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(E, B, F#, G, D, A)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transitional cascading passages containing intervals of 4ths and 2nds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transitional passages containing intervals of 5ths and 2nds</td>
</tr>
<tr>
<td></td>
<td>6 notes</td>
<td>(B, F#, C#, D, A, E)</td>
</tr>
<tr>
<td>B</td>
<td>122-204</td>
<td>(Cb, Db, Eb, Fb, Gb, Ab, Bb)</td>
</tr>
<tr>
<td></td>
<td>7 notes</td>
<td>(Ab, Bb, Cb, Db, Eb, F, G)</td>
</tr>
<tr>
<td></td>
<td>6 notes</td>
<td>(Bb, Db, Eb, F, G, Ab)</td>
</tr>
<tr>
<td></td>
<td>7 notes</td>
<td>(Eb, F, G, Ab, Bb, C, D)</td>
</tr>
<tr>
<td></td>
<td>7 notes</td>
<td>(Eb, F, Gb, Ab, Bb, C, D)</td>
</tr>
<tr>
<td></td>
<td>6 notes</td>
<td>(F, Ab, Bb, C, D, Eb)</td>
</tr>
<tr>
<td>Trans. 2</td>
<td>105-121</td>
<td>(F#, C#, G#, A, E, B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(E, B, F#, G, D, A)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transitional cascading passages containing intervals of 4ths and 2nds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transitional passages containing intervals of 5ths and 2nds</td>
</tr>
<tr>
<td></td>
<td>6 notes</td>
<td>(B, F#, C#, D, A, E)</td>
</tr>
<tr>
<td>A'</td>
<td>210-285</td>
<td>(Gb, Bb, D, F) and its transpositions</td>
</tr>
<tr>
<td></td>
<td>4 notes</td>
<td>Transitional cascading passages containing intervals of 4ths and 2nds</td>
</tr>
<tr>
<td></td>
<td>5 notes</td>
<td>(Bb, Db, C, E, Eb) and its transpositions: (C, C# [Db], Eb, E, F# [Gb], G, A, Bb)</td>
</tr>
<tr>
<td>Coda</td>
<td>317-357</td>
<td>(C, Db, G#)</td>
</tr>
<tr>
<td></td>
<td>4 notes</td>
<td>(E, G, G#, B)</td>
</tr>
<tr>
<td></td>
<td>7 notes</td>
<td>(Db, [C#], E, F, G# [Gb], G, A, Bb)</td>
</tr>
<tr>
<td></td>
<td>4 notes</td>
<td>(C#, D, E, F, G, G#, Bb, B)</td>
</tr>
</tbody>
</table>
The introduction opens with a series of aggressive articulations over a repeating harmonic motive (Example 15), with the composer’s marking, “relentlessly with energy and intensity.”

This section introduces all of the main rhythmic, textural, timbral, and pitch related elements of the composition. The changing meters give the listener a constant rhythmic shift between duple and triple patterns. The extended technique of playing on the edge of the bars with the wooden shafts of the mallets is notated as “x” and is used in the first measure of the piece. This serves as an abrupt change in timbre. The intervals of the double-stops, which also take place in the first measure, are a perfect fourth and a major seventh. These two intervals and their inversion, the perfect fifth and minor second, serve very important roles in the body of the composition. Additionally, the texture of this section changes between double-stops and a single linear voice, and then to arpeggio-like passages at measure 29, the beginning of the Transition 1.

Example 15. Velocities, measures 1

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12 Joseph Schwantner, Velocities. Helicon Music Corporation. 1990
Transition 1 begins with a four-note pitch set, E, G#, C and Eb. The pitch set appears four times, being transposed up a minor seventh each time (Example 16). An important descending passage occurs for the first time in the piece at measure 31. The same pattern can be seen numerous times throughout the work. This single arpeggiated descending passage is built on a series of perfect fourths, and is transposed by a minor second, which reinforces the intervals from the beginning of the piece. Schwantner uses these types of arpeggios for transitory material throughout the piece. Other examples of this arpeggio passage can be seen one bar before section A (m. 47) in twelve-sixteen meter, and two bars before section B (mm. 120-121) in six-sixteen meter.

Example 16. Velocities, measures 25-35

Section A begins at measure 48 (Example 17) with a wavelike linear motion in meter 7/8, which has not appeared prior to this. It consists of a seven-note pitch set: Fb, Gb, Ab, Bb, C, Db, and Eb. This set constructs an ascending Db melodic minor scale. At measure 48, Schwantner notates this linear motion in two separate clefs, treble and bass, though it sounds like
and is performed as one continuous line. However, at measure 58 (Example 18), the identical melodic line is notated on only one clef. One possible explanation for this difference in notation is to give the performer guidance on sticking choices. This “wavelike”\textsuperscript{13} thematic motive occurs several times using various scale types. It appears as a Db melodic minor scale starting at measure 58, changing to an Eb Dorian scale four measures later and then again as a Gb Lydian scale at measure 68. All these scales are based on the tonal center of Db. The wavelike motive is written in Eb melodic minor at measure 70 and then in F Dorian at measure 72, in effect changing the tonal center to Eb. The piece changes back to Db major or a Bb natural minor scale at measure 83. The same tonal center of Db is again used at the beginning of transition 2.

Example 17. Velocities, measures 46-48

\textsuperscript{13} This is the term that Schwantner uses in the Velocities score.
In transition 2 (measures 105 to 121), arpeggios occur continuously until the downbeat of Section B at measure 122. Transition 2 contains two different types of transitional passages: one containing a series of perfect fifths connected by the interval of a second (Example 19, m 114). The other is a descending passage similar to measure 31 (Example 19, mm 111 and 113). Schwantner changes the meter at measure 113 to compound time.\textsuperscript{14} Figures of three sixteenth notes are written with an emphasis on the beginnings of each grouping which help to lead into the next major section.

Section B begins at measure 122, and is the longest section of the piece. It consists of a six-note pitch set: F#, C#, G#, A, E, and B, which create an F# Dorian scale. Here, for the first

\textsuperscript{14} A meter in which each beat is divided into three rather than two.
time, the piece has two distinct lines occurring simultaneously (Example 20). The left hand pattern in measure 122 gives listeners a 3/8 meter pulse, even though the music is written in a 6/16 meter. The transpositions of this new six-note pitch-set happen separately in measure 154 transposed up a minor seventh and measure 189 up a perfect fourth. In measure 154, E, B, F#, G, D and A construct an E Dorian scale. In measure 189, B, F#, C#, D, A, and E act as a B Dorian scale. The downbeat of measure 205 is the ending of Section B and also ends the two-line voice section. The subsequent section is transitional, and leads to Section A’ in measure 210.

Example 20. *Velocities*, measures 120-124

In section A’, the seven-note pitch set, Fb, Gb, Ab, Bb, Cb, Db and Eb presents the wavelike theme at measure 211 (Example 21). The note “C” from the pitch set in Section A is replaced by “Cb” here, which creates a Cb Major scale. Other than replacing the “C”, the notes occur in the same order as in Section A. A five-note pitch set: Ab, Eb, Cb, Bb and Db, is used one measure before the A theme comes back in measure 211. This wavelike theme is modified at measure 214 in the pitch set: Ab, Bb, Cb, Db, Eb, F and G which is an ascending Ab melodic
minor scale (Example 22). The wavelike theme can be seen again at measure 227 in Bb Dorian, at measure 265 in ascending Eb Melodic Minor, and at measure 266 as F Dorian. These scales create a tonal center of Ab and Eb for section A’.

Example 21. *Velocities*, measures 210-211

![Example 21](image)

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Example 22. *Velocities*, measures 213-214

![Example 22](image)

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Transition 1’ begins at measure 286 with the same pattern in the beginning of transition 1, however the pitch set changes to Gb, Bb, D, and F. Measures 286 to 300 are exactly the same as measures 29 to 42 in transition 1, except they are transposed up a diminished third or its enharmonic interval, a major second.
The coda begins at measure 318 with double-stops (Example 23), as in the introduction. It also contains a four-note pitch set, C, Eb, E, and G, a minor second lower than the initial pitch set in the introduction. Both the introduction and coda are constructed in pitch sets that fall into octatonic scales. An interval of a diminished eighth, which is always heard as a major seventh, is played by the right hand with a perfect fourth in the left-hand. In the introduction, this pattern is played by the right hand (R) and left hand (L) as RLL RLL RL (Example 24). However, the pattern is inverted in the coda, and is played as LRR LRR LR (Example 25). Beginning at measure 335, Schwantner indicates to “accel. poco a poco” until measure 343. From this point “fast as possible” and “brutale”\textsuperscript{15} are marked leading to a forceful and exciting ending.

\textsuperscript{15} Ibid.
Interval Usage

In addition to the pitch sets, specific intervals serve as important compositional elements used to define structure in *Velocities*. The intervals of a perfect fourth, perfect fifth, and major seventh are the most commonly used intervals in this piece. The predominance of these intervals is seen at the very beginning of the work. The piece begins with a perfect fourth followed immediately by a major seventh, and subsequently two more perfect fourths. For the marimba player, the intervals of the fourth and fifth are very comfortable using four-mallet technique. This technique requires that each hand holds two mallets. Therefore, there are a lot of marimba compositions dominated by the fourths and fifths. Schwantner not only uses the
fourth and fifth intervals in double-stops, or the striking of two notes at the same time, but he also uses these intervals in the transitory material (the arpeggios). All the ascending and descending arpeggios in the transition sections are in compound meters and grouped in three sixteenth notes. The notes in the groupings are created by fourths or fifths. The descending arpeggios are primarily built on the intervals of fourths except in measure 343, which is constructed in fifths.

Schwantner also uses the above transitory elements of intervals as structural devises to construct the work. An interesting connection can be observed between the intervals of the transitory cascading passage and the tonal center of the two main thematic motives. The cascading passage at measure 31 consists a series of perfect fourths transposed a minor second apart; the notes can be written as pitch class set [0, 2, 7].

The first theme in section A, the linear wavelike motive, appears frequently in section A and section A’. These scalar patterns create three different tonal centers. First, the pattern falls into the ascending scale of Db melodic minor (measures 48-51 and 58-61), Eb Dorian (measures 62-65), Gb Lydian (measures 68-69, 97 and 99), and Db major (measures 102 and 104); those scales are based on the tonal center of Db. The second tonal center is Eb, created by the scale of Eb melodic minor ascending (measures 70-71, 265, 267, and 283), and F Dorian (measures 72-75, 78-81, 266, and 284). The third tonal center is Ab, based on the scale of Cb Major (measures 211-212, and 217-218), Ab melodic minor ascending (measures 214-215, 220-221,
226, and 228), Bb Dorian (measures 227, 229, 231 and 233). These three tonal centers of the first theme, Db, Eb, and Ab, can also be determined as pitch class set [0, 2, 7].

The second thematic motive in section B occurs three times, and creates three tonal centers. The first one in measure 122 to 137, falls into an F# Dorian scale. The second tonal center, E, is created by the E Dorian scale at measures 158 to 165. The third motive at measures 188 to 204, in B Dorian scale, creates a tonal center of B. These tonal centers, E, F#, and B again create a pitch class set of [0, 2, 7].

Texture

Schwantner states that Velocities is primarily linear in nature. Intervals played in each hand reinforce the sound and linear approach dynamically. The texture of the piece is basically monophonic, except in Section B, which contains two distinct lines occurring simultaneously. Even though the piece contains primarily single-note lines, Schwantner is still able to create various textures of chordal, one-line and two-line voices. In the Introduction and the Coda of the piece, there are two notes written for each hand, which create a chordal texture. At measure 7, the notes are notated in two staves, but again it can be written as one line. Here, two hands play in contrary motion with left hand on the accidental keys and right hand on the natural keys to create two contrary voices. All the transitions mainly contain a fast, fluid arpeggio line presenting a one-line voice texture.

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16 Joseph Schwantner, interview by author, 3 March 2005, tape recording, University of North Texas, Denton, TX.
Dynamics, Timbre and Rhythm

At the very first measure, the dynamics change from $fff$ suddenly to $subito p$. The use of dynamic changes (Example 14) in Section A and A’ helps the thematic linear line to produce the wavelike sound. Within one measure of this wavelike theme, dynamic changes from $p$ $\textit{diminuendo}$ to $pp$, and from $pp$ $\textit{crescendo}$ to $mp$. Four measures later, dynamic changes from $mp$ $\textit{diminuendo}$ to $p$, and from $p$ $\textit{crescendo}$ to $f$.

Timbre diversity is created through the use of extended technique. As mentioned earlier, at the first measure, performers use the wooden shafts of the mallets to strike the edges of the marimba bars. This technique produces a percussive “click” sound. The extended use of this technique can be seen in measure 255 to measure 264 (Example 26). Once the pattern is established, Schwantner adds a change of timbre in every bar by changing a new note from striking the edge of the bars to a regular note.

Example 26. Velocities, measures 252-265

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Velocities’ tempo is marked quarter note equals 120. The piece consists of continuous 16\textsuperscript{th} notes, divided by various changing meters. These sixteenths are constant throughout the work, except for a brief section at the midpoint, between measures 177 and 188, which contains several 32\textsuperscript{nd} notes. This is another structural element contributing to the overall arch form. Otherwise, there is no interruption to the sixteenth notes. The rhythm of the piece is unrelenting from beginning to end as its subtitle “Moto Perpetuo” dictates.

Performance Considerations

Schwantner stated that he wanted to compose a piece for an instrument that can be played with a very fast tempo for a long time without any rest. Therefore, marimba was one of the best instruments for this desire. According to Schwantner, some performers add too many liberties in the performance Velocities. Frequent tempo changes alter the initial intention of the piece. Performers need to have endurance to keep the same tempo and energy to play Velocities from the beginning to the end.

By comparing various recordings of Velocities available on the market today, the most noticeable difference is the variance in duration of the piece. This discrepancy can be as large as two minutes (Figure 3). Some performers slow the beginning of the coda to make the forthcoming accelerando more effective. However, this is not what Schwantner had in mind. Schwantner mentioned that Velocities is a chordal piece written largely in a single line. The harmony can only be heard in Velocities when the notes are played very quickly to give an
allusion of the chords. He said, “I achieve harmony and harmonic progression though fast articulation of the notes played one at a time.”

### Figure 3. List of Recordings on *Velocities*

<table>
<thead>
<tr>
<th>Performer</th>
<th>CD Title</th>
<th>Duration</th>
<th>Label #</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greg Giannascoli</td>
<td>Velocities</td>
<td>7:35</td>
<td>WMM 2</td>
<td>1999</td>
</tr>
<tr>
<td>Nanae Mimura</td>
<td>Marimba Spiritual</td>
<td>7:42</td>
<td>SQR 2565</td>
<td>2000</td>
</tr>
<tr>
<td>J. B. Smith</td>
<td>Apparitions for Percussion</td>
<td>8:24</td>
<td>WS-01</td>
<td>1999</td>
</tr>
<tr>
<td>David Hall</td>
<td>Saudação!</td>
<td>8:44</td>
<td>DHR 46382</td>
<td>2000</td>
</tr>
<tr>
<td>Filippo Lattanzi</td>
<td>Fields</td>
<td>9:32</td>
<td>DAD-001</td>
<td>2001</td>
</tr>
</tbody>
</table>

The five-octave marimba was not available at the time *Velocities* was written. At that time, the concert marimba’s range only extended to a low E. Now, the five-octave marimba is the standard marimba for concert settings. Schwantner said if a performer can make the piece sound better, then he does not care if the piece is modified by adding octaves to lower notes. Changing the notes, however, is not acceptable to Schwantner. The octaves are sometimes added to the left hand at measure 162 and measure 200 to create a more full bass tone.

Additionally, Schwantner was aware of the physical nature and visual effect of playing the marimba. The piece covers the entire range of the marimba from the low E to the high c””. Performers need to be aware of how to move behind the instrument, especially during the fast cascading passages. Correct playing posture can help to perform the piece smoothly. The errata of the published *Velocities*, provided by Schwantner, is included in the Appendix of this dissertation.
CHAPTER 6

CONCLUSION

This National Endowment for the Arts commissioning consortium project is an important achievement in the development of the history of marimba literature. The pieces that were born of this project are frequently performed, which helps to expose the general public to the marimba. Two of the three aforementioned pieces, *Velocities* and *Reflections on the Nature of Water* are frequently seen on repertoire lists for major international marimba competitions. *Reflections on the Nature of Water* was on the repertoire list of the 2003 Percussive Arts Society International Convention Marimba Competition, and the Paris International Marimba Competition in 2003. Past Percussive Arts Society President Mark Ford has commented, “With composers like Druckman writing quality new works for the marimba, it is a sure guess that the marimba world is out of its infancy.”¹ *Velocities* was one of the required pieces for the 2004 International Marimba Competition in Belgium, and the Linz International Marimba Competition held in 2006.

The NEA commissioning project has had a direct influence on the recent history of marimba compositions. This is the first instance where major composers wrote solo works for the marimba. The NEA commissioning project has done a great deal to advance the awareness of established composers to view the marimba as an instrument worthy of their talents.

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These pieces exemplify the potential of the marimba, and they also show the technical possibilities capable of an accomplished marimbist. Several important marimba works have been commissioned and composed by recognized composers since the NEA project took place in 1986. Steven Mackey’s *See Ya Thursday*, Eugene O’Brien’s *Rhyme and Reason* and Gunther Schuller’s *Marimbology* were commissioned through Meet the Composer/Reader’s Digest Commissioning Program in 1991.² There are numerous examples of other commissions including works by Andrew Thomas, Eric Ewazen, and Richard Rodney Bennett.

Before his involvement in the NEA commission, Schwantner had not considered writing a marimba solo. As of recently he has spoken enthusiastically about future plans to compose another solo work for the marimba.³ Marimbists around the world also hope that Schwantner, as well as other leading composers, continue to compose and develop new works for this expanding art form.

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³ Joseph Schwantner, interview by author, 3 March 2005, tape recording, University of North Texas, Denton, TX.
APPENDIX

ERRATA OF *VELOCITIES* BY JOSEPH SCHWANTNER
ERRATA OF VELOCITIES BY JOSEPH SCHWANTNER

1. m 3- (top staff, 6th note=E)
2. m 55- (6/8 not 7/8)
3. m 67- (top staff, 5th note= Eb)
4. m 119- (5th sixteenth note= Eb)
5. m 188- (12th note= B natural)
6. m 231 and m 233- (7/8 not 7/16)
7. m 309- (bottom staff, 4th note= A natural)
8. m 319- (bottom staff, 6th note= G natural)
9. m 334- (6th note= G natural)

BIBLIOGRAPHY

BOOKS AND JOURNALS


**DISSERTATIONS AND THESES**

SCORES AND MUSICAL EDITIONS


MUSIC REVIEWS


INTERVIEWS


SOUND RECORDINGS


WORLD WIDE WEB


