



Analyzing Micro-Level Changes and Minimalist Techniques in Steve Reich's 'Piano Phase'

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ABSTRACT	ARTICLE INFO
<p>In the historical development of Western music in the 20th century, a related interesting phenomenon of the minimalist music genre developed in America. Minimalist music is a style of music based on limited materials and micro changes in those materials. Among the composers who fall into this musical genre category is composer Steve Reich, who wrote a work for two pianos entitled "Piano Phase." This writing aims to reveal the limitations of musical material and changes at a micro level that occur in the work "Piano Phase" through musical analysis. The method used is content analysis based on two documents: sheet music and examples of audio recording. From the analysis results, there are short melodic sentences with micro changes through rhythm shifts using the accelerando technique. The changes made occur in three parts that have a pleasant texture difference. The work "Piano Phase" has a unique composition technique, namely through Accelerando tempo changes can cause changes in the melody texture indirectly expected.</p> <p>© 2022 Kantor Jurnal dan Publikasi UPI</p>	<p>Article History: <i>Submitted/Received 30 Sep 2022</i> <i>First Revised 15 Oct 2022</i> <i>Accepted 30 Oct 2022</i> <i>First Available online 20 Nov 2022</i> <i>Publication Date 25 Nov 2022</i></p> <hr/> <p>Keyword: <i>Piano phase,</i> <i>minimalist,</i> <i>Steve Reich,</i> <i>aesthetic,</i> <i>sound processing.</i></p>

1. INTRODUCTION

Based on my observations in understanding the history of Western music, several things attract attention to various musical phenomena that occur in multiple countries. In general, information on the history of Western music studied in several schools and universities tends to touch on the phases of music in the ancient era around the 6th century (Perlovsky, 2014), medieval around the 14th century (Kreutziger-Herr, 2005), baroque around the 17th century (Freeman-Attwood, 1992), classical around the 18th century (Schwartz, 2001), romantic around the 19th century to impressionism around the 19th century, end in France (Shiff, 1984). However, information on the history of Western music relating to 20th-century phenomena is rarely discussed. The phenomenon of the 20th century is the most actual phenomenon closely related to the present era and is used as an important reference for contemporary composers (Wen-Chung, 1971; Weisberg, 2015). One thing that attracts my attention is the development of minimalist music in America. Even though minimalist music was first developed in America, this musical genre has greatly influenced composers in Europe and even the world. *Minimalist music* is a contemporary genre born in the early 60s (Miller, 2022). Most musicologists argue that one of the sources for the development of Minimalist Music is the influence of ethnic music from Indonesia, India and Africa (Ho & Pastor, 2022; Campbell, 1990). These influences were very prominent in California, so, unsurprisingly, the Minimalist music genre was born there. Minimalist music is based on limited materials and micro changes in those materials (Bernard, 1993). One of the characteristics of minimalist music is limited materials and limited transformational techniques (Evans, 2016). The minimalist concept is not something new. Even in medieval music, minimalist elements sometimes stand out, for example, in "Notre Dame" style music, 12th to 13th centuries (Butterfield, 1993; Bukofzer, 1958).

The views outlined above are still too abstract to understand the minimalist music genre if we do not understand the text and context. For this reason, I want to discuss two aspects. The first aspect is who the composer figures in the minimalist music genre are. The second aspect is the compositional characteristics of the minimalist music genre. To answer the second aspect, one must analyze one work as a model to understand its uniqueness. This

2. METHODS

To understand the material and micro changes in Steve Reich's "Piano Phase," an appropriate method is needed. The method used is qualitative approach with study of content analysis. The content analysis method is a research technique for making replicable and valid conclusions from texts or other meaningful material in the context of its use (White & Marsh, 2006). The main content used is complete sheet music with various supports, namely several audio recordings. As well as a video explanation of this work made by Matekon.

3. RESULTS

Minimalist music was initially usually associated with only four composers, namely La Monte Young, Terry Riley, Steve Reich and Philip Glass.

3.1 La Monte Young (1935)

La Monte Young was born in Bern, Idaho and early studied guitar and saxophone. Young often emphasized that nature's static sounds greatly influenced him as a child. His first

interest was in jazz music, especially the music of Lee Konitz, Eric Dolphy and John Coltrane. In 1955/56, La Monte Young studied composition with Leonard Stein (a student of Schonberg). In 1959, Young attended a course at Darmstadt and was deeply impressed by Stockhausen's music and John Cage's concept of "indeterminacy." In 1960, Young went to New York, where he wanted to work with Richard Maxfield in electronic music and met George Macunias. From there emerged his daytime activities as a leading artist in the Fluxus movement (Grimshaw, 2004). In addition, Young worked with "Avantgarde" Ann Halprin (there was a collaboration with Terry Riley) (Chamberlain, 2018).

In 1963, La Monte Young began to develop his concept, namely the group "The Theater of Eternal Music" (members include Terry Riley, John Cale, Tony Conrad, Dennis Johnson, and his wife La Monte Young, Marian Zazeela). In the 70s, La Monte Young Engineering studies Indian vocal music, namely the "Dhrupad" style, with Pandit Pran Nath. There lies ethnic influences, but the basic concept of La Monte Young is anything but related to ethnic music because it has been in development for about 10 years before that Indian music experience. In the 80s, La Monte Young also started doing various works with ordinary tools, but there were always pure intervals and very long notes. Hence, the players needed some preparation, and it took too long to concentrate on this minimalist music (Schaefer, 1996; Lucier, 1998). His work is Trio for Strings (1958), Composition 1960 #7, The Well-Tuned Piano (1964), and other composition (Smith, 1978).

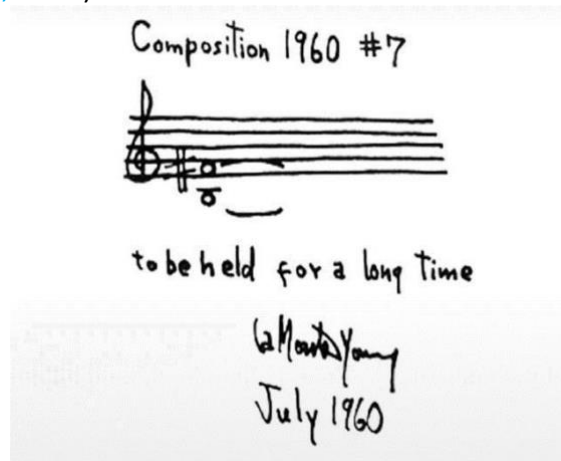


Figure 1. La Monte Young's composition
(Source: YouTube channel The Magnetic Fields)

Even though the musical material only contains two held notes and the sound is like a drone, over time, if you listen closely, you will feel that there are micro changes because the waves or vibrations are not always stable. It can be seen from this work that La Monte Young is very different from other composers because only Young's music feels slow; the sounds, such as drones and so on, are held for a long time.

3.2 Terry Riley (1935)

Terry Riley was born in Colfax, California, and started with the piano at 8. From the beginning, Riley was more interested in improvisational techniques than playing written works. At San Francisco University he met La Monte Young and Pauline Oliveros. They founded an improv group, and Riley played music for choreographer Ann Halprin. At that time, Riley worked as a Ragtime pianist. Between 1962 and 1964, Riley was in Europe (Paris), where he deepened various musical techniques with "tape loops," namely short tapes that were connected and rotated continuously. In 1967, Riley prioritized solo performances, which

he has developed to this day, in addition to various works, especially for string quartet. 1970, Riley began studying Indian vocal music with Pandit Pran Nath ([Lewis, 1996](#); [Schaefer, 1996](#)). The works he has created are *In C* (1964), *Dorian Reeds* (1963), *Keyboard Studies No. 2* (1964), *Keyboard Studies No. 7* (1967), *A Rainbow in Curved Air* (1967), *Persian Surgical Dervishes* (1970/71), etc. His most famous work is "*In C*."



Figure 2. Terry Riley's composition

The ensemble format is not specified or waived. The players are free to determine the pattern, repetition, and movement of the pattern from the 53 bars above. Each pattern can influence the whole music. If the player changes the pattern, the music will feel like something different again. Even though the player is free to change patterns, taking your time with one pattern to another is better to make the micro changes more pronounced. In this work, Riley prioritizes subjectivity through his process and improvisation.

3.3 Philip Glass (1937)

The most popular minimalist music composer (at least since the 80s) is Philip Glass, born in Baltimore/Maryland. Glass studied at the Juilliard Music School with Darius Milhaud. Between 1964 and 1966, he moved to Paris and studied with Nadia Boulanger ([Boivin, 2013](#)). In Paris, Glass had time to compose music for a film in which Indian music figures Ravi Shankar and Alla Rakha were involved ([Welch, 1999](#)). Glass was very interested in various rhythmic principles in Indian music. After visits to Tibet and India, Glass returned to New York in 1967. One year later, his group "The Philip Glass Ensemble" was founded (with, among others, Jon Gibson, Dicky Landry and Micahel Riesman). Until around 1976, Glass and his group lived in extreme poverty ([Haskin, et al., 2002](#)).

In 1967, Glass collaborated with director Robert Wilson, which resulted in the opera "Einstein on The Beach" (the first performance in Avignon/France). This work made Glass famous and could be noticed in America and Europe. Philip Glass experienced the most success of the four composers discussed above, at least commercially (since 1976; before that, it was the other way around) ([Thomson et al., 1989](#)). However, precisely because of this, discussions about his music and attitudes are always lively; in fact, Glass is generally no longer recognized in contemporary music due to various changes in his musical concept. The works he created were *Strung Out* (1966), *Einstein on The Beach* (1976), *Two Pages* (1969), *Music in Contrary Motion* (1969), *Satyagraha* (1980), etc. In the work "Einstein on The Beach Knee Play 5" ([Glass, 1978](#)). In the work "Einstein on The Beach Knee Play 5," the chord progression is excellent.

Knee 5
From: *'Einstein on the Beach'* By PHILIP GLASS
Arr. LACHLAN RETALLACK

The image shows a musical score for 'Knee 5' from Philip Glass's 'Einstein on the Beach'. The score is arranged by Lachlan Retallack. It is a vocal ensemble piece with parts for Soprano (S), Alto (A), Tenor (T), and Bass (B), and a string quartet with parts for Violin I (V1), Violin II (V2), Viola (V), and Cello (C). The score is divided into four systems, each with a measure number in a box (1, 2, 3, 4). The music is characterized by repetitive melodic motifs and complex, rhythmic accompaniment.

Figure 3. Philip Glass's composition
(Source: Musecore - Lachreta)

Repetitive and straightforward, namely from A – G – C using organ instruments. For the vocals, three motifs are continuously repeated, but starting at bar 12, a break causes accentuation.

3.4 Steve Reich (1936)

Steve Reich was born in New York. His first studies were philosophy between 1953 and 1957 (Potter, 1986). In 1958-1961, he studied composition, among others, with William Bergsma Vincent Persichetti and at Mills College/California with Darius Milhaud and Luciano Berio. From the beginning of his career, Reich was concerned with "process" in music, so it is not surprising that he initially experimented with various "tape loops" (just like Riley) at the San Francisco Tape Center. In 1966, he founded his first group, which until 1967 grew into a group with 18 musicians. In the early 70s, Reich began studying the music of the Ewe tribe in Ghana/Africa. He was experienced and studied Balinese musical music a little with Nyoman Sumandhi in 1973/74, meaning that most of Steve Reich's main works had been worked on then. In a conversation with the writer in 1979, Steve Reich emphasized that the experience of ethnic music only strengthened the concept (Schwarz, 1980; Schwarz, 1981). The works he created are Tehillim (1981), It's Gonna Rain (1965), Desert Music (1984), Piano Phase (1967), Clapping Music (1971), etc.

The work "Piano Phase" has three parts and uses two pianos as instruments. The "phasing" process must be carried out for around 4 to 16 repetitions. Both pianos play the same melody, namely, E F# B C# D F# E C# B F# D C#, in G major tonality. This melody is repeated from beginning to end, but the two pianos have different roles. In piano, one must hold the tempo from start to finish. Meanwhile, piano two changes the tempo or speeds up to precede one note from piano one.

4. DISCUSSION

In the “Piano Phase” composition, the first movement begins with the first pianist playing the primary motif, following:

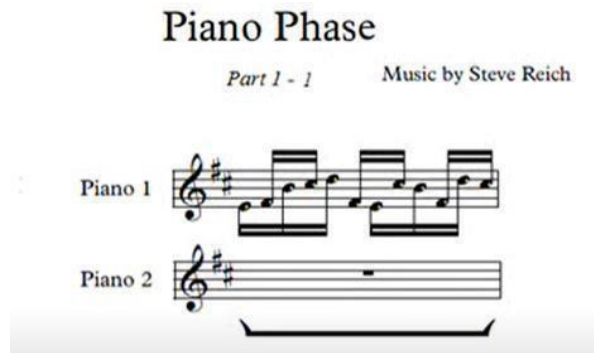


Figure 4. Primary motif in 1st movement for 1st pianist
(Source: Matekon Youtube channel)

Then followed by the second pianist. There it sounds unison, following:



Figure 5. Primary motif in 1st movement for 2nd pianist
(Source: Matekon Youtube channel)

Then the second pianist must speed up the tempo to be able to precede one note from the first pianist.



Figure 6. Speed up the tempo
(Source: Matekon Youtube channel)

Now the second note (F#) from the second pianist sounds along with the first note (E) from the first pianist. In this phase it sounds like a canon which follows each other.

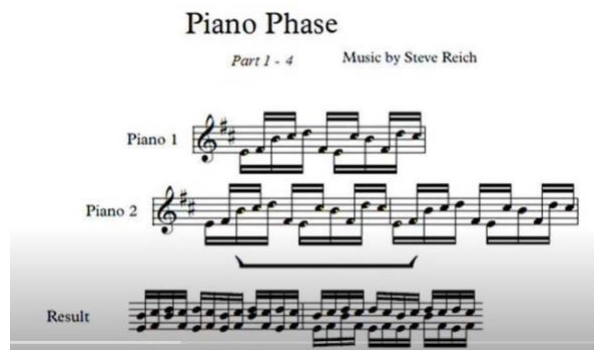


Figure 7. The phase in Piano 1 and Piano 2
(Source: Matekon Youtube channel)

After that, the second pianist continues to shift his tone to the next note, namely the third note (B) from the second pianist playing simultaneously with the first note (E) from the first pianist. In this phase it sounds like they are interlocking.

In the first part of this work there are 14 repetitions and 14 types of sounds produced with just one phrase or one sentence. This shifting process continues until it returns to unison again. After the 14th repetition, at that time he began to move to the second part of his work.

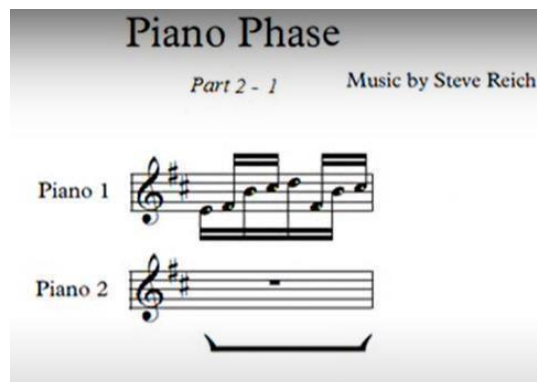


Figure 8. Part 2-1 in Piano Phase
(Source: Matekon Youtube channel)

Just like the first part, the second part is started by the first pianist with the notes E F# B C# D F# B C#.

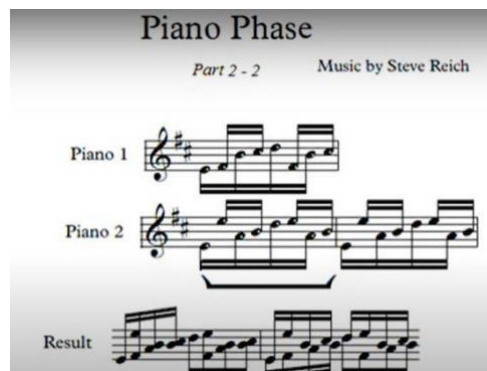


Figure 9. Part 2-2 in Piano Phase
(Source: Matekon Youtube channel)

Then, it is followed by a second piano with a different tone, namely, E E A B D E A B. This differs from the first part, which sounds unison. The second part has two different melodies, but the rhythm remains the same. The second part has ten repetitions and ten types of sounds. The shifting process is precisely the same as the first part. After the 10th repetition, move on to part three, which is more or less the same process as the parts above.

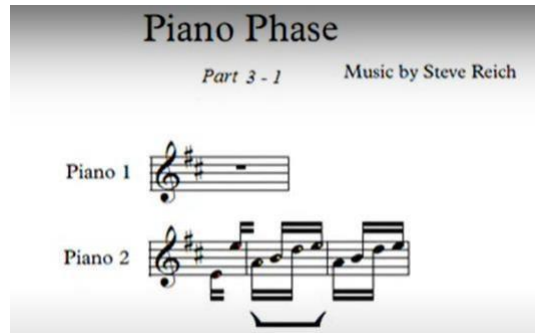


Figure 10. Part 3-1 in Piano Phase
(Source: Matekon Youtube channel)

This third part starts with the second pianist, followed by the first pianist, who has the same note, so it becomes unison. This third part starts with the second pianist, followed by the first pianist, who makes the same note, so it becomes unison.

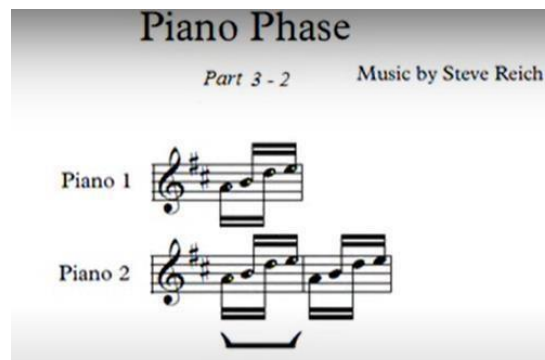


Figure 11. Part 3-2 in Piano Phase
(Source: Matekon Youtube channel)

In the third part, five repetitions and four types of sounds are produced by the two pianists playing. When it returns to unison again, the music is finished.

5. CONCLUSION

The advent of minimalist music in the vast terrain of 20th-century Western music, as typified by composers like Steve Reich, is a fascinating phenomenon. Reich's compositions, like "Piano Phase," redefine our comprehension of musical creation and question conventional ideas of intricacy and depth within minimalist structures. "Piano Phase" exemplifies minimalist ideals by combining a few elements and subtle shifts to create a remarkably diverse and intricate musical experience. By thoroughly examining both the sheet music and audio recordings, the complex and detailed elements of this piece are revealed. Short melodic sentences experience little modifications through changes in rhythm, helped by the accelerando technique. It leads to forming three different sections with subtle

variations in texture. Although the minimalist approach is employed, these subtle details provide an unforeseen profundity and intricacy that challenge initial assumptions. The composition's appeal lies in Reich's clever implementation of *accelerando* tempo changes, which create subtle yet significant variations in the texture of the melody. Reich creates a sense of suspense and excitement by progressively raising the speed of the music, which pushes it ahead and takes listeners into new and unfamiliar sound realms. The unanticipated alterations in texture defy conventional notions of minimalism, showcasing how even the slightest deviations can produce incredibly intricate and diverse melodic results. In "Piano Phase," Reich demonstrates his expertise in minimalist approaches and emphasizes the profound impact of simplicity and repetition. Although minimalist materials have inherent restrictions, the composition surpasses these restraints to provide a compelling exploration of rhythm, texture, and shape. By doing this, Reich pushes the limits of minimalist music, showcasing its potential for originality, profundity, and intricacy. Based on the explanation above, the word "Piano Phase" has a unique composition technique; namely, changing the tempo in an *accelerando* manner can cause unexpected changes in the melody texture. Even though the material is limited, the changes are small and do not produce something minimal; they have something rich and varied. "Piano Phase" proves minimalist music's lasting significance and artistic possibilities in the 20th century and beyond. With its distinctive compositional method and surprising variations in melodic texture, the work entices listeners to go on a voyage of inquiry and discovery. It challenges preconceived ideas about minimalism and demonstrates the limitless potential that arises when creativity interacts with limitations.

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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