

Modal Aspects in Musical Creations for Marimba: Steve Reich, Nagoya Marimba; Keiko Abe, Dream of the Cherry Blossoms

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ABSTRACT

Paradoxically, the musical evolution of the 20th century, the century of speed and cybertech development, was accomplished by returning to ancient musical forms, by refreshing Gregorian music materials, the use of elements specific to the folklore of different civilizations and the Ancient Greek modes, as well as scientific elements, especially from mathematics and physics. The use of modes is also found in Steve Reich's minimalist compositions for marimba, the initiator of a new concept called *phase-music*, as well as in the creations of Keiko Abe, the most febrile marimba explorer and a master of the improvisational style.

KEYWORDS

Musical modes, minimal music, marimba, phase-music, improvisation.

INTRODUCTION

In the 1960s, a new movement appeared in the USA, as a reaction against Serialism, *minimal music*, a wave that spread rapidly on most continents. The most prominent representatives were LaMonte Young, John Adams, Terry Riley, Steve Reich and Philip Glass. Initially, minimal music was perceived as a form of experimental music known also as the New York Hypnotic School, originating from the central scenes of New York (Sitsky, 2002; Kostelanetz & Fleming, 1999).

Predominant in this technique are consonant harmonies, constant pulse, standard or progressive transformation and reiteration of musical phrases or sub-forms such as the cell or the motif. The musical compositions following strictly the minimal rules are called *processed music*.

Minimal music is also known as *systemic* music. In the 1960s, the term *system* signified the variety of new composing practices with an emphasis on reiteration. These are extensive repetitions of a motif or group of musical motifs (Riley), repetitions being governed by a system: either the progressive stretching of repeated material (Glass) or discrepancies that modify simultaneity (Reich).

The texture of minimal music has, as a fundament, the imitation of the identical replication of the same material, however, out-phased in time. In his work entitled *Orientations, directions, currents of the Romanian music from the second half of the 20th Century*, Irinel Anghel remarked: "The use of a limited (minimal) number of sounds was desired to be the aesthetic, doctrinal basis of these artistic directions (repeatable in the fine arts), claiming a generous project of recovering essential principles of sound order, of

opening new ways, of preparing decisions to reorient attention to the past, in other words, a step towards discovering the natural in music (Anghel, 1997).

Composer and scientist David Cope, professor at the University of California, Santa Cruz, proposes 5 ways of composing techniques in minimal music: *Silence, Concept music, Brevity, Continuities* as well as *Phase and pattern music* (Cope, 1997).

Steve Reich's *Nagoya Marimbas* belongs to the last compositional technique (phase-music) but it also encompasses elements from the other techniques. Among famous musical works using these concepts are *Einstein on the Beach* (Philip Glass), *Come Out* and *It's Gonna Rain* (Steve Reich) as well as *Shaker Loops* (John Adams).

Contemporary artists, who use minimal music as an inspiration along with the electronic and ambient music genres, reveal new trends that seem to monopolize modern music. The use of simple formulas aims at achieving a maximum psychic effect and finding new accessibility in contemporary music. Thus, it can be stated that minimalist elements are maximized.

Steve Reich – Biographical Highlights

Stephen Michael "Steve" Reich was born in New York, in 1936, the son of Broadway actress, soloist and lyricist June Sillman. He studied piano and music from an early age and started to study music at 14. He graduated with a minor in music and a B.A. in Philosophy from Cornell University. Here Reich encountered Wittgenstein's works, which influenced his compositions *Proverb* (1995) and *You Are (variations)* (2006). Reich studied composition with Hall Overton and enrolled at Julliard where he studied with William Bergsma and Vincent Persichetti. He then attended Mills College in Oakland, studying with Luciano Berio and Darius Milhaud, completing his master's degree in composition in 1963.

Besides his early steps in playing jazz drums with Roland Kohloff, he studied percussion at the Institute for African Studies at Ghana University in Accra. He specialized further at the American Society for Eastern Arts in Berkley, California, and in Balinese gamelan at the University of Seattle. Two years later he studied the Hebrew Scripture cantillation in New York and Jerusalem.

He is the founder of the *Steve Reich and Musicians* ensemble, making numerous tours around the world, performing on famous scenes such as Carnegie Hall and Bottom Line Cabaret. Steve Reich's musical prestige has been recognized through numerous awards and honors including the Grammy Award (1990), Doctor Honoris Causa of the California Institute for Fine Arts, Pulitzer Award for Music (2009), the BBVA Award for a New Music Concept (2013), Honorary Doctorate at the New England University, Leone D'Oro Prize in Venice (2014), Honorary Doctorate at the Royal College of Music in London and many other recognitions (The Steve Reich Website. n.d.).

Steve Reich has succeeded in identifying an original language, synthesizing sources of African and Asian culture with European elements, jazz and American traditional music. The common denominator of these seemingly different elements, is the pulsating factor following minimal music rules, *Phase-Music*, a concept initiated by Steve Reich.

***Nagoya Marimbas* - Analysis**

To honor the grand opening of the Shirakawa Hall, Nagoya Music College from Japan requested Steve Reich to compose a musical piece. Thus, Reich composed *Nagoya*

Marimbas, a minimalistic work for two marimbas, its premiere being performed by Sekar Sakura and Maki Kurihara at the Shirakawa Hall, on December 21st, 1994.

Nagoya Marimbas is based on a musical canon-type of a melodic dialogue between two marimbas, in one part, featuring Reich's early 1970s minimalist style. However, the patterns are much more developed from a melodic point of view, more difficult rhythm-wise, and generally repeat two or three times, a characteristic of Reich's works after 1990. The author himself said that "it is considerably more difficult to play and requires two virtuosic players" (Reich, 2002).

The work is centered on the pentatonic style specific to the Asian music, with an *E minor pentatonic* pillar that starts and ends the piece, in other words a *cyclic pentatonic scale*.

The beginning represents a *formula-model* initiated by the first marimba, followed by the second marimba which gradually adds elements. Second marimba completes the whole pattern for the first time during measures 11-17 with a gap of three eighths, then between measures 19-20 with a gap of 3 sixteenths, resulting in the occurrence of a unison canon. This is the moment when the audience perceives that the second marimba actually performs the same rhythmic-melodic formula.

Through an exercise of imagination we could see this work as a *puzzle*, where the whole picture is presented in the first marimba, and the second marimba completes the picture adding, gradually, piece by piece (Example 1).

The image shows a musical score for 'Nagoya Marimbas' by Philip Glass, measures 1 through 11. The score is arranged in four systems. The first system contains Marimba 1 and Marimba 2. Marimba 1 has a melodic line with a (3x) repeat sign. Marimba 2 is silent until measure 5, where it enters with a (2x) repeat sign. The second system contains two marimbas, labeled 'Mr. m. 1' and 'Mr. m. 2'. Both have melodic lines with (3x) repeat signs. Red circles highlight specific rhythmic patterns in measures 5, 7, 9, and 11. The third system contains two more marimbas, also labeled 'Mr. m. 1' and 'Mr. m. 2', with melodic lines and (3x) repeat signs. Red circles highlight specific rhythmic patterns in measures 9 and 11. The score is written in 2/4 time and features a pentatonic scale.

Example 1. Reich – *Nagoya Marimbas*, measures 1 – 11.

It can be noticed from the beginning that the pattern presented by marimba 1 is an *ostinato* formula, developed over two measures, consisting of two simple motifs, noted here with x and y, imitated by marimba 2, thus resulting in a complementary imitative polyphony. The structure is an anhemitonic pentatonic scale in the 5th position (Example 2).

Example 2. Reich - Nagoya Marimbas, measures 1 and 19.

Regarding the anhemitonic pentatonic scales, in *Modes and Scales*, Victor Iusceanu calls them *defective scales* and makes the following statement: "The anhemitonic pentatonic scale is very old. By comparing it to the current scales, we can consider it an undeveloped scale that lacks minor seconds but contains minor thirds instead" (Iusceanu, 2013).

Following measure 23, we can observe a technical application, an imitation, similar to the double counterpoint, specific to Reich's *phase-music* compositional technique. This technique involves a polyphonic process of two voices that produce the same pattern, however, out-phased. Even though it is seen almost throughout the whole piece, the F pitch does not determine the formation of a hexachordic scale, being a *pian* sound, a passing sound with an inferior melodic role, usually appearing on unaccented beats. As a particularity, the presence of a *pian* can be emphasized by different procedures as far as masking the pentatonic structure (Dexonline - Pien, n.d.). The roles are reversed, marimba two taking over the melodic initiative, the marimba one realizing a unison canon (Example 3).

Example 3. Reich – Nagoya Marimbas, measures 25 – 27.

Reich takes a mathematical approach to the structure and continues this "mechanical play" of reversing roles by alternating measures of 2/4, 3/4 and 4/4 and also by alternating rhythmic elements, otherwise used minimally. After introducing the F pitch, between measures 28-38 he eliminates G, creating a hemitonic pentatonic scale (Example 4, first melodic figure) which, although not commonly encountered in universal musical literature, is specific to Japanese music.

Example 4. Reich – *Nagoya Marimbas*, measures 28 – 29, first melodic figure.

As a novelty, the author introduces G# between measures 39 and 46, as a mobile degree, a new element that creates tension, deviating from the serene atmosphere created so far, and hints at a Phrygian E with a raised third, elliptic of sixth degree (Example 5, second melodic figure).

After a brief return to the hemitonic pentatonic scale, which occurs between measures 47-52, by removing G#, the author introduces the note C as a new *pieri* in measure 53 and proposes an Aeolian elliptic of second degree (F), continuing on the same principle of out-phasing the patterns.

Example 5. Reich – *Nagoya Marimbas*, measures 53 – 54, second melodic figure

Prior to the ending and probably to prepare the audience for this moment, Reich modifies the key signature by adding a sharp (F#) and temporarily removes the tonic (E) for four measures (66–70), creating a Phrygian B mode (Example 6, third melodic figure), then returns through Aeolian E to the initial pentatonic scale.

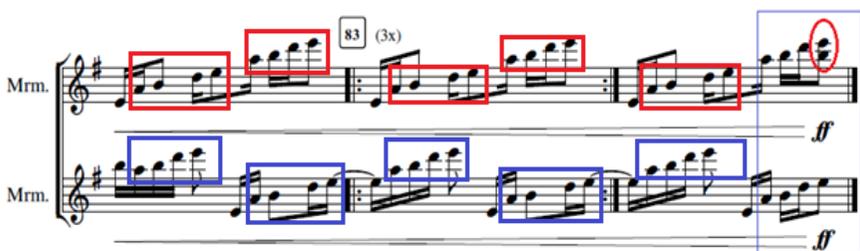
Example 6. Reich – *Nagoya Marimbas*, measure 66, third melodic figure

The minimalist character of this work is reflected also by the very brief use of dynamic elements. Their role is mostly to signal adding or removing musical notes and, implicitly, changing modes.

Table 1. Representation of the relation between dynamics, scale/mode and variable elements

MEASURE	DYNAMICS	SCALE/ MODE	VARIABLES
1-22	<i>mf</i>	Pentatonic E, hemitonic	
22-37			F pien
38-39	<i>crescendo</i>		
39-46	<i>f -> decrescendo -> mf</i>	Phrygian E, elliptic of 6th	G# mobile step
47-52	<i>crescendo</i>	Pentatonic E	
53-65	<i>f</i>	Aeolian E, elliptic of 2nd	C pien
66-70		Phrygian B	
71-75		Aeolian E	
74-78	<i>decrescendo -> mf</i>		
76-79		Pentatonic E	
80-84		Tetratonic scale	G–removed
82-84	<i>crescendo ->ff</i>		

The author juggles between nuances of *mf* and *f*, finally developing a *crescendo* culminating in *ff*. By removing G in the last 5 measures he generates a tetratonic scale. It is worth mentioning that the two voices find themselves in a melodic coincidence, on the last 1 ¼ beat, solving the out-phasing developed throughout the composition. The last element on marimba 1 is a bichord, a perfect fourth, realizing together with marimba 2 the climax of the work (Example 7).



Example 7. Reich – Nagoya Marimbas, measures 82 - 84.

Though seemingly a relatively small, easy work, *Nagoya Marimbas* requires highly skilled performers, who possess detailed knowledge of the musical text and who can manage and maintain a flawlessly steady beat, capable of sustaining the mechanism generated by the two voices. Also, in order to avoid psychological fatigue that sometimes might occur in minimal music, besides reducing the number of pattern reiteration, the author suggests the use of rubber mallets that would highlight the attack, clarifying it and giving the audience a pleasant and relaxed experience. We could conclude that Reich has

created a complex work containing a maximized presence of old modes as well as hemitonic and anhemitonic pentatonic scales, and succeeded in getting closer to the Japanese music culture.

Keiko Abe – Biographical highlights

In Japan, hemitonic pentatonic scales are called *In* scales, and they are found in one of Japan's most popular songs, *Sakura, sakura* dedicated to the cherry tree blossoming period on the Japanese land. Composers such as Keiko Abe, perhaps the most prodigious representative of marimba worldwide, have exploited these local resources with great success. In *Dream of the Cherry Blossoms* (1983), Keiko Abe develops an *improvisational reverie* of this song for solo marimba. The translation of the Japanese word *sakura* into English is *cherry blossom*.

Keiko Abe (1937) is a Japanese-born composer from Tokyo, recognized as a marimba virtuoso. She began studying marimba at an early age, becoming a national star in a short time, having her own show on Japanese television and also a radio show entitled "Good Morning Marimba." She completed a B.A. and a master's degree in music from the Tokyo University Gakugei.

Yamaha Corporation asked Abe to help improving the design of marimba. Keiko Abe brought new ideas and concepts about the sound of the marimba, about its place among the instruments in orchestra, but especially about promoting marimba as a solo instrument. Following her expertise, Yamaha Corporation conceived a new, enlarged marimba with 5 octaves, a model that entered production in 1970 and became a standard.

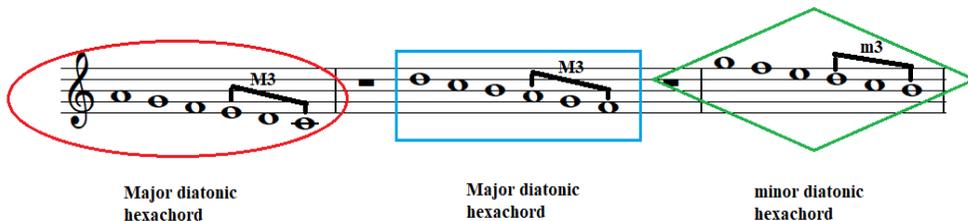
Her compositions for solo marimba are numerous and are part of the repertoire of all marimba players and institutions where this instrument is taught. She is the first woman to be included in the Percussive Art Society Hall of Fame (1993) and the first artist to conceive and develop the 6-mallet technique on marimba (Marimba Productions Inc., 2010).

Dream of the Cherry Blossoms – Analysis

Musicologist Joseph Stevenson asserted that this work for solo marimba is probably Keiko Abe's greatest contribution to the musical writing of the genre. It was composed in 1983 and it is an improvisation of the Japanese theme "Sakura, sakura." The work is a homophony starting with an ostinato formula on the first voice (right hand), a pulse on note E, which is also the gravitational center of the piece. The second voice intervenes by adding elements structured on fourths that appear in a gradually descending sequence. These elements create three interposed hexachords between measures 9-15 (Example 8).

Example 8. Abe – *Dream of the Cherry Blossoms*, mäs. 9 – 15.

Thus, two major diatonic hexachords and a minor diatonic hexachord are generated, completing the diatonic total (a full diatonic scale): "Hexachordies are modal systems made up of 6 different sounds arranged either gradually in the scale when the limit of an octave is not reached, or gradually and through a third skip" (Giuleanu, 2013) (Example 9).



Example 9. Graphic representation of the interposed hexachords

After this brief but complex introduction, the theme is presented in the first voice, supported by a tetratonic ostinato between measures 16-45 (Example 10).

The musical score for Example 10 consists of three systems of piano accompaniment. The right hand plays a tetratonic ostinato, and the left hand plays a melodic line. Red boxes highlight specific melodic phrases in the right hand. The first system (measures 16-20) shows a melodic phrase starting on a whole note, followed by quarter notes. The second system (measures 21-26) shows a similar phrase with a different rhythmic pattern. The third system (measures 27-31) shows a phrase with a different rhythmic pattern. Dynamics include *mp* and *pp*.

Example 10. Abe – *Dream of the Cherry Blossoms*, mäs. 16 – 31.

Variations on the theme are further featured through the introduction of grace notes, creating intervals of fifth between measures 34-36 and intervals of third between measures 39-41 (Example 11).

Example 11. Abe – *Dream of the Cherry Blossoms*, measures 32-41.

The development of the work is made up of elements that are mingled in a cross-relation chromaism (false relation), which determines the appearance of diminished octaves and sections of bimodal *Alpha* type (major-minor) chords. The upper voices ascend in parallel sixths, while the lower voice performs a chromatic step-wise descent on the melodic extension of the third interval, associated with the arpeggiated harmonic structure of fourths: augmented fourth + perfect fourth (Example 12).

Example 12. Abe – *Dream of the Cherry Blossoms*, measures 46 – 49.

After a succession of bimodal plan reversals, Abe brings back theme fragments that culminate on a *fermata* roll, highlighted by a *crescendo*, preparing a bridge towards a cadence (Example 13).

Example 13. Abe – *Dream of the Cherry Blossoms*, measures 67 – 73.

There appear the first agogic elements, *poco a poco accelerando* and *poco ritenuto*, and even a temporary tempo change, an *Adagio* between measures 86-89, and a new variation of the lyrical theme in which Keiko Abe mixes extended marimba techniques

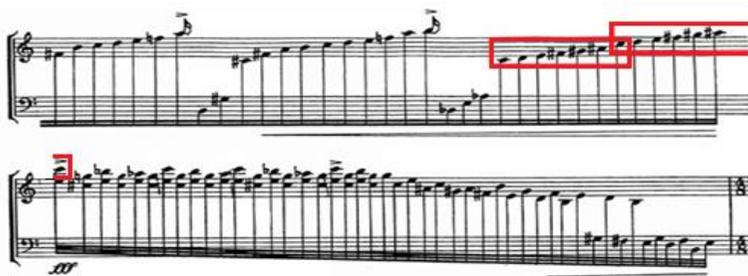
such as tremollo and *dead stroke* by pressing the mallets on the keys at the end of the roll, creating an echo effect (Example 14).



Example 14. Abe – *Dream of the Cherry Blossoms*, measures 86 – 89 (dead stroke technique – damping or muffled sound).

After this lyrical interlude, it returns to *tempo 1*, with the lower voice overtaking the initial pulsating E from the introduction. The upper voice (right hand) features virtuosic elements, a chain of chromatic arpeggios deployed in *accelerando*, while the lower voice (left hand) keeps the pulse steady. This element requires highly-developed technical skills and a perfect left-right hand coordination. The cadence is ornamented (elaborated) and contains thematic elements emphasized by accents and supported by a series of pentachords, hexachords and chromatisms which generate tension but at the same time create a bridge to the recapitulation.

Regarding the ornamented cadences, musicologist Livia Teodorescu-Ciocanea states: "Often, for the prolongation of the cadence, chromatic delays or passages are used, resulting in a more elaborate, ornamental cadence" (Teodorescu-Ciocănea, 2005). One can observe, in the example given, a chain of two major octavian chromatic hexachords (Example 15).



Example 15. Abe – *Dream of the Cherry Blossoms*, cadence fragment.

The recapitulation features a blend from the previous sections, as a conclusion of the whole work, a novel element being the continuation of the theme at from the upper to the lower voice as well as the presence of a *harmonic scordatura* in measures 124-125 (Example 16).

Example 16. Abe – *Dream of the Cherry Blossoms*, measures 118 – 125.

The *Coda* is presented as a varied retrograde of the introduction, with fragile bimodal hints induced by the augmented octaves visible between voices, after which it gradually steers back to the original pulsation and thus, with the ending of the work, the reverie fades away (Example 17).

Example 17. Abe – *Dream of the Cherry Blossoms*, measures 151 – 164.

DISCUSSION. CONCLUSIONS

Dream of the Cherry Blossoms is a mid-size improvisation-reverie, with a rich emotional load, which combines lyrical and dynamic moments with rhythmic, timbre and virtuosic elements, being a milestone for marimba performers.

Both *Nagoya Marimbas* and *Dream of the Cherry Blossoms* are works based on components of Japanese culture, modal, however, different in style, form and manner of approach, however with some similarities such as the use of modes, ostinato formulas, polymetry and frequent time signature changes. Both creations can induce a profound meditative state, induced especially through the use of pentatonic scales.

The value of these works is enhanced by the fact that the use of ancient modes, polyphony, double counterpoint as well as other methods and composition techniques establishes a bridge over centuries to well-known composers such as Guillaume de Machaut, Guillaume Dufay, Josquin des Prés and, of course, Johann Sebastian Bach, portraying them in a modernist, contemporary aura.

Although they are two standard marimba repertoire works performed in concert halls the world over, there is very little consecrated literature written about them. This article aims to be a guide towards a better understanding of these two works and their authors.

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