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Haiyue Wang and Lee Chie Tsang Isaiah

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Haiyue Wang*

*Academy of Arts and Creative Technology (ACT),
University Malaysia Sabah,
Kota Kinabalu, Sabah, Malaysia*

Lee Chie Tsang Isaiah**

*Academy of Arts and Creative Technology (ACT),
University Malaysia Sabah,
Kota Kinabalu, Sabah, Malaysia*

PALINDROMIC THINKING IN CONTEMPORARY COMPOSITION: CREATIVE TECHNIQUES AND AESTHETIC IMPLICATIONS

Abstract: The aim of this research is to investigate the meaning of the palindrome in the musical work *Huiwen*, with a focus on its form of performance and composition, as well as the concept of the palindrome itself. In order to clarify and deepen the understanding of the palindrome in compositional writing, this study intends to explore and analyze the use of the palindrome in various compositional domains, ultimately explaining the musical compositional significance of this technique.

Chapter One provides a detailed examination of the palindrome and its relation to similar concepts, including repetition and ambiguity. Chapter Two examines the implications of the palindrome's involvement in different areas of composition, demonstrating its close association with physical meanings and creative intentions. Chapter Three discusses the musical work *Huiwen* and its use of the palindrome in detail, focusing

* Author's contact information: da1821049a@student.ums.edu.my.

** Author's contact information: chie_tsang@ums.edu.my.

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on the various forms of palindrome within and between the parts. In conclusion, this study highly the unique function and influence of the palindrome in music in that it requires the composer to seek out and understand the specific forms and derived meanings of the palindrome in order to achieve abstraction based on existing concepts.

Keywords: palindrome, pattern of reversal, composition, repetition, ambiguity, symmetry.

Introduction

Exploration on the Material Relation of the Palindrome in *Huiwen*.

Huiwen, Analyzing the real and abstract connections between palindromes.

The material connection of the palindrome is investigated through the use of a case study, a document analysis, and musicological analysis. A palindrome is a compositional technique that uses the reversal of rhythms around a central point to generate tension and ambiguity by way of unexpected melodic shifts. The research looks at how palindromes are used not just in music but in other art forms as well, including poetry and dance. The material relationship of the palindrome is determined by examining examples of music, poetry, calligraphy, and dance.

Understanding how palindromic thinking develops meaning and emotion in music could improve modern music creation. Exploring palindromic music ideas could inspire new music. Modern music composition uses palindromes to improve theory and musicology and understand their cultural and historical importance.

The Meaning of the Palindrome

The term Palindrome originates from the Greek word *palindromos*, meaning “running back again”. *Palindromos* is derived from *palin*, meaning back, or again, and *dramein* meaning to run (Merriam-Webster). Palindrome, defined above, refers to a word, number, sentence, or verse that can be read identically backwards or forwards. The first known use of a palindrome was circa 1637 (Merriam-Webster, n.d.).

The terms *palindromie* and *palindromic* describe a well-known formal pattern that shares certain words, clauses, sentences, paragraphs, and verses (Ranta, Jerrald 1974): For instance, “*Odo tenet mulum, madidam mappam tenet Anna, Anna tenet mappam madidam, mulum tenet Odo*” (Preminger, Warnke, and Hardison Jr. 1965) is a palindrome. Some palindromes go beyond this formal

pattern by creating verses in which each word can be read identically in reverse and forward directions.

Nowadays, palindromes such as “Drab as a fool, aloof as a bard” or “A man, a plan, a canal: Panama”, and even simple ones like “dad” or “madam” are appreciated for their clever wordplay. However, in the past, some people believed palindromes possessed magical powers and engraved them on walls or amulets for protection. Palindromes are not limited to fixed formal structures and exhibit high variability in length and complexity (Herdan 1964).

Palindromes essentially represent a pattern of reversals around a center (Ranta 1974). Even if a palindrome deviates from this ideal condition, it can still be considered a palindrome, for example in “Lewd did I live, and evil I did dwell” (Ranta 1974), the comma and the word “and” are not part of the inversion pattern. Although variations of this nature are usually kept to a minimum, they may be tolerated in palindrome pentameters due to the demands of syntax and meaning.

It is important to note that the form of a palindrome, as examined in this research, is essentially visual.

The repetition of a palindrome occurs through the letter as a visual surface configuration, rather than through the sounds of the palindrome or the meaning of its content.

Palindrome and the Concept of Similarity

Palindrome, as a mode of reversal around a central point, necessarily involves repetition and ambiguity arising from an indeterminate order. Aristotle argued that repetition generally consists of two major orderings: a qualitative-like order and an equivocal quantitative order, symbolized by the cycle and the equals sign (Ross 1981). In addition, palindromes in language and literature consist of a word, phrase, or sentence that reads the same backward as it does forward, fascinating poets, writers, and scholars due to their unique structure and the challenges they present in terms of syntax and semantics. Palindromic research has broadened in recent times to encompass multiple disciplines, including mathematics (Trigg 1967), computer science, and music, highlighting its adaptability and importance. Additionally, the notion of similarity is crucial to the development and examination of palindromes, as the resemblance of letters or sounds is a noteworthy consideration. In some cases, the similarity of words or phrases can also create palindrome-like structures. Therefore, having a solid comprehension of similarity is an essential aspect of examining palindromes. In conclusion, the palindrome represents a unique mode of reversal that involves repetition and ambiguity.

Palindrome and Repetition

Palindrome and repetition share some similarities, but they also differ in important ways. According to Deleuze (Deleuze, cited in *Difference and repetition* 1968, 96), repetition may not change the object being repeated, but it can change the way we perceive it.

Building on this idea, I want to explore the distinction between closed repetition and opened repetition, as proposed by Henri Bergson. Although these concepts are often used in computer programming and time theory, they are also relevant for understanding repetition in the context of music composition research.

Closed repetition involves strict repetition of a singular content and demands a specific content in each repetition. For example, the strict repetition of the number “1” is “1,1,1,1,1, ...” and the strict repetition of the letter “P” is “P, P, P, ...”. In contrast, opened repetition removes a single element, as in the case of a palindrome. Opened repetition allows for variation in the content and number of repetitions, revealing deeper layers of meaning beyond the literal repetition of form or content.

Most studies on the order of palindromes and repeats have focused on sequence and structure, often inserting a palindromic link at some point in the original sequence to alter the form of the repeat and achieve experimental results. While repetitions and palindromes are not directly affiliated, they can be seen as partners in a larger sequence of events.

Conceptually, repetitions and palindromes operate independently of each other. However, in the context of the organization and development of time and events, they are intertwined. Repetition can create a palindrome-like effect, while a palindrome can be elaborated through repetition. The difference between the two forms lies in the levels at which they operate separately and in combination. The refrain, for example, extends the original structural meaning through repetition.

2.2 Palindromes and Ambiguity

The study of palindromes reveals a connection between phenomena that depend on or exclude each other. To express this relationship, new cases must be created, leading to blurring and deliberate ambiguity. These ambiguities are deliberate, an expression of consciousness through ambiguity, consciousness being of a higher order, an expression of an essence, and these must break through the concrete.

This figurative thinking, employed by modern artists, does not cling to binary logic, but rather pursues a multi-valued logic that is also either one or the oth-

er. It encourages a comprehensive grasp of the world in motion, seeking change in all areas and modes of application of palindrome pentameter.

Palindrome pentameter departs from specific binary logic through the point of origin, optimizing the relationship between palindrome pentameter and ambiguity. For instance, Chinese poetry *Xuan Jitu*, consisting of 840 characters, produces 7,958 poems of varying format and meaning when read roughly in any direction from different starting points. According to Michèle Métail (2017), the important thing is not so much the exact number of poems, nor how exhaustively we read them, as it is vertigo that grips the reader facing the openwork, facing the infinitely unfurling meaning.

In the history of Western aesthetics, the classical German aesthete Kant made a significant contribution to the theory of ambiguity. Kant treated fuzziness as a philosophical concept, considering fuzzy perceptions and concepts to be rational and logical. He stated, "A vague idea is more expressive than a clear one. Beauty should be something ineffable." Both palindromes and vague concepts are fluid, fickle, and indeterminate. The study of their relationship requires a departure from definitions and static deterministic approaches.

Furthermore, in the structure of a palindrome text, fuzziness is present both in the minimal case of the palindrome text and in the whole process of the palindrome text. The palindrome promotes the decomposition and reconstruction of fuzziness in motion while extending the meaning of the palindrome only in terms of structure.

Palindromes and Symmetry

A palindrome, as a mode of inversion around a centre, can necessarily be associated with the characteristic of symmetry. Symmetry is a central concept in modern physics, referring to a state of equivalence. Analyzing symmetry in a palindrome is an important issue in identifying the repetitive and ambiguous features of palindromic structure, from form to content, the intricate relationship between sound and meaning as well as between visual and auditory elements have symmetry in them.

In the case of palindromic poetry, for example, symmetry is evident in its embodiment. There are various forms of iambic pentameter, the most common of which are as follows: 1) a poem is read from the end of a word to the beginning of a word to form a new poem; 2) the first half of a line and the second half of a line are mutually iambic pentameter; 3) the next line is a return to the previous line; 4) a poem itself completes a reply, i.e., the second half of a poem is a reply to the first half of a poem; 5) the poem is continuous to the end of the poem, and then from the end of the poem to the beginning of the poem; and 6) the poem is a reply to the first half of the poem. Regardless of the form of the

refrain, a symmetrical pattern of refrains with a central axis is formed. Palindrome's symmetry repeats the order of the words and, at the same time, creates ambiguity of meaning. Because the change in the order of the text makes the meaning it expresses change, ambiguity is born with it.

In addition to the above expression of symmetry in the palindrome, there is also the case of invariance under the change of certain variables i.e., the dynamic equilibrium between the various elements embodied in the structure or the time schedule. This freedom is prevalent. In the context of a palindrome, techniques of music composition such as mirroring, fugue, inversion, fish-biting, etc. fully reflect the palindrome and symmetry through the use of different sequences of dynamically balanced arrangements of musical elements. Whether it is through mirrored phrases with a central axis, the repetition of musical loops, or through different types of symmetry, the palindrome form provides an integrated element or structure to the music as a whole.

Symmetry is therefore the main expression of the palindrome pattern and its richness, as well as contributing to the formation of symmetrical structures. The density of symmetry and the various forms of reintegrated symmetry are important steps in the compositional exploration of palindrome patterns and degrees of richness.

Palindrome in Other Arts

When it comes to the palindrome, the main form of expression is the structure of the text, and palindrome verse is an essential object of study. Secondly, the use of a palindrome in music has a long and frequent history.

Palindrome and Poetry

The palindrome is largely recognized as a textual structural pattern with special qualities. One type of palindrome is simple enough to be read either forwards or backwards, but there is also a more complex one that can be read in four different directions at once (upside down, backwards, and forwards).

The structure of palindromes is intriguing, as poets have employed a particular compositional technique to create verses that can be read in different directions from any position, with varying meanings. Additionally, since this form lacks continuity, stanzas, and a fixed structure, as per conventional definitions provided in standard textbooks (Perrine 1969), the proper classification for palindromic form could arguably be geometric form.

Against this backdrop, this study aims to analyze a Chinese poem, *Xuan Jitu*. Comprising 840 texts, *Xuan Jitu* includes 7,958 poems that can be read starting

from various directions, different starting points, and with different numbers of specifications.

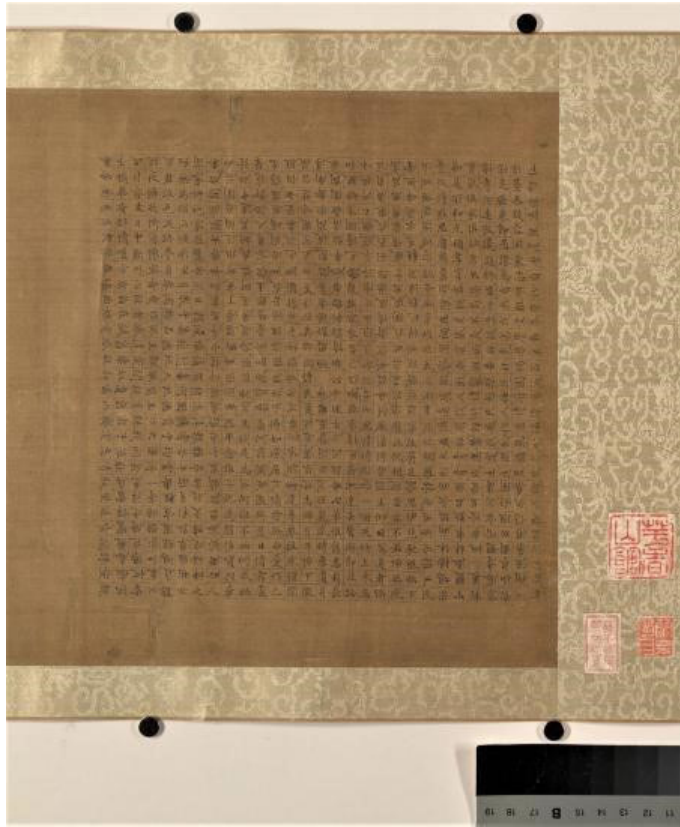


Figure 1. *Lady Su Hui and Her Verse Puzzle*. Source: The Metropolitan Museum of Art. <https://www.metmuseum.org/art/collection/search/51584>.

This poem has been deliberately selected for this study as it is comprised of varying kinds of linguistic forms, including words, clauses, sentences, and lines. *Xuan Jitu* is an autonomous literary work that is distinct from tradition, characterized by a personal monologue that reflects upon the struggle and release within a society marked by repressed individual consciousness.

In Xu Bing's book, *My True Words* (2015), Bing explicitly refers to Su Hui's *Xuan Jitu* and argues that it is a diagram composed of words (Xu Bing 2015, 170). Inspired by Su Hui's *Xuan Jitu*, a talented woman from the former Qin Dynasty, Xu Bing created "The Magic Carpet". He was invited to design a large carpet for a temple in Singapore for the inaugural Biennale in 2006, which revolved around

the theme of “belief”. For the first Singapore Biennale, Xu Bing created a prayer carpet for the Kwan-Im Temple, the largest Buddhist Temple in Singapore. The design of the carpet is similar in concept to Hui Su’s Former Qin Dynasty creation the *Xuan Jitu*. In 1620 Hui Su created a grid of 841 characters that can be read in any number of directions and combinations. From this single grid, one can discern nearly 4,000 separate poems. In this fashion, Xu Bing selected passages from four significant faith-based texts (one Buddhist, one Gnostic, one Jewish, and one passage from Marx, all in English translation), which he then transcribed as Square Word Calligraphy, and then synthesized into one text. Four different religious texts were chosen for *The Magic Carpet*, which could be read forward, backward, back and forth, and at intervals to form a magic square

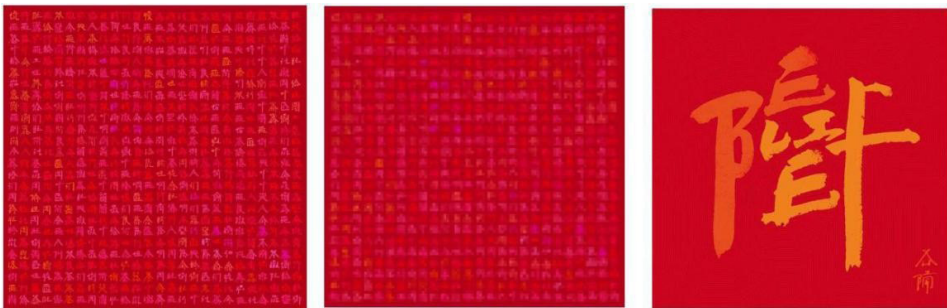
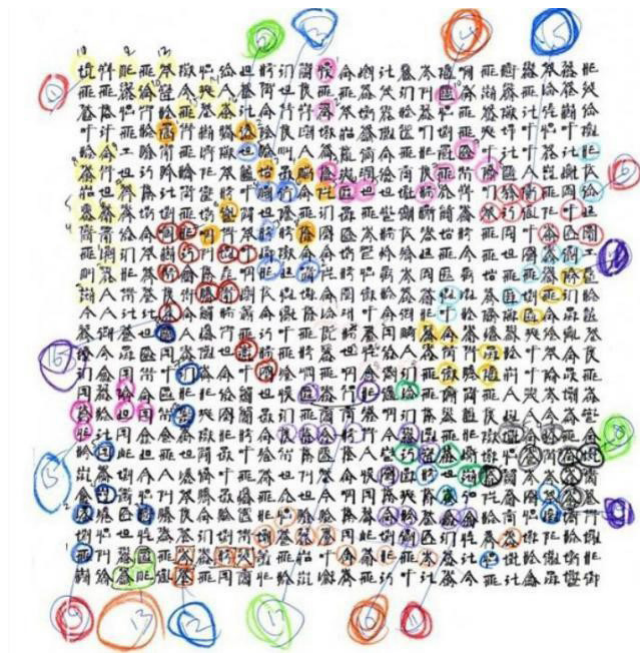


Figure 2 and 3. Manuscript and Three Versions of The Magic Carpet. Source: Xu Bing’s book named *My Real Words* (2015). Medium: Handwoven carpet (2006). Dimension: 595 x 595 cm each.

of text. As the colors lead, one can read passages, fragments, or verses from the different religious texts. In this work, the refrain is not only a visual structural form but also presents different variations as the content of meaning.

Xuan Jitu serves to elucidate the original concept of palindrome pentameter, while extending its significance in terms of material selection and synthesis within the form. By employing noun stacking to create context and facilitate multi-directional meaning, *Xuan Jitu* departs from the traditional structure of subject, predicate, and object. This work masterfully reveals clear and vague concepts in a near-simultaneous manner, blurring their boundaries. When viewed with an open mind, the arrangement of words in *Xuan Jitu* transforms it into a form of visual art imbued with literary qualities, or literature with visual effects. Formal classification of *Xuan Jitu* can be likened to a poetic tesseract, a chessboard, or a distinct spatial entity. The various elements within the structured pattern of reversal coalesce and intermingle through the use of deconstructed transitions between materials, including palindromes, repetitions, and blurs.

Palindrome and Calligraphy

In a scholarly discussion about the relationship between traditional texts and traditional culture in his work, Xu Bing posits that “Tradition is not something in the text itself, it is something in the race of the people, in the blood, including the character, the way of dealing with people, a way of thinking” (Xu Bing 2010). As a consequence, Xu’s artistic creations are largely based on Chinese texts, and this has resulted in the development of English square characters.

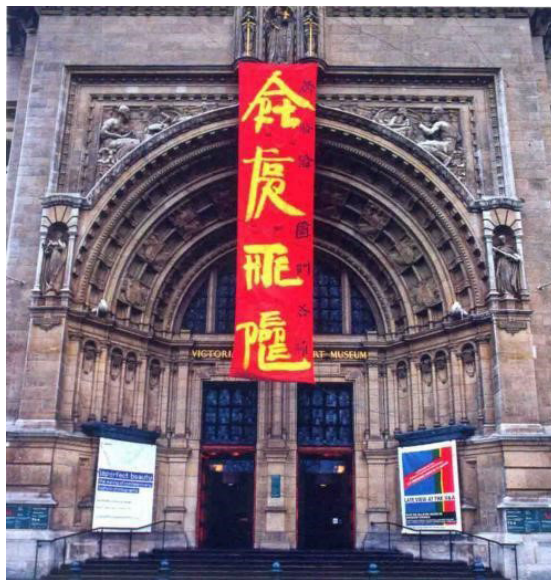


Figure 4. English Square Characters—Art for the People. Source: New York MoMA (1999).

English square characters are a hybrid form of writing that combine elements of Chinese and English scripts. They belong to both and neither language system, and it is often unclear which language is being written. The palindrome structure provides a more nuanced explanation of this form. The two languages are translated into each other within the palindrome structure, which controls both the structural force and the content. The audience is guided through a space of decomposition and reconstruction of the movement of thought between words, symbols, concepts, and images. Xu draws on the palindrome structure to create a striking spatial variation, refining the structural forms and derived meanings under the influence of his palindromic structural thinking. This disintegration-reconstruction pattern of words and the control between the individual elements give the palindrome structure a deeper meaning.

Palindrome and Dance

Anne Teresa De Keersmaeker refers to the basic units of her choreography as “movement cells” (De Keersmaeker 2012, 244). She builds these cells into short phrases using a range of methods, with one of the most frequently used being accumulation, which is further reinforced by changes in dynamics. This reinforcement is very similar in structure to palindrome pentameter, except that it does not revolve around a center. Her choreography is a pattern of repetition and development, corresponding to the relationship between repetition and palindrome mentioned above. In her choreography, the palindrome exists as an externally analyzed result, structured in a way that transcends the specificity of the reversal of the pattern around the center. It is undeniable that the flexibility and unity of the use of materials in the choreography extend the derivative meaning of the palindrome structure in terms of sequence and structural function. De Keersmaeker uses musical composition in great detail, but she does not visualize these forms in dance terms. Instead, she adapts their structural principles to choreographic form, using diverse approaches to music. This includes choosing pre-existing music written by composers such as Steve Reich and Béla Bartók, commissioning work from (and sometimes conceiving of work with) Thierry De Mey or Bjorn Schmelzer, and producing music during the performance and/or using music as a soundtrack playing in the background.

An example is *Violin Fase*, part of *Fase, Four Movements to the Music of Steve Reich*, which is based on music written by the minimalist composer Steve Reich in October 1967. *Fase, Four Movements to the Music* was choreographer Anne Teresa De Keersmaeker’s very first performance, which premiered in 1982. *Fase* comprises three duets and one solo, choreographed to four repetitive compositions by the American minimalist Steve Reich (Brauninger 2014). This is a clear example of the “phasing” technique previously used in De Keersmaeker’s works

titled *It's Gonna Rain*, *Come Out*, *Reed Phase*, and *Piano Phase*, in which music is created not by instruments but by the interaction of temporary variations in the original melody. Compositions of this type are generally referred to as evolution or process music. *Violin Fase* is the third piece of a series of instrumental compositions (together with *Reed Phase* and *Piano Phase*) in which Reich studied the possibility of “phasing” in music to execute the music live with tape accompaniment or, in the case of *Piano Phase*, for only two instruments.

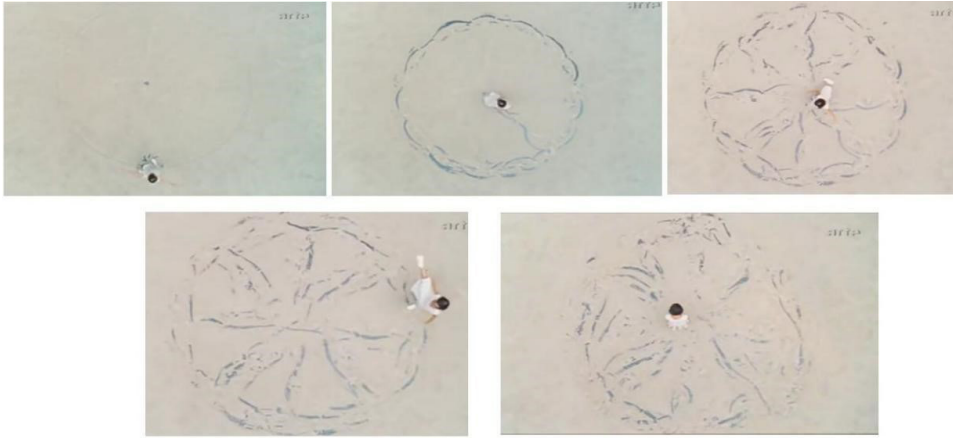


Figure 5. Anne Teresa De Keersmaeker’s *Dance Process with Violin Fase* (Violin Phase). Source: <https://www.youtube.com/watch?v=i36Qhn7NhoA>.

De Keersmaeker uses the structure of Reich’s music to develop an independent movement idiom that not only illustrates the music but also adds a new dimension to it. Both the music and the dance start from the principle of phase shifting through tiny variations: movements that are initially perfectly synchronous gradually start slipping and sliding, resulting in an ingenious play of continuously changing forms and patterns.

It is not the intention to discuss this example purely in terms of the relationship between choreography and palindrome, nor to discuss minimalist music as a separate object of study. When dance, music, and palindrome occur together in the moment of the work studied above, the three form a relationship of mutual control and attraction in order to unify. The structural patterns of the palindrome have a great influence on the collaboration between Anne Teresa De Keersmaeker and Steve Reich in terms of both concreteness and abstraction in the presentation of the results.

The Palindrome and Music

The use of the palindrome in music is not a novel idea, and examples of it

can be traced back to the Renaissance. Crab canon is a device of this era that can be completely palindromic in structure, so long as no free voices are involved. One of the earliest known pieces of palindromic music was written by Wolfgang Amadeus Mozart at the age of 18. This piece, *The Mirror Duet for Violins*, also known as *Table Music for Two*, uses a complex alignment technique in polyphonic form. The entire piece does not have a termination symbol and can be played either from the beginning to the end or from the end to the head. If two people play at the same time, with one starting from the beginning and the other starting from the end, it can constitute a beautiful and strange duet, which belongs to a form known as an inverse palindrome.

Mozart's work uses only one row of the treble clef, and the axis has been determined to be the third line, that is, B. Thus, when writing, it must be conceived according to the axis of B. Mozart chose B as the commonly used III-axis, so G major (the same as in g minor) was used. After the reversal, the dominant becomes the tonic, and the conversion between the subjects is also very convenient.

Der Spiegel (The Mirror) Duet

VIOLINI *Allegro* ♩ = 120 attrib. to W.A. Mozart

Public Domain. Sequenced by Fred Nachbaur using NoteWorthy
Confused? Try playing this from opposite sides of a table.

Figure 6. Score for *The Mirror Duet* for Violins (Wolfgang Amadeus Mozart, 1774).

The canon appeared in the 14th and 15th centuries in the West, and it is a vocal form that imitates itself and forms two vocal parts. The musical content of the two vocal parts is the same, but the vocal entrances are staggered with each other, sometimes shifting place or changing the starting pitch. There are many different forms of canon, such as the expansion/tightening of canon, no-finale canon, riddle canon, and mirror canon. With a mirror canon, a mirror (literal or figurative) is placed in a certain part of the work, using the reflection of the mirror to form another part of the sound. This creative technique has the same effect as poetry.

In the creation of many mirror canons or palindrome songs, the “mirror” position is often shifted. When the reflective surface of the mirror displays the entirety of the piece, the resulting music is the retrograde of the original, akin to Mozart’s *The Mirror Duet for Violins* played in reverse. On the other hand, when the reflective surface is flipped vertically, the resulting music is an inversion, as demonstrated in Johannes Brahms’s *Variations on a Theme by Schumann*, where the external voice employs this technique of reflection.

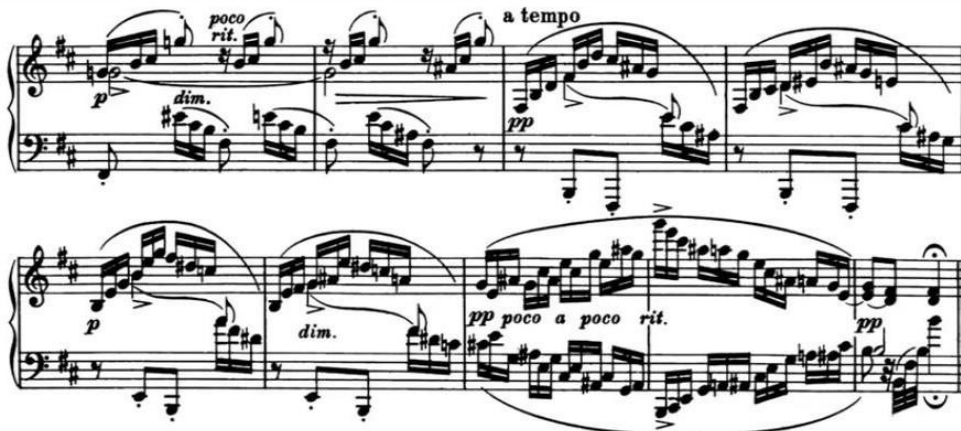


Figure 7. Excerpt from *Variations on a Theme by Schumann* (Johannes Brahms).

In the realm of classical contemporary music composition, the concept of the palindrome is not merely a combination of specific formal structures, but rather one that offers new freedoms and opportunities for composers. The example of the mirror presented here is connected to previously discussed categories of palindrome, and serves as a reflection of the possibilities that this technique provides.

By utilizing the concept of the palindrome, composers can refine the structural forms and derived meanings, creating music that guides the listener through a space of decomposition and reconstruction of thought between words, symbols, concepts, and images. This technique offers a deeper, more meaningful explora-

tion of musical expression and creativity, which can be employed with relish by composers seeking to push the boundaries of their art form.

In the early 1920s the Austrian composer Arnold Schoenberg (1874-1951) founded the twelve-tone system on the basis of the development of chromaticism (the development of chromaticism in the musical language began when the first non-tonal tones appeared in melodies before the 17th century, when the major and minor key system was laid down, so to speak), to the point where he developed The Serial Music Composition Course, based on the twelve-tone sequence system. From the ornamental chromaticism of the Bach period, the polyphonic music of the Baroque period and the chordal chromaticism of the works of Beethoven, Chopin and Wagner, to Schoenberg's dodecaphonic system, the musical language has evolved in a variety of ways. On the basis of the basic sequence forms, a total of 48 sequence forms can be produced depending on the height, which is all the material in the twelve-tone writing.

Anton Webern (1883-1945) and Alban Berg (1885-1935) were both pupils of Schoenberg, but in the subjective expression of composition the pitch sequence was not simply a means of organizing the musical language, but an expressive purpose; Webern rarely changed the pitch sequence and did not take liberties with it. The sound produced by the principle of strict sequence is itself what he wants to express. Webern's sequential language is therefore more rigorous and abstract.

Taking Webern's *Three Songs* (Op. 23) as an example, the four basic forms of the sequence are as follows.

The figure displays four musical staves, each representing a different transformation of a twelve-tone sequence. The first staff is labeled 'O (原形)' and shows the sequence 1-12 in ascending order. The second staff is labeled 'R (逆行)' and shows the sequence 12-11-10-9-8-7-6-5-4-3-2-1 in descending order. The third staff is labeled 'I (倒影)' and shows the sequence 1-2-3-4-5-6-7-8-9-10-11-12 in ascending order, but with each note mirrored across a central axis. The fourth staff is labeled 'RI (倒影逆行)' and shows the sequence 12-11-10-9-8-7-6-5-4-3-2-1 in descending order, also mirrored across a central axis. Each staff includes a treble clef and a key signature of one sharp (F#).

Figure 9. Excerpt from Webern's *Three Songs* (Op. 23).

The 48 arrangements of the sequence are presented in a sequential list, which some people call a 'magic formula'. The composer can use any one of the 'magic formulae' to compose. Usually the composer will use just a few of these forms, and if the work is large, more sequence material will be used accordingly. However, no matter how large or small the work is, it is all made up of a single archetypal sequence and its transformations. This form of disintegration and reinte-

gration in the creation of sequences was the first thing that came to my attention. This arrangement and combination of sequences is to some extent similar to the form of iambic poetry mentioned earlier; the palindrome poem *Xuan Jitu* can form 7,958 meaningful poems, and the twelve chromatic tones can form 479,01,600 different sequences, but not every sequence has compositional value, and the composer will devise sequences and structures according to the needs of the work principles. The elements contained in the two art forms shift back and forth between order and disorder, between disintegration and reintegration. The palindrome displays an unprecedented fascination in the twelve-tone technique.

	O →				← R							
↓	F	G	E	$\flat E$	B	D	$\flat B$	$\flat G$	C	A	$\sharp C$	$\sharp G$
	$\sharp D$	F	D	$\flat D$	A	C	$\flat A$	E	$\flat B$	G	B	$\sharp F$
	$\sharp F$	$\flat A$	F	E	C	$\flat E$	B	G	$\flat D$	$\flat B$	D	A
	G	A	$\flat G$	F	$\flat D$	E	C	$\flat A$	D	B	$\sharp E$	$\flat B$
	B	$\sharp C$	$\flat B$	A	F	$\sharp G$	E	C	$\sharp F$	$\sharp D$	G	D
	$\sharp G$	$\flat B$	G	$\sharp F$	D	F	$\sharp C$	A	$\sharp E$	C	E	B
	C	D	B	$\flat B$	$\sharp F$	A	F	$\sharp C$	G	E	$\sharp G$	$\flat E$
	E	$\sharp F$	$\flat E$	D	$\flat B$	$\sharp C$	A	F	B	$\sharp G$	C	G
	$\flat B$	C	A	$\sharp G$	E	G	$\flat E$	B	F	D	$\sharp F$	$\sharp C$
↑	$\flat D$	$\flat E$	C	B	G	$\flat B$	$\sharp F$	D	$\flat A$	F	A	E
RI	A	B	$\flat A$	G	$\flat E$	$\sharp F$	D	$\flat B$	E	$\sharp C$	F	C
	D	E	$\flat D$	C	$\flat A$	B	G	$\flat E$	A	$\sharp F$	$\flat B$	F

Figure 10. 48 sequence.

About Huiwen

Terry Riley's *In C*, composed in 1964, is a masterpiece of minimalist music and also embodies the palindrome structure. The score for this open-ended piece consists of only one page, consisting of 53 short, independent musical phrases centered around the note C. It invites musicians to weave an extended multi-rhythmic work, continuously changing, oscillating, and reflecting. Performers, through special performance techniques, create a complex and engaging acoustic network. Importantly, performers must listen carefully to each other, occasionally receding and listening.

in C.

© 1964
Terry Riley
© 1989
Celestial Harmonies

Figure 11. Terry Riley's *In C*.

As an ensemble, *In C* seeks to be played softly and loudly at the same time, attempting to diminish and intensify simultaneously. Each pattern can be unified or normalized in any alignment with itself or adjacent patterns. The focus is on the reintegration of timbre and the dramatic impact on texture. When played correctly, the piece creates fascinating shapes that reintegrate and disintegrate as the ensemble moves. The reintegration of timbre and the dramatic impact on texture. If performed correctly, some rather marvelous shapes reintegrate and disintegrate as the ensemble moves. The music generates multi-rhythmic combinations between different patterns, seeking a dynamic balance throughout the piece amidst the combination of pulsation, repetition, and disintegration. One of the joys of *In C* is the spontaneous generation of multi-rhythmic combinations between different patterns among performers. It is important not to rush from one pattern to another but to stay on one pattern long enough to relate to other patterns. As the performance progresses, performers should maintain two to three different patterns simultaneously. It is important not to get too far ahead or fall too far behind. If pulsation and repetition are manifested horizontally in the music, then palindromes in an acoustic space are most apparent in aleatory music.

Similar to the pattern of exploration of the iambic structure in *In C*, the iambic pattern in the work *Huiwen* explores the dynamic balance between musical materials. Based on the analysis and discussion presented above, I commenced work on the piece *Huiwen*. The first version of my composition was based on the repetition of the words 人 (*rén*) 人 (*rén*) 为 (*wèi*) 我 (*wǒ*) 我 (*wǒ*) 为 (*wèi*) 人 (*rén*) 人 (*rén*), with variations in speed to create a spatial soundscape. The initial attempt at composition applied the structural pattern of palindrome pentameter, with a reversal around the center.

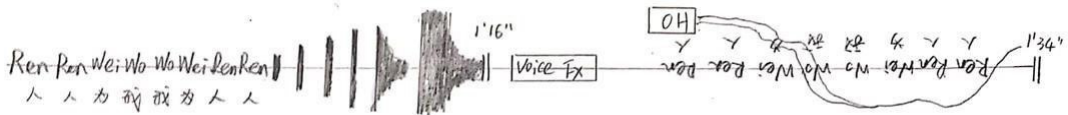


Figure 12. Score Excerpt from *Huiwen*.

The concept of “transition of control”, which encompasses the movement and order of distinct elements in the music, including the physical components of a single tone and deliberate transitions between musical materials, came about as a result of the brief pauses between different materials. Features like length, loudness, timbre, etc.

In the second version, speed adjustments were made from the conclusion of each word to the beginning of the next word in the sequence 人 (*rén*) 人 (*rén*) 为 (*wèi*) 我 (*wǒ*), 我 (*wǒ*) 为 (*wèi*) 人 (*rén*) 人 (*rén*). The modifications more accurately mirrored the palindrome and change creation process in space.



Figure 13. Score Excerpt from *Huiwen*.

The third version of the piece combines replication and variation of the words 人 (*rén*) 人 (*rén*) 为 (*wèi*) 我 (*wǒ*), 我 (*wǒ*) 为 (*wèi*) 人 (*rén*) 人 (*rén*), and adds other elements to the composition, further creating a larger sonic landscape and allowing the listener to enter a whole space. The music at this point is both in the individual physical sound and in the interchange between the elements, between the concreteness of the refrain (the reversal of the pattern around the center) and the abstraction (the deeper reflection on the compositional material that arises from this pattern). The refrain, repetition, and ambiguity appear simultaneously. The “transition of control” affects the progression and development of the music in different cases, during both pauses and progression.

The audio creation of the work is based on the Logic platform, with the distortion and processing of the sound mainly done through the manipulator effects and the effects of the waves. The effects are not further explained or illustrated here, as they only serve to create the spatial structure and are not the focus of the thesis.

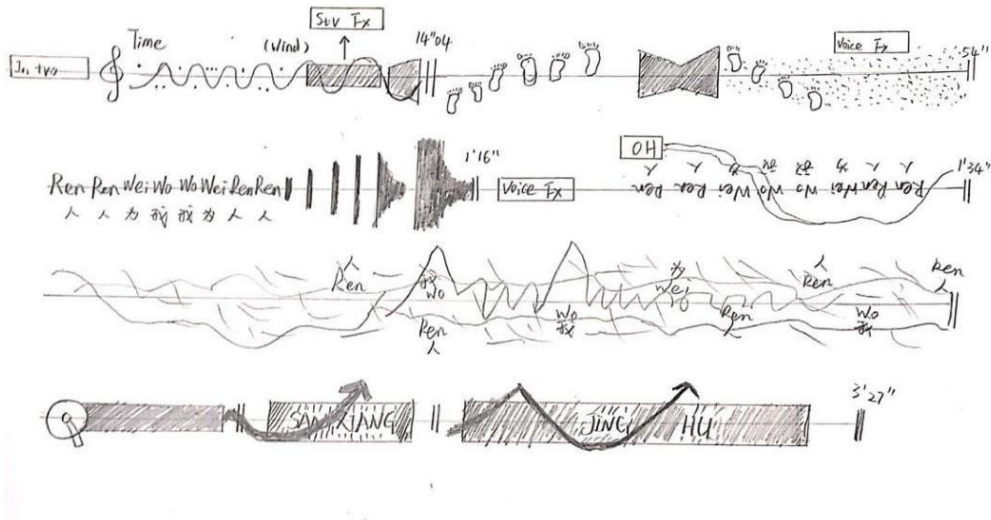


Figure 14. Score Excerpt from *Huiwen*.

The entire piece is based on vocal material: 人 (*rén*) 人 (*rén*) 为 (*wèi*) 我 (*wǒ*), 我 (*wǒ*) 为 (*wèi*) 人 (*rén*) 人 (*rén*), reshaped and reworked through manipulator effects, adjusting various parameters, such as harmonics, formant, and pitch. In the opening material (0-33 seconds), the theme of the piece is introduced through footsteps, signals, and the first appearance of the distortion of 人 (*rén*) 人 (*rén*) 为 (*wèi*) 我 (*wǒ*), 我 (*wǒ*) 为 (*wèi*) 人 (*rén*) 人 (*rén*), and the idea of the piece is gradually expressed in a timeline. From 33 seconds onwards, the work takes the raw material of the human voice through a manipulator, modulating formant and pitch to create the aural sensation of a future robot traveling through time and space.

Here, the musical transformation takes place both in time and space. The original audio material of the subject line gradually appears from the first minute and is distorted by the harmonics through the modulation of the envelope. From 1:20 to 2:22 and onwards, all sound elements are taken from the original audio material, except for the female humming voice, which is adjusted through the manipulator to create a spatial effect from near to far, from real to virtual. The vocal material is shaped by adjusting parameters such as harmonics, formant, pitch, etc. to create a Chinese Sanshin-like sound effect.

The main melodic line in this sound design is created using a rewind and acceleration effect of 人 (*rén*) 人 (*rén*) 为 (*wèi*) 我 (*wǒ*), 我 (*wǒ*) 为 (*wèi*) 人 (*rén*) 人 (*rén*). The original vocal material is first reverted, then stretched and slowed down, and gradually accelerated to create a fast 人 (*rén*) 人 (*rén*) 为 (*wèi*) 我 (*wǒ*), 我 (*wǒ*) 为 (*wèi*) 人 (*rén*) 人 (*rén*) effect. After 2 minutes and 22 seconds, a Chinese opera/Jinghu Sanshin effect is added, combining the past, present, and future to create a three-dimensional spatial effect. Two to three or more effects parameters were used to combine the results for the vocal material in this piece, and each voice is modulated in different proportions to result in a unique sound effect. This modulation characteristic greatly enhances the novelty of the sound.

To understand this work, it is important to note that the music does not solely refer to musical works for listening and enjoyment like those composed by the great composers. Rather, the piece speaks to the universality of music, as no place is without music when viewed through a musical lens. The thesis argues that the parts of the lyrics are still musical in a broad sense, although there is no specific indication of pitch. Additionally, palindrome poetry is not used as a model for music, and there are no superficial similarities between palindrome poetry and music in terms of structure, rhythm, rhyme, allusion, etc. While it is acknowledged that palindrome poetry is related to music or that poetry is music, focusing solely on these connections may lead to an intuitive stagnation, where some listeners stay on the surface of the music.

Conclusion

Classical musicians are undoubtedly familiar with the conventional usage of repetition in their works, and the majority of them have adapted to the standard responses that have been ingrained into the performing practices of contemporary times. Nevertheless, a fundamental inquiry arises – does repetition entail redundancy in itself? The musical realm does not aim to construct; rather, it aspires to dissolve. It does not offer a concrete imagery, but rather, it eradicates all boundaries and contours, resulting in a state of vagueness. Perhaps, the conglomeration of the palindrome, repetition, and ambiguity in the same space can bestow some enlightenment on the culmination or resolution of this obscurity.

The composition entitled *Huiwen* signifies the initial stage of a textual and musical exploration of palindrome structures. This exploration does not aim to produce a definite format or method; instead, it intends to shape and foster structural forms and accumulate materials in composition. The architectural arrangements of palindrome pentameter, and the corollary implications of dissolution and reconstruction, in reference to repetition and ambiguity, are both extensively deliberated upon in the conceptualization of this composition.

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PALINDROMIC THINKING IN CONTEMPORARY COMPOSITION: CREATIVE TECHNIQUES AND AESTHETIC IMPLICATIONS (summary)

Huiwen is a compositional practice in which musical works are produced under the influence and inspiration of palindrome ideas to explain the philosophical ideas in music. This research has the potential to enhance one’s comprehension of the contemporary music composition creative process and to investigate how palindromic thinking can be utilized to express meaning and emotion in music. Through exploring fresh techniques of using palindromic thinking for composing music, this study could stimulate innovative methods and ideas in contemporary music. The examination of palindromic thinking in contemporary composition can contribute to the development of music theory and musicology, and enrich our awareness of the historical and cultural significance of palindromes in music. The use of palindromic thinking in contemporary music composition could also encourage interdisciplinary implications, encouraging collaborations among music scholars, linguists, cognitive scientists, and other researchers to delve into the intricate relationships between music, language, and cognition.

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