

Time is Ticking, Expressing Grief through Time:
Exploring the Production and Creative Techniques
for a Composition for Flute and Electronics

by
Morgan von Doehren

A thesis presented to the Honors College
of Middle Tennessee State University in partial fulfillment
of the requirements for graduation from the University Honors College

Spring 2024

Thesis Committee:

Dr. Deanna Little, Thesis Director

Dr. Mary Evins, Thesis Committee Chair

Time is Ticking, Expressing Grief through Time:
Exploring the Production and Creative Techniques
for a Composition for Flute and Electronics

by Morgan von Doehren

APPROVED:

Dr. Deanna Little, Thesis Director
Professor, School of Music

Dr. Mary Evins, Thesis Committee Chair
Research Professor, University Honors College

Dedication

To my family, friends, and teachers
who have led an example and uplifted me
through our shared passions of music.

Abstract

Using the conceptual framework of Gregorian chant's *Dies Irae*, an original composition for flute and electronics, entitled *Time is Ticking*, was created to express the experiences of human grief across time. The piece is intended to be performed with flute and an electronic backing track. The music for flute is composed to express the human phases of grief, and the chaotic emotions felt throughout. The backing track is made with a combination of MIDI, pre-recorded sound effects, pre-recorded flute, reverb, equalization, and panning to create a track with an interesting stereo image for the audience, to contrast with the clean live sound of the flute.

Table of Contents

Dedication.....	i
Abstract.....	ii
List of Terms.....	iv
CHAPTER I. History and Background.....	1
Extended Techniques: The Unconventional Methods of Flute Performance.....	1
<i>Dies Irae</i> as an Interpretive Focal Point for Composition.....	2
Electroacoustic Music and its Influence on Mainstream Flute Repertoire.....	3
CHAPTER II. Methodology.....	6
Flute Composition.....	6
Electronic Composition.....	8
CHAPTER III. Performance, Analysis, Interpretation.....	11
CHAPTER IV. Project Reflection: Personal Processing and Catharsis.....	13
References.....	15
Appendices.....	17
Appendix A. <i>Time is Ticking</i> Full Performance.....	18
Appendix B. Flute Score.....	19

List of Terms

- **Amplification:** the action of increasing the amplitude of an electrical signal or other oscillation.
- **Acoustic:** a musical instrument without electrical amplification.
- **Accompaniment:** an instrumental or vocal part designed to support or complement a melody.
- **Ambience Bed:** a steady background for other sound effects.
- **DAW (Digital Audio Workstation):** electronic device or software for recording and editing audio.
- **Electroacoustic Music:** a style of music composition and performance where electronic devices manipulate acoustic sounds of musical instruments.
- **EQ: equalization;** the process of adjusting the volume of different frequency bands within an audio signal.
- **Extended Techniques:** unconventional, unorthodox, or non-traditional methods of singing or of playing musical instruments employed to obtain unusual sounds or timbres.
- **Fingering:** the method which governs the application of the fingers to the keys of any keyed instrument, to the various positions upon stringed instruments, or to the holes and keys of wind instruments, the object of the rules being in all cases to facilitate execution.
- **MIDI (Music Instrument Digital Interface):** a technical communication protocol used to transmit and store music.
- **Musique Concrète:** using sounds found in nature (found sound), distorted in various ways, to create music.
- **Print:** record to tape.
- **Reverb:** an effect whereby a sound, especially that produced by an amplified musical instrument, is made to reverberate slightly.
- **Reverberate:** to reflect; the reflections soundwaves cause in a room.
- **Session (Pro Tools):** a file that contains all the audio and MIDI tracks, plug-ins, and mixer settings for all your tracks.

CHAPTER I

History and Background

Extended Techniques: The Unconventional Methods of Flute Performance

Mainstream flute repertoire is well known for its large, flowing gorgeous melodies and lyrical phrases, as well as its fast, sharp technical passages. Newer pieces of flute repertoire are beginning to introduce extended techniques as an integral part of flute composition. Extended techniques in any form of acoustic instrument are using different techniques to play the flute in unconventional ways. There are many different extended techniques on the flute, due to the experimentation of flautists. Composers like Robert Dick and Ian Clarke are two of the prominent composers whose works appear frequently in most modern flute repertoire performed by flautists today.

Some of the extended techniques most used in flute repertoire include flutter tonguing, slap tonguing, key slaps, harmonics, jet whistles, and pitch bends. Flutter tonguing is achieved on the flute by rolling the tongue or moving air in the back of the throat. This produces a different fluttering timbre to the sound in music performed, most commonly in pieces that are drawing inspiration from Latin music. Slap tonguing, also known as a tongue pizz, are achieved by imitating a string pizzicato. For me, the tongue is placed further forward in the mouth to produce a fast “tuh” sound, and the pitch is gentle alongside the percussive effect. Key slaps in extended flute repertoire are produced by pressing down hard on a key of the flute to make the pitch resonance without playing the pitch. A percussive effect is also produced from the “thunk” of pressing down on the key. Key slaps are mainly done in the lower register of the instrument because they are

resonant on the fundamental pitches. Harmonics on the flute are produced by fingering a fundamental pitch, typically in the lower register of the flute, and overblowing to reproduce their harmonic, or multiple pitch of an octave, third, or fifth above the fundamental pitch. Jet whistles are produced by blowing air directly into the mouthpiece of the flute, forcefully to create a “whew” or a “woosh” sound. Pitch bends can be achieved through varying the airstream or rolling the mouthpiece forward or backward to create a variance in pitch without changing notes via keys. In *Time is Ticking*, percussive effects are utilized on the flute using the syllables “shh,” “k,” “ch,” and well as slap tonguing to create the main groove for the third section of the piece and drive the fast and chaotic emotion expressed.

Dies Irae as an Interpretive Focal Point for Composition

The *Dies Irae* originated in the seventeenth century from a medieval Latin poem, mainly attributed to Thomas of Celano. This Latin phrase, meaning “Day of Wrath” has become symbolic in its evolution from a poem to its setting in Gregorian chant, most well-known for its simple four note melody that has transcended time and used film and orchestra scores to symbolize meaning of death and loss. Apart from the first appearances in the Masses of Gregorian Chant, composers like Verdi, Mozart, and Berlioz are composers that have utilized the *Dies Irae* melody in their well-known compositions. In Berlioz’ *Symphonie fantastique*, the *Dies Irae* is used in the fifth and final movement, “Songe d’une nuit du sabbat” (Dream of the Night of the Sabbath) in tandem with the main theme of the symphony, the *idée fixe*. The story being told is the main protagonist, The Artist, coming across a witch’s sabbath, where monsters are gathered around the

witches' dance. The *idée fixe* means the “object of fixation,” a love theme that appears in every movement of the symphony. In this movement, the *idée fixe* is transformed into something sinister, as the witch is twisting the visage of The Artist's love. The twisted *idée fixe*, in combination with the haunting statements of the *Dies Irae* theme by the low brass creates a sinister and mocking mood, exposing the torment of The Artist and the scene they are witnessing.

In addition to these classical composers, the *Dies Irae* has made its way into scores for film. Films like *The Shining*, *The Lion King*, and *Nightmare Before Christmas* use the *Dies Irae* melody in their scores to trigger the familiarity of the tune and themes of loss to viewers. One of the most famous songs from the 2019 sequel *Frozen II*, “Into the Unknown,” uses the *Dies Irae* in the spirit's call to Elsa, painting the feeling of longing and dark foreshadowing to the danger that would follow Elsa when she continued to follow the voice calling her.

The melody of the *Dies Irae* holds exceptional emotional power, turning a day of wrath into a sense of dread and foreboding. The familiarity of this four-note pattern is utilized in *Time is Ticking* to emphasize the emotions of grief and mourning to the listener. The title, *Time is Ticking*, further alludes to the concept that time eventually runs out, and death is something to fear, transforming into acceptance.

Electroacoustic Music and its Influence on Mainstream Flute Repertoire

Electroacoustic music is the term for blending live performance on an instrument with electronic aspects, such as a backing track. The term *musique concrète* was coined by Pierre Schaeffer and was developed by recording traditional “non-music” sounds and

putting them into a musical context. This fusion of technology and music was a test of Schaeffer to explore the limits (or lack thereof) of music and creativity and how to bridge the gap between electronics and music. I wanted to incorporate the concept of musique concrète into my piece by inserting pre-recorded ambience beds of water, bird calls, and other nature sounds and sequence them alongside MIDI instruments and other effects to blend with the live flute. The concept of “ordinary sounds” being music is an integral part of *Time is Ticking* and the concept of a work for any acoustic instrument and electronics. This format of music allows for an infinite amount of possibility for creativity for the composer and flute performer, and each work expands our perception of music as a whole.

Works for flute and electronics have been growing in numbers since the early 1950s from Otto Luening and Vladamir Ushachevsky, inspiring Bruno Maderna to write *Musica su due dimenzione* in 1952, the first major work for flute and electronics (Penny, 2007). While it is hard to find an expansive database of scholarly work specifically related to music written and performed for flute and electronics, it is not difficult to find the works themselves. I began the process of creating my work for flute and electronics by researching and listening to other examples of flute and electronic works, to gather ideas of composition length and what types of flute and electronic techniques were used in the piece. These pieces included:

- *Glass Ceilings* by Claudia Anderson (2022)
- *Noa Noa* by Kaija Saariaho (1992)
- *Irelandia* by Timothy Vallier (2022)
- *Passage Barré* by Erik Dæhlin (2019)

- *Under the Rainbow for flute and electronics* by Mathew Rosenblum (2003)
- *Spire V – For Flute and Electronics* by Cesare Saldicco (2022)

One of the most recent flute and electronic composition of this selection, *Glass Ceilings*, used flute performance with pre-recorded electronics highlighted the hardships of the pandemic. The electronic track included pre-recorded instruments, recordings of distorted and looped flute tracks, vocal loops, and other sounds. These six works for flute and electronics inspired the structure envisioned for this creative project. The original concept for *Time is Ticking* consisted of a three-movement work. After listening and learning, this concept turned into a through-composed work of four musical vignettes, each expressing a character and mood that blended into one another through electronic transitions.

CHAPTER II

Methodology: Developing a Flute and Electronic Composition

Flute Composition

Time is Ticking is broken up into four musical vignettes. Each vignette or section encompasses a certain character and emotion. The first vignette opens with a prerecorded track of looped water sounds, later followed by a louder rushing water loop with bird calls. Measures 1-10 in the flute score are meant to be played freely without an explicitly dictated meter, where the performer has all liberties to take as much time as needed to play and even improvise within the notes on the page. During this freely played section, there are echoes of the same notes and phrases played in the electronic accompaniment by pre-recorded flutes, adding to the calm texture of the live flute and flowing water sounds. The calmness exuded from these components make up the first character of this section. This vignette is supposed to make the listener feel calm listening to the water and live flute but perk up once they hear the other flutes coming from the left and right of the hall.

The first vignette transitions into the next with a three-measure introduction of a strong quarter note pulse on the pitch, B, setting the key and tempo. The second vignette is a simple melody in $\frac{3}{4}$ meter, accompanied by a moving quarter note bassline and chords by a MIDI flute following a B minor progression. The melody creates a character that is longing for something. The listener is supposed to feel empathetic toward the melancholic melody as they are wanting and needing something. When the conclusion of the melody is reached, there are sudden, unsettling noises fading in from the accompaniment: a pulsing bass and ticking clocks that progressively get faster during the

transition. This unsettling nature further disturbs the established character in longing, almost taunting them that they are going further and further from what they want. In addition to the pulsing bass and ticking clocks, there are fluttering lines of piano in multiple octaves and interjections of thunder, further disturbing the peace.

The chaos ends and third vignette begins with the main vamp of prerecorded flute percussive effects, layered to create a stimulating groove. When the flute enters, it begins a new melody with quotations of the main melody from the second vignette. The third vignette is also where the *Dies Irae* melody first appears in multiple keys and variations across this section. This vignette is faster to create a sense of hurriedness and tension as the percussive flute effects continue to build and the melody starts to modulate with chromatic phrases. This climatic part of the piece unveils the new emotion of the section: frustration. The flute soars gracefully over the percussive flute, but there is an underlying frustration in the melodic line, particularly in measures 69 and 70, where there are interjections of chromatic pitches outside of the key. The pickup into measure 82 is the last statement of the *Dies Irae* melody that ends with an A# and B natural as the last breath of the section. The frustration of the section has built and built up until this point of the piece, but the final pitches signify the breaking point, a point where the character of the piece lets out their last breath of frustration.

The transition into the fourth and final vignette begins with a clock chime, calling with two pitches with the interval of a minor third. Thunder returns in this transition, however entering with a quieter rumble and fading away faster than the previous transition. The fourth section returns to the slower tempo of the second vignette, however maintaining the 4/4 meter introduced in the third section. The section begins with an

echoing pad introducing the main melody in a six-measure phrase, before the flute returns echoing the same melody. The return to the slower tempo is to symbolize the “beginning of the end” for the character of the flute. The frustration has ended, and the calm has returned. The flute enters with the main melody in Measure 92, and two measures later, a harmony of the melody plays in tandem with MIDI flute and continues to the end of the piece. Both the live flute and MIDI flute end their melodies with a final statement of the *Dies Irae*, drawing the piece to a close. The final notes of the piece are a fading E to F# in the flute, a B in the piano, and the final, fading heartbeats of the electronic accompaniment.

Electronic Composition

One of the main components of the electronic compositions is the variety of methods to mix artificial and natural sound. To create the backing track, I made a bed of ambient sound effects, mainly consisting of water sounds (rushing water, bubbles, lake). Some of the water sounds were recorded using a portable Tascam recorder, recording natural sound from Lake Radnor in Nashville. In addition to these pre-recorded natural sounds, I also obtained some sound effects from Sound Libraries from Foley Essentials, Soundsnap, and the Odyssey Collection. These sound effects included water bubbling loops, thunder, clock ticking, clock chimes, and heartbeats.

In addition to incorporating consistent beds and loops to my accompaniment, I also used MIDI to emulate different instruments such as bass, flute, and piano. Some of the instruments in my track are sourced from MIDI Instrument tracks using the Keyscape, Kontakt 7, Serum, and Trillian instruments, which I obtained from MTSU’s resources on

from the on-campus Electronic Music Lab. These were mainly used for the bass groove used in the third vignette, as well as sustained pitches during the electronic transitions for additional sound effects. I also used Stock plugins included with Avid, like Structure Free and Mini Grand, using a low sustained bass pitch and an echoey piano for the transitions in the piece.

I decided to create transitions in between the musical vignettes with the purpose of making the listeners feel tension between each vignette. In the transition between the second and third vignette, the tension was created by increasing the density of the tracks by layering a variety of sounds like ticking clocks, heavy rain, light rain, sustained bass, bell chimes, and piano that played pitches across all octaves. This transition lasted about 30 seconds and eventually faded out once the percussive flute of the third vignette began. The other notable transition happened between the third and fourth vignette was created with the purpose of setting an uneasy tone before the haunting final melody. This transition was less dense, only consisting of a chiming clock, light rain, low rumbles, and a quieter thunder.

Another crucial aspect of the electronic component of my composition was the effects used. I used a variety of effects across my accompaniment like EQ, reverb, and delay to create a larger space for the sounds to come through. The delay was used on the clock chime in the third-to-fourth vignette transition to further elaborate on that eerie tone created in the piece. I created a stereo aux send to go to all my sound effects so that they would each have the same reverb going to them, rather than inserting the same reverb on each individual sound effect track. These tracks utilized the Space reverb plugin from

Avid. The reverb allowed for a larger space to be emulated for these sound effects and give them a longer reverberation time to give the impression they were in a larger space.

For more effects, I also took creative liberties in panning various aspects of the tracks in my session. For example, I created two tracks in the first vignette specifically designed for the prerecorded flute to bounce in the Left or Right channels, so that when they would be heard, they would come through either the Left or Right speaker to the listener and create an interesting bouncing effect alongside the live flute playing the same notes in the center.

In creating this composition, I first prioritized carefully crafting the accompaniment, or backing track to set moods and foreshadow the changing characters. In composing the live flute sheet music, I also provided opportunities of extra space within the composition for each individual performer to insert their voice and ideas they may feel as a response to the prerecorded track.

CHAPTER III

Performance, Analysis, Interpretation

On March 15, 2024, *Time is Ticking* had its debut performance at my senior recital in Hinton Hall. The recital was also livestreamed on the MTSU School of Music Live Stream YouTube page. In preparation for the performance for *Time is Ticking* at my recital, I gave the concert technicians in the Hall the wav file of my backing track. The track was imported into the Pro Tools session used to record my recital, spotted to one hour into the session to allow ample time for my previous pieces to be recorded without the track playing through the Hall's speakers. *Time is Ticking* was the third piece on the program, and once I was ready for the technicians to play the track to perform the piece, I gave the lead technician a cue by nodding at them from the stage to the sound booth in the back of the hall for them to begin the piece by pressing play in the session.

I felt that the piece was a great success. There was a great balance between flute and electronics from the hall and created cool effects with the audience in its stereo imaging as I had imagined. The one thing that I wish I had done differently for the performance was to place a monitor by my feet so I could hear the track coming straight at me alongside the speakers going out into the hall for more clarity of meter during the performance. There were some spots during the performance where I had strayed from the track, but I had kept playing and ad-libbing notes and phrases that fit within the chord structure to get back on track.

I am incredibly proud (and so is my teacher) for how this piece turned out as well as my own performance of the piece on my senior recital. Being able to debut my first original work and second original arrangement for flute choir alongside other pieces I

enjoy made for a performance that I was proud to show off to my friends and family.

While my full senior recital performance is available to watch on the MTSU School of

Music Livestream YouTube page, the performance will be available for a limited time, so

I received a copy of my performance from the Director of Operation at Hinton Hall, Todd

Seage, and uploaded the performance to my personal YouTube page.

CHAPTER IV

Project Reflection: Personal Processing and Catharsis

For as long as I can remember, music has always been a part of my life. All my connections and relationships with others have been through music in some way, shape, or form. One of the biggest connections I have to music is through family, and the strongest influence in my life, which led me to pursue music, was my grandfather. He came from a musical background, playing the trumpet and conducting bands. When I was a child, I became driven to learn the piano from him whenever I could during weekend trips or full weeks of visiting during the summer. Albeit that driven spirit of piano eventually faded with a newfound love for flute in the fifth grade, developing that relationship with my grandfather when I was younger became strengthened through music, and created long-lasting memories.

On July 26, 2022, my grandfather passed away. His loss was sudden and chaotic, and I experienced a spectrum of grief — both in my grief and watching my family experience theirs. The waves of different emotions created chaos and turmoil but also brought my family closer together. This event in my life is what inspired me to create *Time is Ticking* at its core. I wanted to create a piece that reflected the various emotions experienced and witnessed from multiple perspectives of experiencing grief, frustration, and acceptance. Time inevitably runs out, but through the shock and chaos, something beautiful can be born from it.

This creative project can be best described as the apex of combining my passions and interests with all the techniques and skills I've learned at MTSU. The application of what I've learned in flute performance, electronic music production, recording, and

mixing, along with the experiences in my relationships with others, have resulted in the culmination of a meaningful project that I am proud to have on display today, and one I hope is meaningful to others in any stage of anxiety, frustration, or melancholy. I have thoroughly changed as a person while writing this piece. It was cathartic to write a piece that conveyed the emotions that I felt during a grief-stricken period of my life, and creating *Time is Ticking* allowed me to confront those feelings in a new context and even acknowledge new emotions that I hadn't even felt before. Dealing with the loss of a loved one is hard, and everyone has different ways of dealing and experiencing with grief. Creating this piece allowed me to deal with my grief and acknowledge how I felt nearly two years ago in a different context and give me my own sense of closure. I hope for others who listen to *Time is Ticking*, that they are able to resonate with the chaos of experiencing these difficult emotions all at once, and whether they can relate these feelings in the context of losing a loved one or are just going through a rough time in their life, they can see the journey of coming to their own sense of closure and peace.

References

- Anderson, C. (2022). *Glass ceilings* [flute doubling alto flute with electronics]. ALRY Publications.
- Battier, M. (2015). Describe, transcribe, notate: Prospects and problems facing electroacoustic music. *Organised Sound*, 20(1), 60-67.
doi:10.1017/S1355771814000430
- Buja, M. (2014, March 30). *The supernatural in music III. Dies irae: The dance of death*. Interlude. <https://interlude.hk/the-supernatural-in-music-iii-dies-irae-the-dance-of-death/>
- Ferguson, E. (n.d.). *Extended techniques*. Emi Ferguson.
<https://www.emiferguson.com/flutes-extendedtechniques>
- Lewis, S. E. (2017). *Contemporary music performance* (Doctoral dissertation, University of California, San Diego).
- Malcolm Boyd. (1968). "Dies irae": Some recent manifestations. *Music & Letters*, 49(4), 347-356. <http://www.jstor.org/stable/732291>
- MiyazawaFlutes. *The glass ceilings project discussion* [Video]. YouTube. (2020, September 30). https://youtu.be/bITPOvFO5EU?si=I9vWgOwkpgp_WAIU
- Penny, J. (2009). *The extended flautist: Techniques, technologies and performer's perceptions*. Queensland Conservatorium Griffith University.
https://www.jeanpenny.com/uploads/5/5/4/3/55434199/penny_the_extended_flautist.pdf

- Public Broadcasting Service. (n.d.). *Berlioz's symphonie fantastique: Keeping score*. PBS. <https://www.pbs.org/keepingscore/berlioz-symphonie-fantastique.html#:~:text=The%20fifth%20movement%20is%20a,theme%20distorted%20into%20spiteful%20parody>.
- Teruggi, D. (2015). Musique concrète today: Its reach, evolution of concepts and role in musical thought. *Organised Sound*, 20(1), 51-59. <https://doi-org.ezproxy.mtsu.edu/10.1017/S1355771814000429>
- Schubert, L. (1998). Plainchant in motion pictures: The "Dies irae" in film scores. *Florilegium*, 15(1), 207-229.
- Wanninger, F. I. (1962). *Dies irae: Its use in non-liturgical music from the beginning of the nineteenth century* (Order No. 6301360) [Doctoral dissertation, Northwestern University]. Available from ProQuest Dissertations & Theses Global. (302107098). Retrieved from <https://ezproxy.mtsu.edu/login?url=https://www.proquest.com/dissertations-theses/dies-irae-use-non-liturgical-music-beginning/docview/302107098/se-2>

Appendices

Appendix A

Time is Ticking Full Performance

<https://youtu.be/qGEoEoteT08?si=uPZoLvsRH3eTs8Vx>

Appendix B

Flute Score

Flute

Time is Ticking

for Flute and Electronics

Morgan von Doehren

freely

A
♩ = 80
Piano

B
♩ = 115
Track

tr
Piano

sh k ch k ch sh ksh sh k sh k

shh

2

