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What You Hear is What You Hear: Preparing an Arrangement of Steve Reich’s "Nagoya Marimbas" for Flute Choir

Sarah King

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What You Hear is What You Hear:
Preparing an Arrangement of Steve Reich’s *Nagoya Marimbas* for Flute Choir

By

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An Undergraduate Thesis Submitted in Partial Fulfillment of the Requirements for the University Honors Scholars Program Honors College East Tennessee State University
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Abstract

Visual artist Frank Stella (b. 1936) said about his work, “What you see is what you see.” A member of the visual art movement known as minimalism, he is famed for his repeating black-stripe paintings. There are noticeable parallels between the concept of these visual works and Steve Reich’s (b. 1936) minimalist music, particularly *Nagoya Marimbas* (1994). This Honors thesis will explore the roots of minimalism in the visual arts and music, Reich’s compositional voice, the repetitive rhythmic components of minimalist music, and the challenges of arranging a percussion piece for a flute ensemble leading up to the final arrangement, *Nagoya Flutes*. 
Acknowledgements

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Introduction

My personal interest in beginning this project is fairly simple. I had studied Steve Reich’s *Nagoya Marimbas* in two of my undergraduate music courses: first in Music History as an example of minimalism, and again in Counterpoint to illustrate rhythmic relationships. On my first listening, I merely thought it was pleasing to hear and thought little more about it. That is, until I came across it again a year later. In the context of steady interwoven rhythms, I was intrigued by the possibilities that suddenly sprang to mind. While the class did not study this particular piece very deeply, it had caught my attention and was playing in my head on repeat long after we moved forward in the class. The idea that persisted most was how the piece might sound on the alto flute. The timbres of the marimba and alto flute are fairly similar, which caused me to consider even more how the piece would translate into the woodwind family. I decided soon after that I wanted to experiment with this concept, especially because percussion instruments and flutes do not often mix. My interest was in giving flutes, a traditionally very classical instrument family, the chance to expand into the funky, percussive elements dominating minimalism by arranging the duet *Nagoya Marimbas* for a flute ensemble.

In order to approach the arrangement, I needed to research how Steve Reich arrived at this composition. First, I discovered how minimalism, the style of music with which Reich is most commonly associated, developed in visual art. In Chapter 1, I discuss similarities between the visual art movement and musical style, despite the fact that neither were clearly defined. The most obvious of those comparisons is repetition—in painting, this is exhibited in concentric patterns, and in music, this is heard in literal repetition of motivic content. Next, I studied Reich’s background in music and his response to serialism. The composer has been inspired by a wide variety of music, including that of Igor Stravinsky (1882-1971), J.S. Bach (1685-1750), Miles
Davis (1926-1991), and traditional African drumming, which is described in more detail in Chapter 2. As a composition student at the Juilliard School in the 1960s, Reich studied serialism and found creative ways to customize it to his liking. However, his reputation as a minimalist composer truly took off as a result of his integration of technology into live music. From his accidental discovery of the phasing phenomenon in tapes he was able to adapt the concept to live performance. In addition, one of Reich’s trademark beliefs has been in the importance of gradual, perceptible processes like that of phasing. This philosophy of music, discussed in Chapter 3, is part of what established Reich as a minimalist—the emphasis being on the music’s inherent identity, and that identity is obvious—regardless of whether his later work still truly belongs in that category. After learning about Reich himself, I was ready to begin studying Nagoya Marimbas in order to arrange it for flutes. My analysis in Chapter 4 consists mostly of identifying the tonal centers and examining the role of repetition in this piece, instead of a traditional formal and harmonic analysis. What I found is that there are many subtleties contributing to the overall effect of the duet. To begin arranging, I needed to recognize those nuances and determine how to translate them into the score for flutes. I encountered many challenges in this project, namely issues of range and allowing the wind players to breathe as I explain in Chapter 5. However, I was able to find logical places to split each marimba line into three flute parts. By working with a live ensemble, new ideas for future possibilities arose and I learned a lot about the decision-making process.
Minimalism and Art

The definition of minimalism lends itself to ongoing debate, but critics agree that visual art was the first art form to clearly exhibit traits of this movement, around the 1950s in New York. Though sculpture is considered to comprise the bulk of minimalist art, I find that painting is easier to digest and more aligned with the musical work I will be discussing later. Some of the more widely accepted characteristics of minimalism include: minimizing the appearance of the brush strokes; monochrome color scheme; concentric patterns; and lack of reference or symbolism. The list of minimalist artists is in flux, and no two critics seem to agree. This is because these labels have been assigned by critics and historians after the fact; therefore they are of little value to the artists who have been labeled as such. Very few, if any, artists have actually adopted the title of minimalist. In this chapter, I will explore the roots of minimalist music and its relation to the visual art movement of the same name to continue the conversation surrounding these so-called minimalist works.

Frank Stella is an artist considered by some to foreshadow minimalism, and by others to be a quintessential member of the movement. Regardless, his black stripe paintings known as the Black Series adhere to three of the four traits above: concentric patterns, lack of reference, and monochrome in the sense that white is the absence of color. While Stella did not necessarily set out to be a minimalist, he was openly striving to break away from the previous art style, Abstract Expressionism—a style characterized by representation and action painting. Stella insists that one of the most important differences between his work and Expressionism is the fact that he lightly outlined the thick stripes with a pencil rather than a paintbrush; this in turn forced him to think about the structure and space he was working with.
These three examples of pieces in the *Black Series* illustrate some of these minimalist traits and are relevant to the comparison of Stella’s work and Reich’s *Nagoya Marimbas*.

Figure 1:
*Clinton Plaza*, Frank Stella

Figure 2:
*Die Fahne Hoch*, Stella

Figure 3:
*Tomlinson Court Park*, Stella
There are some interesting aspects to note about all three. Instead of creating a border on all four sides of these rectangular-based patterns, Stella allows the edge of the canvas to be its own border. Also, the artist was not concerned with making each line exactly precise, and he left any imperfections alone. The lack of artificial borders creates a boundless quality, and since Stella usually began in the center, if the canvas were larger he would have continued painting rectangles outward. They are almost optical illusions, which is ironic because critics like William Rubin claim that Stella’s work suppresses illusionism. Even though they are two dimensional, the concentric patterns create a sense of depth where there physically is none. Particularly in the third image, you might see a tunnel when you look at it from the side or a bottomless hole when looking from a different angle. I think this relates to Stella’s statement “What you see is what you see,” which became an anti-Expressionist motto. The main premise of minimalist art seems to be a lack of representation, so the art is exactly that and nothing else; and also no two people will see the same artwork in exactly the same way.

In the 1960s and 70s in New York, we began to see minimalism emerge in music, a style characterized by simplicity and repetition. Four primary composers are considered the leaders of this movement: La Monte Young (b. 1935), Philip Glass (b. 1937), Terry Riley (b. 1935), and Steve Reich (b. 1936). While these composers are all grouped together under the minimalist umbrella, each had their own distinct voice in the field of composition.

One of the prevalent trends preceding this style was serialism, also commonly known as the twelve-tone method. The premise behind the technique is to use each pitch in the chromatic scale in a predetermined order, not repeating a pitch within a series. The series could then be

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manipulated by retrograde, inversion, retrograde-inversion, and transposition for variety. Another method garnering attention was indeterminacy, or aleatory music. This method, pioneered by John Cage (1912-1992), is characterized by chance, meaning the composer has left some element of the performance or the compositional process undetermined. This style was considered more experimental and was not widely accepted. At the time, the majority of modern composers thought if a composer wanted to be taken seriously, they needed to be writing serial music. However, a few key composers were opposed to the rigidity required of this technique and reverted back to the fundamentals. The question minimalism seemed to ask is “How much control should a composer have over the music?” In most aleatory music, the composer held little control by leaving elements to chance. On the contrary, serialist composers controlled the entire process by creating the original tone row and only using limited methods of variation from the first iteration. The minimalist response was somewhat of a happy medium as composers stripped music down to the minimum in harmony, melody, and process. This style is characterized by simplicity, little harmonic motion, and especially repetition and phasing. The focus seems to have shifted away from intervallic relationships between successive pitches toward rhythmic repetitions and variations of short phrases.

Many parallels can be found between visual and musical minimalism. The timelines of both are blurred, mostly due to differing opinions about what exactly it needed to look like in order to be truly minimalist, especially since the term was adopted by historians and critics rather than the artists themselves. The piece of music I have been studying in this context is Nagoya Marimbas by Reich (to be discussed further in chapter four), which I find especially similar to Stella’s Black Series. The first and foremost connection to be found is repetition; the repeated motives in Nagoya Marimbas can be related to the concentric patterns in the Black Series. The
rectangular patterns of the paintings create a bottomless and hypnotic quality, similarly to the overlapping steady rhythms and shifting meter of Reich’s work. Lastly, the illusion of depth we saw in Stella’s paintings correlates to the ambiguity created by the shifting meters and downbeat of the marimba duet.

While music and visual art can often seem to exist in separate bubbles, there is actually a lot of overlap in characteristics between the two minimalist movements. Neither group of artists have adopted the minimalist title and the styles have not been clearly formulated, though both are characterized by simplicity through a reduction of means. Each minimalist movement served as a quiet rebellion against the status quo—Expressionism in art, and serialism in music. The purpose of my research in these areas is to understand the roots of Reich’s early compositional style, as some of these elements have been incorporated into his more recent work.
Steve Reich, born 1936 in New York, is famed in modern American music for serving as one of the forerunners of minimalism alongside Riley, Glass, and Young in the 1960s. However, for a musician, Reich had a nontraditional start in his musical education. Like many children, he took piano lessons in his youth with little satisfaction. Typically, professional musicians would have begun studying music seriously at a very young age, so compared to the prodigies of the Baroque and Classical eras, Reich is somewhat of a late bloomer. Before entering the ring of composition, he studied philosophy and hesitated to pursue music. Nevertheless, with the encouragement of his various teachers, Reich eventually found his compositional voice and played an integral role in the minimalist movement. In this chapter, I will explore Reich’s contributions to minimalism through a discussion of his personal and educational background as it influenced his musical career; it is important to have this context before examining his philosophy of music in the following chapter.

Reich’s mother was a singer and his father was a lawyer; though his mother encouraged a musical lifestyle, Reich spent most of his childhood with his father, who deprecated music and pushed his son to pursue a more practical field. Although he was exposed to some classical music in his childhood, none of it provoked a path to composition. Instead, he claims he was floored when he first heard Stravinsky’s *The Rite of Spring* at age fourteen; in his own words, “[i]t was as if someone said, ‘Well, you’ve lived here for x number of years, and now we’re going to show you this other room.”

listening to Miles Davis, Charlie Parker, and Kenny Clarke, and started to study drums with Roland Kohloff. He was intrigued by the “sense of time that is flexible to the downbeat” heard in Davis’ album *Walkin’* and the propeller-like rhythm with which Clarke played.³ This kind of music, along with that of Stravinsky and Bach, “drew [him] so powerfully nothing else could hold a candle to it. [He] wanted to stop doing everything else and just listen, [sic] or create that!”⁴ Now he admits that he only wants to compose.

As a child of divorced parents with such conflicting views, Reich likely felt confusion and pressure to make the ‘right’ choice and doubted his own talents. Consequently, when he entered college at Cornell he primarily studied philosophy—this discipline suited Reich's inquisitive nature, which is evident in several of his academic writings and in interviews about musical processes, as we will discuss in the next chapter—despite being most interested in composition. His fear initially was not having enough experience to be successful since he had such a late start. His music history teacher, William Austin, motivated him to pursue music through his unusual lesson plans jumping from Bach to Stravinsky to jazz, which naturally piqued Reich’s interest⁵. Reich even rejected an admission to Harvard for graduate study in favor of studying privately with Hall Overton in New York City, who advised him not to hesitate with composition for the sake of gaining enough experience because, “You’ll never have enough technique. Do it.”⁶ This was a big motivation for the budding composer and serves as a precursor of his emphasis on the process of music, to be explored further in the next chapter. Reich admits that he was not motivated to play keyboard as a child, but it served as something of a turning

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⁵ Strickland, *American Composers*, 36.
⁶ McCutchan, 13.
point in his endeavors as an adult. Overton was the teacher who re-introduced Reich to the keyboard through Bartok’s *Mikrokosmos*, and Reich attributes the “backbone”\(^7\) of his music to the canonic structure and modes he learned from studying Bartok, which we will see in his phasing techniques. He then attended the Juilliard School, where his primary teacher was Vincent Persichetti (1915-1987), and Mills College, where he studied under Darius Milhaud (1892-1974) and Luciano Berio (1925-2003). During this time he discovered his true passion for composition and decided to pursue it exclusively. As a student in the time that serialism was rising in popularity, he began studying and applying the method; however, he found that in order to cope with it he had to “repeat the row over and over again” to “sneak some harmony in.”\(^8\) I find this to be foreshadowing of his interest in repetitive motives and layering imitative phrases to create harmony, which are now some of the most prominent characteristics in his work. His teachers recognized his dissatisfaction with the serial style and encouraged him to write in a different direction that better suited his compositional voice.

In addition to traditional teachers in the universities he attended, Reich has had a wide array of non-Western influences on his compositional methods. I wanted to explore the results this study of world music had on his compositions; many scholars have made assumptions about connections to his music, but the composer holds a contrasting position. First, Reich was particularly intrigued by the research in A.M. Jones’ *Studies in African Music*,\(^9\) prompting him to study traditional drumming techniques in Ghana in 1970. The Ewe tribe has distinct repetitions of rhythms and melodies for specific occasions, many of which he studied and transcribed. His understanding of each percussive part for a particular dance song was made possible through his

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\(^7\) McCutchan, 13.


understanding of the combined parts; the way they intertwined proved that the whole must be
greater than the individual parts. Reich noted that each part had many repetitive patterns of the
same or similar lengths with its own separate downbeat.\textsuperscript{10} The immersion he participated in with
the Ewe tribe connected the aural and visual aspects of the musical experience since the dances
and songs exist only together, never on their own or mixed and matched. A few years later in
1973 he studied Balinese gamelan in Seattle and Berkeley with Bob Brown. Interestingly, there
is not much information about this period of study, perhaps because the results piggyback off
what Reich learned in Ghana. What we do know is that scholars tend to attribute the methods
seen in some of his music written around this time to his study of Ghanaian drumming and
Balinese gamelan. For example, innovations in \textit{Music for Mallet Instruments, Voices and Organ}
seem to trigger a relation to gamelan, but Reich claims he finished that piece before his two years
studying Balinese music. Another example is the perception that Ghanaian techniques are what
inspired \textit{Drumming}, but he asserts that “Everything African in that piece…I’d done… back in
1967.”\textsuperscript{11} In addition, Reich was inspired to return to his religious roots, studying the Torah and
the Hebrew language in Israel. Compositional components stemming from the Hebrew
cantillation tradition appear in some of Reich’s later work: the combination of multiple small
motives to create “ornate” lines, and letting melody play a more dominant role. His \textit{Tehillim} is
cited as a direct result of his period of reconnection to his Jewish heritage, but he denies this
causal statement. He does, however, agree that cantillation techniques appear in \textit{Octet}, and that
\textit{Tehillim} was a result “emotionally” of his renewed interest in Jewish culture.\textsuperscript{12} Reich seems to
deny any causal relationships between his study of world music and his compositions. It is

\textsuperscript{12} Strickland, \textit{Minimalism}, 44.
plausible that he may have heard the rhythms or melodies stemming from Ghana or Israel before, and subconsciously incorporated them into his work before consciously studying their roots. Looking back at the discussion on minimalist art, we remember that a primary factor of the movement is a lack of representation. I think this is an important detail connecting Reich to his minimalist title as it clearly appears in many of his works, despite the public desperately wanting to ascribe some deeper symbolism. The composer primarily views his experiences abroad as confirmation that it was acceptable to use the techniques he did in those respective pieces.

Reich also has voiced a strong opinion about the importance of integrating non-Western practices into Western music, which was a revelation that came from his study in Ghana and was affirmed by the study of Gamelan techniques. As world music continues to reach our universities and emerging composers, it allows for greater exposure and a greater desire for people to be a part of it. Learning how to play and analyze non-Western music leads to a humbling realization that our system is only one of many. Nevertheless, Reich explains that there is an appropriate way to do this, and a poor way. He opines that incorporating exotic instruments and tonality into Western performance is a superficial contribution. It also has the potential to alienate audiences, because more often than not people tend to resist change or differences. The better solution, he claims, is to incorporate the structures of other kinds of music into the familiar Western sounds, as this allows for an often unnoticed assimilation of new ideas. In this manner, concepts are spread and repertoire has the chance to grow.

In terms of minimalism, Reich’s compositional reputation has stemmed from his extensive experimentation with technology. There has been some debate regarding the use of electronics in the concert setting of modern music. Those who favor it likely appreciate the variety it brings; it could potentially draw an audience of people who may otherwise not
participate in a concert. In addition, it can represent society’s focus on technology and prove to
grow with technological advancements made in other aspects of our daily lives. Those who
disagree with electronic usage on stage may think it depreciates the value of the dedication
required of live musicians to hone their skills. However, Reich accepts technology as another
layer with which he can experiment. He seems to make no distinction between art forms (live or
electronic) because the only judgment to be made is based on how interesting the final product
is, not whether the creators followed all the rules\textsuperscript{13}. In fact, Reich is probably best known for the
canonic\textsuperscript{14} texture called phasing, which was ultimately a result of experiments with tape loops.
This phasing effect, in Reich’s most ideal iteration, would begin imperceptibly and gradually
increase to two or more quite distinct voices repeating the same motive. Interestingly, this texture
for which Reich is famous can be traced back to popularity in the Renaissance era. The composer
smoothly melds the old style into the new through innovative technology and often unexpected
mixtures of timbres.

Though Reich began seriously studying music comparatively late in his life and took a
winding path toward his pursuit of this career, he has become an important piece of music
history as a primary leader of minimalism. He has gone to great lengths to study music which he
felt was vital to understanding rhythmic relationships, an example of his dedication to its
inherent integrity. This was also a precursor to his status as a minimalist icon, due to the steady
rhythmic components of this style of music. His work with tape loops and other technology have
contributed greatly to Reich’s reputation as a minimalist composer.

\textsuperscript{13} Reich, \textit{Writings about Music}, 10.
\textsuperscript{14} Note: Reich describes phasing as canonic, but the distinction is this: phasing moves from rhythmic unison to
canon at variable distances and back to unison, whereas a canon generally remains the same rhythmic distance.
In the Mind of the Composer

As mentioned in the previous chapter, Steve Reich studied philosophy at Cornell, which I believe to be part of the foundation of his attitude toward appreciating and creating music. He has a questioning disposition, prone to asking, ‘what if?’ and discovering how to satisfy that curiosity. His definition of music seems to be a judgment of how interesting the final product can be, despite whatever unconventional methods may have led it to that point. As a contemporary American composer, Reich has kept up with advancements in technology and incorporated them into his music in a very intelligent way, using tapes, pre-recorded material, and even his own inventions for certain desired effects. In this chapter, I will examine Reich’s approach to making musical decisions through an exploration of his methodical and intellectual processes and his definition of his compositional style. This will be beneficial in answering questions about his intent behind *Nagoya Marimbas* when I discuss the process of arranging.

Perhaps the most compelling characteristic in Reich’s music is the use of phasing, which is made possible by repetition. Phasing is a term coined by Reich himself that he defined as “a canon using a short melodic pattern, as opposed to an extended melody, where the rhythmic distance between the first voice and the second is flexible and gradually changing.” In essence, there is no set prescription of when the miniature canon must begin, although for certain timbral effects it is often necessary to be a canon at the unison. His endeavors into this technique began by accident, when he discovered that two identical tapes on a repeated loop would eventually and gradually get out of sync to become distinct voices, then meet together again. He then set out to

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recreate this effect deliberately, an experiment that would turn into *It’s Gonna Rain* and *Come Out*. More recently he has shifted away from that term and regards phasing as a canon with variable rhythmic distance.\textsuperscript{16} The inherent significance of phasing is that it employs a familiar concept in a different way to make possible a new world of sound. As a result of his ambitious and exploratory nature, the next goal was to achieve this gradual phasing with live performers. He found that it was not as perfect as the electronic version, but it could be done and resulted in *Piano Phase*. He also experimented with the mathematical aspect of the tape’s effect with a device called the phase shifting pulse gate, which served as "an instrument in itself, and also a sort of phase variable metronome..."\textsuperscript{17} It consisted of twelve channels that essentially divided a musical measure into one-hundred twenty equal parts, or 120th notes. This invention was able to apply the most gradual phasing shift possible because even at a slow tempo, the difference of a 120th note would be practically imperceptible. Then, by turning a switch to the next setting, the rhythm is moved ahead even further. The importance of this innovation lies mostly in the difficulty of humans attempting the same effect on musical instruments. While this was an incredibly clever invention, Reich acknowledged that the result from the strict mechanical nature of the device did not allow for the slight variations in pulse that give energy to music; however, this energy is supplied by the minute human irregularities of live music. Ultimately, after utilizing the device for *Pulse Music*, Reich retired from the use of all technology in his music for quite some time.

The ideas surrounding phasing are ironic because it is simply a modified canon, a technique born of the Renaissance, but many perceive it as a wildly new concept. Then in some

\textsuperscript{16} McCutchan, 14.
\textsuperscript{17} Reich, *Writings about Music*, 18.
of Reich’s later works when he writes in the traditional canonic texture with which we are more familiar, it is considered to have developed from phasing. In a sense this is accurate, but I think that, more than anything, phasing is working backward from canon. If the baseline is a melody overlapping itself after the first phrase (e.g. as in the round *Row, Row, Row Your Boat*), the question becomes how small the rhythmic distance can be, and what unintended harmonies will result. This recognizable trait of Reich’s music is key to even some of his later works which are not strictly minimalist. In addition to facilitating phasing, repetition also serves as a driving force in most of Reich’s work to maintain the pulse. In tandem, phasing through repeated phrases or motives allows for the illusion of multiple downbeats within a single measure. As a motive phases, the downbeat becomes obscured because emphasis is being shifted to a different part of the measure.

In interviews, Reich’s curiosity is relayed through the exploration of his intellectual processes in thinking about and creating art. Reich is especially concerned with the musical process and wants to be able to hear it in performance. He emphasizes the importance of “perceptible processes,” yet they must be gradual enough to be perceptible only through continued close listening. This track of thinking likely stems from his work with electronics, because through the use of electronics, the phase shifting for which he is so well-known happens and is perceived very gradually. The composer also claims that, although his work almost always has a specific subject matter, its purpose is not necessarily to tell a story. However, he urges artists to work with subjects in which they have an interest so the audience can sense the passion behind the work. A prime example is the personal connection to the material used for *Different Trains*. In his childhood, Reich spent a lot of time on trains back and forth between his divorced

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18 Reich, *Writings about Music*, 11.
parents in Los Angeles and New York, and for this piece he tracked down some recordings related to these train rides.\textsuperscript{19} He also makes a connection in this piece to the experiences of other Jewish children from that time period (circa 1940), which led him to recordings of Holocaust survivors. Though it is still personal through his own history and the connection to his heritage, he is a level removed from it because of the documentary nature; he wrote about others’ experiences as they recorded them, not his personal perception of what happened. Another example of social commentary is found in his documentary film \textit{Three Tales}. It serves as a commentary on technology through the lens of three instances of advancement in the field. Within is an example of a more philosophical approach, as he selected three innovations to represent the 20\textsuperscript{th} century\textsuperscript{20}. Reich chose the 1937 Hindenburg aircraft explosion, the atomic bomb tests at Bikini around 1950, and the cloning of Dolly the sheep in 1997. Hindenburg was evidence of failed technology and is especially notable because the technology of film captured the moment. When thinking about the atomic bomb, Hiroshima is likely the first to come to mind; however, Reich decided that it was well documented already, and chose a different iteration of the same innovation. The irony of this advancement is the high-tech invention being tested in an area of rather primitive peoples. Lastly, Dolly introduced potential for tremendous medical research, but was met with controversy over the ethics of extracting stem cells. Each of these subjects was either an example of technological failure or as paving the way forward, and together they summed up major technology of the 1900s. The fact that Reich managed to


represent a century’s worth of innovation in one work while making political statements about them is evidence of his thorough, inquisitive, and effective philosophy of creating art.

Lastly, this brings me to the question of Reich’s ‘identity;’ that is, how to categorize him and his work. He has earned a reputation in minimalism, but to what extent does he still fit there? Because he has been assigned the title of minimalist, everything he writes is now considered minimalism, even if it is nothing like the original work of the movement. As his writing evolves, apparently so does the definition of minimalism, which is probably a primary factor in the difficulty of defining it now. There may certainly be aspects of many of his later pieces that align with this style; however, it is important to consider the distinction between these similarities being evidence of minimalism, and of being merely part of the evolution of the composer’s voice. Reich cares little about the labels we like to assign in order to talk about ideas. He says labeling groups from the outside is more natural, but as a part of that assigned group it is neither necessary nor logical. I believe Reich would follow Debussy’s example, who renounced his Impressionist title. This is not because Reich never belonged in this category; recall that he initially studied serialism as a composition student and aimed to break away from that style, which was essentially the basic definition of the minimalist movement. Rather, as he evolves as a composer, he cannot be expected to continue to use only the same techniques he has used in the past. Growth and variety are what drives progress and the development of ideas.

In conclusion, Reich has consistently made educated choices about his music, and utilized his curiosity about the world to create profound art; whether commenting on technological progress or portraying the raw stories of human life, he does so in a way that draws in and provokes a response from the listener. Ignoring the labels that his contemporaries like to assign, Reich cares little about staying in the minimalist box. Instead, the composer’s philosophy
of music is concerned with growing as a musician and writing music to which he is connected. Regardless of the method, this connection to each individual work is what drives Reich’s music to success and expansion of musical ideas.
Nagoya Marimbas

Steve Reich’s 1994 duet Nagoya Marimbas was commissioned and premiered by Sekar Sakura and the Nagoya School of Music in Japan to celebrate the opening of the Shirakawa Hall arts center. It is essentially a culmination of Reich’s compositional voice up to that point in his career, with references to his early days of textbook minimalism and remnants of his discoveries from experiments with tape loops. Instead of a traditional harmonic analysis, this piece, and most minimalist-esque music for that matter, requires more of a study of rhythmic relationships. In this analysis, I will discuss the role of the tonal center, as well as dynamics, meter, rhythm, and repetition.

When analyzing a piece of music, the first clue to determining the formal structure is the key signature. The purpose of a key signature or scalar pattern is generally to provide stability to the listener’s ears and provide a guideline for harmonic motion; however, minimalism is known for having little harmonic structure and this piece is no exception. This duet begins with a pentatonic pattern of E, G, A, B, and D, which connects to the title as we recognize pentatonic scales as a stereotype of Asian music. In Nagoya Marimbas, Reich guides listeners’ ears to a tonal center, made obvious as both voices return frequently to a low pedal tone E in the repeated opening motives. The composer adds a few pitches throughout: F in measure 23 (giving us a phrygian mode), G# in m. 39 (acting as a leading tone to the next tonal center of A minor), then C in m. 53, although these small changes are not very obvious to the listener. The most important shift is at m. 66 when the key signature adds one sharp, introducing a change in tonal center to the B Phrygian mode for four bars before returning to E. Following suit in the nontraditional

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harmony, there is no third in the final chord to give a definitive major or minor quality, which leaves the listener somewhat in suspense. We are left with an open fifth, which just sounds a little hollow and our ears want to fill the gap with a third.

Dynamics are an important part of modern music, creating subtle variety even in repeated material. They can be integral to conveying a certain mood or style, or just to aid in balance within an ensemble. This piece includes sparse dynamic markings, which leads to a few questions about the compositional intent. When few markings are present, the performers have some options: shape the phrases within the realm of the marked dynamics, allow the instrument’s natural tendency to change volume when descending or ascending in pitch, or resist those tendencies and remain the same volume until the next instruction. For the context of Nagoya Marimbas I think the first option is most reasonable. Marimbas have little natural variation in the volume produced in different registers, and although the composer did set up a somewhat static progression, I don’t believe he would want the lifeless quality that would be heard without any dynamics to accompany the contour of the musical line and emphasize important parts of each measure. The dynamics indicated are guidelines that still allow for some variance to shape the musical line, and I would say Reich purposely used very few markings in order to make the existing ones more prominent, reminiscent of his earlier minimalist music. In addition, the dynamics that are marked only range from mezzo-forte to fortissimo. This eliminates the possibility for a lot of contrast in mood, especially compounded by the lack of varying timbre by writing for two marimbas. I think this also could serve as a reminder that subtleties are more noticeable when there are fewer big changes.

Finally the most significant compositional elements are shifts in meter and manipulation of rhythm, working together to compound instability through repetition. Nagoya Marimbas
changes meter several times throughout the piece, especially on the second page. It begins in 2/4 time, but changes to 4/4 next (m. 27), presumably to emphasize different parts of the measure. When in 4/4, the primary emphasis is on beat one with secondary emphasis on beat three, whereas in 2/4 each downbeat is given the same emphasis. As Reich then alternates between duple and triple time, our ears pick up on a sense of asymmetry; this is secondary to the effects of phasing to be discussed later. Another significant aspect of this music is the manipulation of rhythm. Reich opens with a repeated solo, then adds a second marimba voice and employs rhythmic construction for several measures. It is clearly visible in the score but not always obviously audible due to the mixing of the two parts in the same timbre. The effect of these contrapuntal voices is a more complex, composite rhythm created as the two voices weave in and out from each other. Reich compares the canon in this piece to his early phasing techniques in his program notes: “Nagoya Marimbas is similar to my pieces from the 1960’s and 70’s in that there are repeating patterns played on both marimbas, one or more beats out of phase, creating a series of two-part unison canons. However, these patterns are more melodically developed, change frequently and each is usually repeated no more that [sic] three times, similar to my recent work.” Because this is a transitional work (like much of Reich’s music) and not strictly minimalist, the term ‘phasing’ with which Reich became synonymous is not quite accurate. Instead, the distinction must be made between phasing and rhythmic displacement. As discussed in earlier chapters, phasing occurs when at least one voice gradually increases speed to

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get ahead of another voice playing the same motive. The duet, however, maintains both voices at
the same tempo and displaces the rhythm of the motive in the second marimba part to create the
canon texture. Displacement of repeated motives along with shifting meter contributes to the
ambiguity of the downbeat, in turn causing a hypnotic effect. The allusion to phasing is the
greatest connection to Reich’s earlier compositional style; this technique is made fresh again in
this piece by having fewer repetitions and comparatively frequent variations of the opening
motive.

In summary, what is important to recognize about this duet and minimalist music is that
subtlety is key, thus the scarcity of the small changes is what makes them so significant. This is
illustrated especially in Reich’s limited use of dynamic markings and the small shifts in tonal
center and mode. Though *Nagoya Marimbas* can be considered post-minimalist, the composer
still utilizes some of the same early rhythmic methods in combination with more recently
developed techniques for a modern compositional result.
Nagoya Flutes

As mentioned in the introduction, I was intrigued by the possibilities of Nagoya Marimbas after studying it briefly in two undergraduate courses. The resonance of the marimba in the pentatonic pattern reminded me of the warmth heard in the alto flute, and I was inspired to explore the potential of arranging the marimba duet for flutes. As I researched Steve Reich and his work, I noticed that although he is a hot topic of modern music, very little has been written about this particular piece. In fact, one of the only pieces of writing I found in my research was an article denouncing it as a “throwaway piece” on a concert. My purpose in creating the arrangement is to hopefully expand exposure to a great piece of literature, broaden the flute choir repertoire into modern music, and perhaps even encourage more exploration into the possibilities that arise when studying the subtle nuances of this piece. This chapter will be a chronicle of ideas, problems, and the learning experience of creating an arrangement with the Sibelius music notation program and working with a live ensemble.

My initial thoughts on the arrangement were about instrumentation and key. The first instinct I had was to use only alto and C flutes—I wanted to avoid piccolo and bass flute because I thought their timbres would not blend well with the more mellow middle-range flutes. Another obstacle is that the range of the marimba is much wider than that of a flute. It became clear as I continued to study Nagoya Marimbas that bass flutes were necessary to reach the low notes of the marimba parts. I needed to keep the contrast from extremely low to fairly high, so my only other option would have been to use piccolos. Even still, a couple of extremely low notes

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suggested that I might need to transpose up by a minor third, as they were just barely out of reach for the bass flutes. I considered smaller transpositions as well, but that would introduce more awkward fingerings and other problems with the range of the lower instruments. Therefore, the brief octave displacement I had to use is the main factor that classifies this project as an arrangement instead of a transcription; a contrabass flute would be necessary for the extremely low notes. I ultimately decided against a transposition because I wanted to retain the deep, woody resonance from the marimbas as much as possible. While the marimba does have a slight variance in natural tone quality in different registers, the flute is much more fickle; as the range ascends, the tone quickly becomes bright and can be shrill, which I wanted to avoid for this piece. As it turned out, my intimate knowledge of flutes could be considered more of a hindrance in my creativity, as I tried to avoid any difficulties in playing the piece. Ultimately I had to accept the fact that I could not make this intricate of a piece extremely easy to play without sacrificing the intention of the original.

The most daunting question I had to answer was how to split the marimba lines, in order to accommodate breathing and melodic leaps requiring a different member of the flute family. Because of the continuous sixteenth note rhythmic patterns from the original marimba duet, the wind instruments for whom I was writing needed to pass off the line to have a chance to breathe. My goal was to keep it as simple as possible in the spirit of minimalism, but also because I planned to have a live recording of it. On my first few attempts, I tried to take the score as a whole and break up the composite rhythms into several flute lines, but this proved to be too complex to handle all at once. For the next try, I took one individual marimba part at a time and split it up the way I needed to (one bass, alto, and C flute for each). This proved much easier than the original way, although I had to consider the possibility of momentarily combining, for
example, both alto parts for the purpose of breathing. The piece is mostly repetitive with slight variations within motivic sections, which made the decision-making process quite a bit faster. I was able to go through each marimba part separately, marking when measures repeated exactly or had the same rhythm, to make it easier to copy and paste (then edit pitches when necessary) once I had made the decision about how to split it up. At this point I incorporated some overlap in hockets, where one voice passed a line to another voice, primarily to aid the hypothetical performer in hearing where their rhythm fits in to the whole picture. The biggest issue I ran into here was that I struggled to find a good place in the beginning (until rehearsal marking 28) to incorporate the second alto flute. I had considered having them trade off every few measures but found a more logical solution which split the part. Once I finished each marimba part to the best of my ability, I literally copied and pasted each part into a new full score for: two bass, two alto, and two C flutes. After that, I found a place near the end where one bass could take both bass parts for a repeated measure, giving the other time to switch to C flute. While the instrument changes have to be very fast, it works to have four players total; bass 2 will switch to flute 1, and bass 1 will switch to flute 2 as the motive ascends for the ending. For the purpose of working with the Cambia ensemble I needed to have only four parts, but for a larger ensemble I might consider splitting the marimba parts only when the range requires a lower or higher flute, and simply doubling each part to stagger the breathing.

Some other secondary questions I pondered throughout this process were instrument specific. For example, I considered that the printed dynamics might have to be modified to integrate the natural tendency of the flutes to be loud in the higher register and vice versa. However, because the printed dynamic range is so narrow (mf to ff), I determined that the dynamics and the contour of the lines matched the flute tendency pretty well already. There were
only a couple of changes I felt I needed to make. The first change I made is the measure before rehearsal 39. In the marimba score, both voices reach forte at 39, but the bass flutes do not play on the downbeat and the alto flutes are getting higher in their range (and thus, louder). Therefore, I found it helpful for the bass flutes to reach their forte destination in the previous measure. In addition, Reich’s original score has a long diminuendo from forte at rehearsal 74 to mezzo-forte at 79. Because this is such a small dynamic adjustment over such a long period of time, I reserved the diminuendo for the last four bars leading into 79. Depending on the particular ensemble and venue, minor adjustments might need to be made in order to achieve better balance among all four voices. Another question I had was whether all the written repeats would be necessary for this project. Without hearing it all the way through with fewer repeats, I am unable to make a judgment on that. My response, with the information I have, is that Reich wrote a certain number of repeats for a reason. It does create a little bit of confusion and hassle for the performers, but I think the varying number of repeats contributes to the unsettled hypnotic feeling the piece invokes in the listener. After hearing the arrangement played live I started to wonder about incorporating some elements of performance flutes can do that marimbas cannot, particularly deciding to add a slurred articulation in the opening motive. Some of Reich’s writing in *Music as a Gradual Process* pertains to this idea. He talks about the concept of ‘pointing out,’ which basically is unaccented emphasis on a certain aspect of the piece. What I know about this concept from studying flute repertoire is that there should be a slight emphasis on the first of two slurred notes, so it is pointed out; or maybe the second is pointed out as being less important. I was unsure if this would enhance the sound of the piece or detract from the original intention, so I had to experiment to find the right combination of slurred and articulated notes. After some
trial and error, I found a place in the opening repeated motive that made sense and also made the passage easier to play.

My end goal was to create the arrangement and record it to give an aural representation of how the marimba lines were broken apart and how the range affects the timbre of the flutes. Therefore, I asked the local professional flute ensemble Cambia to assist me on this project, which they graciously agreed to do. We met only twice to rehearse and record, and half of them played on unfamiliar instruments so kindly loaned from ETSU, and yet they were of tremendous help in bringing this arrangement to life. One of the primary challenges I faced while working with a live group was trying to catch the exact moment when something had gotten off track. In this repetitive rhythmic work, I had a lot of difficulty pinpointing which player had made a mistake and what the mistake was. Another lesson I learned is that recording equipment does not lie. Even when I thought a recorded run sounded almost spot-on, the playback usually proved that the rhythms had not aligned quite right; it was important for each sixteenth note to be perfectly together in each part to get the pulsating, hypnotic effect. Overall it was an enjoyable experience, but I do wish we were able to meet once more to get the recording as perfect as it could be. The experience of working with a live ensemble on my arrangement forced me to sharpen my listening and thinking skills.

Ultimately throughout the process of breaking apart and rebuilding this piece, I found even more potential for different interpretations of *Nagoya Marimbas* that I would be interested in exploring in the future. For example, I would want to experiment with a variety of articulations, instrumentation, and tonal center. On a broader level, I might even consider playing with a more traditional canon of the opening motive instead of Reich’s rhythmic construction. However, I believe this arrangement has been a good step in the direction of exposure for this
lesser appreciated work, and it has provided me with a unique learning experience of creative problem-solving.
Nagoya Flutes

Steve Reich
arr. Sarah King

M.M. = 88

Flute 1

Flute 2

Alto Flute 1

Alto Flute 2

Bass Flute 1

Bass Flute 2

Fl. 1

Fl. 2

A. Fl. 1

A. Fl. 2

B. Fl. 1

B. Fl. 2

3

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f
Bibliography


