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Composer William Duckworth's piano cycle *The Time Curve Preludes* (1979) is considered to be the first work in a style called "postminimalism." In the intervening years, postminimalism has become a popular compositional style. Even the most famous of the early minimalists, Steve Reich and Philip Glass, have written music that more closely resembles postminimalism than their earlier styles.

In this thesis, I examine *The Time Curve Preludes* to gain insights into postminimalism. In Part 1, I focus on the two traits commonly cited in scholarly and critical literature that differentiate postminimalism from minimalism: the diminished audibility and presence of a strict, and a greater focus on expressivity. In Part 2, I analyze three of the preludes to demonstrate how they exemplify postminimalism and to offer insights into their construction. These analyses reveal how Duckworth manipulates and disguises familiar minimalist tropes that were hitherto known for their transparency, such as phase-shifting (Prelude 6) and additive processes (Prelude 14), by embellishing, rotating, and otherwise altering short melodic patterns.

WILLIAM DUCKWORTH'S *THE TIME CURVE PRELUDES*
AND POSTMINIMALISM

by

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CHAPTER I
INTRODUCTION

William Duckworth's *The Time Curve Preludes* (1978–79, hereafter *TCP*) were composed at a time when “listeners who had been transfixed by Minimalism . . . were wondering what direction that decade-old movement would take.”¹ Music critic Kyle Gann, a prolific writer about musical aesthetics, has often pointed to this composition as “the first major work that sounded minimalistic but refused to satisfy minimalist expectations.”² At the time, he expected that the processes that structured minimalist pieces should be transparent and easy to identify by ear, but the processes in *TCP* were not as clear. Eventually, Gann changed his mind and has since advocated that *TCP* should be considered the first work of a new style distinct from minimalism, termed postminimalism.

Postminimalism, like its predecessor and most of the other “-isms” denoting eras or styles of music, was initially a term from the visual arts—it was first used by art critic

¹ Allan Kozinn, “William Duckworth, Internet Composer, Dies at 69,” *New York Times*, September 21, 2012, accessed September 6, 2015, <http://www.nytimes.com/2012/09/22/arts/music/william-duckworth-internet-composer-dies-at-69.html>. Kyle Gann lists 1978–79 as the date of composition fairly consistently. Other sources list 1977–78. The *Preludes* were published in 1979.

² Kyle Gann, “Enough of Nothing: Postminimalism,” in *Music Downtown* (Berkeley: University of California Press, 2006), 247.

Robert Pincus-Witten in 1971.³ Gann credits *New York Times* critic John Rockwell with applying it to music around 1981 and associating the term with the music of John Adams in 1983.⁴ The term “postminimalism” has similar connotations to “postjazz,” a term coined by Tamar Barzel to characterize New York’s Downtown improvisation scene. Barzel notes that “postjazz” is “unthinkable in the absence of jazz’s performance practices and conceptual field but engag[es] only loosely (or sporadically) with received syntax.”⁵ In the same manner, postminimalism is deeply indebted to minimalism, but only loosely engages with minimalism’s established syntax.

The aim of this thesis is to study the rhythmic and melodic construction of Duckworth’s *TCP* in order to demonstrate the unique and creative features that led Gann to call this the first work of postminimalism. The thesis is essentially divided into two parts: Part 1 (Chapters I and II) provides background information on Duckworth, *TCP*, minimalism, and postminimalism; Part 2 (Chapters III-V) analyzes Preludes 14, 6, and 15, respectively. These analyses reveal how Duckworth manipulates and disguises familiar minimalist tropes that were hitherto known for their transparency, such as phase-

³ Ian Chilvers and John Graves-Smith, *A Dictionary of Modern and Contemporary Art*, 2nd ed. (New York: Oxford University Press, 2009), s.v. “post-minimalism,” accessed March 13, 2016, <http://www.oxfordreference.com.libproxy.uncg.edu/view/10.1093/acref/9780199239665.001.0001/acref-9780199239665-e-2163?rskey=O9CmCh&result=2161>.

⁴ Kyle Gann, “A Technically Definable Stream of Postminimalism, Its Characteristics and Its Meaning,” in *The Ashgate Research Companion to Minimalist and Postminimalist Music*, ed. Keith Potter, Kyle Gann, and Pwyll ap Siôn (Burlington VT: Ashgate, 2013), 40.

⁵ Tamar Barzel, “The Praxis of Composition-Improvisation and the Poetics of Creative Kinship,” in *Jazz/Not Jazz: The Music and Its Boundaries*, ed. David Ake, Charles Hiroshi Garrett, and Daniel Goldmark (Berkeley: University of California Press, 2012), 174.

shifting (Prelude 6) and additive processes (Prelude 14), by embellishing, rotating, and otherwise altering short melodic patterns.

Biography

I initially became acquainted with William Duckworth (1943–2012) through his writings instead of his compositions. Duckworth wrote several books during his life, most notably the textbook *A Creative Approach to Music Fundamentals* (2012) and *Talking Music* (1995),⁶ which collects his interviews with several American composers. Later in life, Duckworth composed multimedia works *Cathedral* (1997), which Gann declared to be Duckworth’s “magnum opus of the 1990s,”⁷ and the “iPod opera” *iOrpheus* (2007);⁸ his work on *Cathedral* spawned another book: *Virtual Music* (2005). Speaking at Griffith University in Australia in 2010 about music for the internet, Duckworth recalled his contributions to the development of sound on the internet through *Cathedral* and his thoughts on his book, *Virtual Music*:

[W]hen it began in the early 1990’s, the World Wide Web was a still and silent world. Images didn’t move, and webpages never made sounds. Nora [Duckworth’s wife, a computer programmer] and I not only had the

⁶ William Duckworth, *A Creative Approach to Music Fundamentals*, 5th ed. (Belmont California: Wadsworth Publishing, 1995); William Duckworth, *Talking Music* (New York: Da Capo Press, 1995).

⁷ Gann, *American Music*, 330.

⁸ Kozinn, “William Duckworth, Internet Composer, Dies at 69.” *Cathedral* is still accessible as of October 2016 at <http://cathedral.monroestreet.com/index.php>, though Duckworth’s personal website and iorpheus.com appear to be defunct.

possibility of helping to sonify this world, but I then had the further privilege of writing one of the first books to chronicle its development.⁹

Duckworth was born in Morganton, North Carolina, and educated at East Carolina University and the University of Illinois, from which he graduated in 1972 with a Doctor of Music Education degree, completing a dissertation examining notation in the music of John Cage.¹⁰ During his lifetime, Duckworth gained enough critical acclaim—though perhaps not the popular renown of the minimalists from the previous generation—to be called “one of our most significant composers, writers, and educators.”¹¹ Gann hints at the wide array of influences that Duckworth absorbed during his formative years and eventually combined in his works—he was influenced by (1) composer Howard Hanson through East Carolina University composition professor Martin Mailman; (2) John Cage through University of Illinois composition professor Ben Johnston; (3) Messiaen’s non-retrogradable rhythms; (4) Gregorian chant; (5) bluegrass picking patterns learned from his father; (5) and of course, the music of the early minimalists.¹² Duckworth’s early style, primarily encompassing music composed during his graduate studies, was characterized by Gann as being based in graphic notation and notably lacking the serial

⁹ William Duckworth, “William Duckworth - Visions for Virtual Music” (iTunesU podcast), *IMERSD Public Lecture Series*, April 10, 2010, accessed September 7, 2015, transcribed by Nicholas Luciano.

¹⁰ Nicolas Slonimsky and Laura Kuhn, eds., *Baker’s Biographical Dictionary of Musicians* (New York: Schirmer, 2001), vol. 2: 944.

¹¹ Tom Hamilton, “Remembering William Duckworth (1943–2012),” *New Music Box*, September 18, 2012, accessed September 6, 2015, <http://www.newmusicbox.org/articles/remembering-william-duckworth-1943-2012/>.

¹² Gann, *American Music in the Twentieth Century* (New York: Schirmer Books, 1997), 329–31.

techniques that dominated new music in the middle of the twentieth century.¹³ A composition for prepared piano and percussion titled *An Unseen Action* (1966); a piece called *Pitch City* (1969) which “pokes fun at serialism, requiring players to wend their way slowly through sustained pitches in a twelve-tone row matrix;”¹⁴ and a four-mallet percussion piece titled *Gymel* (1973), which “contains pitch patterns connected by lines in a web, through which the performers can move at will in a minimalistically tonal and pulsating texture . . . [showing] the influence of Riley’s *In C*” are three examples of works from this stage of Duckworth’s musical development.¹⁵ The scores of *Gymel* and *In C* are certainly similar, but they are also strikingly different at the same time. Superficially, *Gymel* is comprised of seventy-six patterns interconnected by a series of lines,¹⁶ as opposed to *In C*’s fifty-three patterns in a fixed order. *Gymel*’s melodic patterns contrast different accent patterns of measures of 7/8, 4/4, and 8/8 (e.g. contrasting 3+3+2, 3+2+3, and 4+2+2),¹⁷ while *In C*’s greatly vary in length (from only a single eighth note in duration to more than fifty). The performer decides the number of repetitions of each pattern in both pieces, but the connecting lines in *Gymel* allow the performer flexibility in the order of the patterns that is not present in *In C*.

¹³ Gann, *American Music*, 329.

¹⁴ Gann, *American Music*, 329.

¹⁵ Gann, *American Music*, 329.

¹⁶ William Duckworth, *Gymel for Percussion Quartet* (Baltimore: Smith Publications, 1976).

¹⁷ The melodic patterns do not have notated time signatures, but have beams and notated accents indicating these intended groupings. The only measure that is not meant to be one of these signatures is a 3/4 measure in the central melodic pattern.

Gymel's use of graphic notation and its connection to Cage make it an ideal case study in Duckworth's early style. *Gymel*'s use of lines that connect musical material can also be found in "Part J" of John Cage's *Concert for Piano and Orchestra*.¹⁸

Duckworth's doctoral dissertation at the University of Illinois examines Cage's *Concert*, so he was certainly aware of this composition.¹⁹ This is not to say that "Part J" was *the* direct inspiration for *Gymel*; there are obvious differences between the two: *Gymel* is a complete piece while "Part J" is a section, and *Gymel* uses lines to connect patterns while "Part J" uses arrows with numbers to connect individual notes, but it is certainly possible that Duckworth drew from this piece.

Duckworth's early period ended in approximately 1976. The new style that followed, later defined as postminimalism, eventually resulted in his "early magnum opus," an hour-long set of twenty-four short piano pieces titled *The Time Curve Preludes*.²⁰ The history and impact of *TCP* will be examined in more depth in the next section. Duckworth followed up the success of *TCP* with "a similarly ambitious vocal cycle"²¹ titled *Southern Harmony* (1980–81), which adapts the shaped-note hymnal of the same name; the song cycle *Simple Songs About Sex and War* (1983–84); and another piano work titled *Imaginary Dances* (1985/88),²² among others. Some of Duckworth's

¹⁸ John Cage, *Concert for Piano and Orchestra* (New York: Henmar Press, 1960).

¹⁹ William Duckworth, "Expanding Notational Parameters in the Music of John Cage" (EdD diss., University of Illinois, 1971), 105–110.

²⁰ Gann, *American Music*, 329.

²¹ Gann, *American Music*, 329–30.

²² C.F. Peters, which publishes many of Duckworth's works, lists the date of *Imaginary Dances* as 1985–88. Lois Svard, who released a recording of the work in 1994 on Lovely Music, lists the date of this composition as 1985, revised 1988 on her website. This website also lists her

early Cagean influences—the use of chance, for example—survived into this mature style; for example, *Baker’s Biographical Dictionary of Musicians* notes that “in his *Gathering Together/Revolution* for Mallet Percussion, Drums, and Keyboards (1992–93), [Duckworth] created the first chance-determined postminimalist ‘moment form.’”²³ As an educator, Duckworth taught at Bucknell for 38 years before taking a medical leave in 2011 for pancreatic cancer, to which he later succumbed in 2012.²⁴ Gann hints at clashes between Duckworth and Bucknell’s administration, stating that they considered him “a loose cannon” and that they “couldn’t seem to deal with their nice young music ed guy becoming a famous composer.”²⁵ In response to dealing with the tensions of academia, Gann claims Duckworth advised him “don’t talk to the adults.”²⁶

as the pianist for which the piece was written. Accessed March 29, 2016, <http://loissvard.com/william-duckworth/>.

²³ *Baker’s Biographical Dictionary*, 945. “Moment forms” were developed by Stockhausen to create a sort of “eternal present” through pieces that lend themselves to different combinations and orderings. The concept of an eternal moment is similar to the concept of vertical time, which is discussed below. Another connection between Duckworth and Stockhausen is the use of the Fibonacci series, which appears in Duckworth’s *TCP* and many of Stockhausen’s works. Richard Toop, *Grove Music Online*, s.v. “Stockhausen, Karlheinz,” accessed March 29, 2016.

²⁴ “Prof. Duckworth left legacy at the University,” *The Bucknellian*, September 19, 2012, accessed September 7, 2015, <http://bucknellian.net/24890/news/william-duckworth-death/>.

²⁵ Kyle Gann, “Strange Times: William Duckworth (1943-2012),” *Postclassic*, September 13, 2012, accessed November 23, 2016, www.artsjournal.com/postclassic/2012/09/strange-times-william-duckworth-1943-2012.html.

²⁶ Gann, “Strange Times.”

The Time Curve Preludes

In the liner notes for the first commercial recording of *TCP*, Kyle Gann asserts that the work's title symbolizes a divergence from minimalism through its different treatment of time. Gann reasons:

[t]he classic minimalist works assumed a plentitude of time; Young's *Well-Tuned Piano*, Reich's *Music for 18 Musicians*, [and] Glass's *Einstein on the Beach* take leisurely starts and inhabit whole evenings, spreading out toward infinitely receding temporal horizons. They stop not from internal logic, but because performers are human. *The Time Curve Preludes*, by contrast, imply a converging sense of time, curving toward their logical endpoints with built-in closure. [For example,] Prelude No. 9 ends where it has to, [because its] acceleration quickly reaches its potential maximum.²⁷

This quotation helps to provide a premise for the entire set. Duckworth plays with different interpretations of time throughout *TCP*. Two of the preludes examined in this thesis, numbers 6 and 14, have processes that have natural endpoints. I believe that the character of each individual piece was chosen to manipulate the listener's perception of time; for example, the hypnotic waves of Prelude 6, the frenetic tension of Prelude 10, the shifting whirlpool of Prelude 19, or the floating stasis of Prelude 23 all seem to broaden, condense, or otherwise distort time.

As noted earlier, *TCP* marked both a departure from minimalism and a consolidation of Duckworth's previous interests and influences—hidden rhythmic

²⁷ Gann, "Liner Notes to *The Time Curve Preludes*," *The Time Curve Preludes*, Neely Bruce, Lovely Music CD 2031, CD, 1993, accessed February 9, 2016, <http://www.lovely.com/albumnotes/notes2031.html>.

structures, quotations of Gregorian chant, additive and subtractive structures, and rhythmic cycles—within a simpler style that departed from the conceptualism of his earlier graphic scores.²⁸ The performance instructions in the score direct the performer to attach

seven small lead weights[,] made by taping together four piano key weights [onto certain piano keys, which] are used to create the primary drones. The indicated pitches are depressed silently and held down by the weights before beginning each prelude, thus allowing certain strings to vibrate sympathetically.²⁹

See **Table 1.1** for a list of the depressed keys, metronome markings (in lieu of expressive markings, which Duckworth omits), and Beuerman’s identification of the pitch collections of each prelude.³⁰ Though Duckworth does not instruct the pianist to place anything inside the piano, the influence of Cage can still be felt through the instructions to prepare the piano through the placement of these weights. Many performers highlight these drones by waiting for a period of time after each piece has ended for the sympathetic strings to stop vibrating.³¹

²⁸ Gann, *American Music*, 329.

²⁹ William Duckworth, *The Time Curve Preludes* (New York: Henmar Press, 1979).

³⁰ Eric Gilbert Beuerman, “The Evolution of the Twenty-four Prelude Set for Piano” (DMA diss., University of Arizona, 2003), 63–64. All of the tonal centers and modes are directly quoted from Beuerman.

³¹ In his review for *Allmusic.com*, Stephen Eddins points out that Richard Andrew Lee’s recording of *The Time Curve Preludes* lasts nearly ten minutes longer than the original recording. This discrepancy is mostly due to Lee’s emphasis of these drones at the end of each movement. Stephen Eddins, *William Duckworth: The Time Curve Preludes*, accessed September 28, 2015, <http://www.allmusic.com/album/william-duckworth-the-time-curve-preludes-mw0002285937>.

Table 1.1. Opening Tempo Markings, Sympathetic Drone, and Beuerman’s List of Pitch Collections.³²

<u>Prelude</u>	<u>Opening Tempo Marking</u>	<u>Sympathetic Drones</u>	<u>Beuerman’s List of Pitch Collections</u>
1 (Book 1)	Quarter = M.M. 104	E♭1, E♭2	E♭ Mixolydian
2	Quarter = M.M. 104	C1, G1	C minor
3	Quarter = M.M. 126	D♭1, E♭1, F1, G♭1	D♭ Major
4	Quarter = M.M. 132	B♭0, F1, B♭1, D♭2, D2, F2, B♭2	B♭ major/minor
5	Quarter = M.M. 132	A0, B♭0, A1, B♭1, A2, B♭2	E♭ minor with raised 4 th
6	Quarter = M.M. 104	G♭1, D♭2, G♭2, D♭3	G♭ minor
7	Quarter = M.M. 72	B0, F♯1, B1	B Mixolydian/bitonal
8	Quarter = M.M. 76	E♭1, A♭1, E♭2	A♭ Lydian with ♭7 th
9	Quarter = M.M. 96	F♯1, G1, F♯2, G2, F♯3, G3	D (non-tonal)
10	Quarter = M.M. 192	D1, A1, D2, A2	D minor with ♭2 nd and ♯7 th
11	Quarter = M.M. 80	E1, B1, E2, B2, E3, B3	E major/natural minor
12	Quarter = M.M. 152	F1	F Mixolydian
13 (Book 2)	Quarter = M.M. 52	C1, F1, C2, C3	F Mixolydian with A♮ and A♭
14	Quarter = M.M. 132	D1, F1, A1, D2, A2	D Dorian
15	Quarter = M.M. 160	D1, E♭1, D2, E♭2	E♭ center, scale of E♭, F, G♭/F♯, G, A, B♭, D
16	Eighth = M.M. 76	C1, D1, C2, D2, C3, D3	D minor
17	Quarter = M.M. 132	B♭0, D♭1, A♭1, B♭1, D♭2, A♭2	D♭ major
18	Quarter = M.M. 112	A0, F♯1, A1, F♯2, A2	G minor with A pedal
19	None	B♭0, F1, B♭1	B♭ minor
20	Quarter = M.M. 160	B0, B1, B2	E minor
21	Quarter = M.M. 84	F♯1, A1, A♯1, F♯2, A2, A♯2	E♭ major
22	Quarter = M.M. 152	D1, G1, B♭1, B1, D2	G major/minor
23	Quarter = M.M. 60	C1, E♭1, A♭1, C2, E♭2	A♭ Lydian
24	Quarter = M.M. 200	E1, G1, G♯1, E2	E major/minor

Contemporary reviews indicate that critics immediately recognized that *TCP* deviated from the minimalist norm. Kyle Gann notes that he was initially “nonplussed”

³² There is a typo in the Peters score. The first movement of Book 2 is incorrectly labeled as a second Prelude 12, rather than 13. The correct numbering resumes with Prelude 14. It seems unlikely that this is an intentional mislabeling to avoid the number 13, as the number features prominently in the Fibonacci series used extensively in *TCP*.

when he first encountered *TCP* because they did not fit his presupposition of what minimalism was.³³ Gann would later be the one who identified this composition as “the first postminimalist piece, or at least that [*TCP*’s] 1980 [New Music America] performance [was] the first important public unveiling” of postminimalism.³⁴ Paradoxically, both Gann’s current promotion of *TCP* and his initial lack of enthusiasm for them stem from the fact that the piece did not fit his expectations that minimalism should have audible processes. Gann’s thinking likely changed in the late 1980s, when he came to understand that Duckworth’s *TCP* weren’t an anomaly, but were at the forefront of a new style.³⁵

Academic and critical literature typically describes *TCP* using brief vignettes that either quickly supply basic information about a particular prelude or illustrate a concept of postminimalism, though there are some more substantive interpretations of form, pitch content, rhythmic construction, and process. **Table 1.2** lists various sources that discuss *TCP*. The specific preludes examined in each source are indicated on the table by an “X.”

Kyle Gann’s writings on minimalism and postminimalism have been especially influential in this thesis. He is a prolific writer on postminimalism, and has repeatedly taken it upon himself to attempt to define the style and promote its leading composers. In addition to regularly referencing *TCP* as a landmark piece of postminimalism, Gann has provided analyses and descriptions of more than half of *TCP*.

³³ Gann, “Minimal/Maximal,” 6.

³⁴ Gann, “Minimal/Maximal,” 6.

³⁵ Gann, *American Music*, 327.

Table 1.2. Sources that Describe Individual Movements of *TCP*.

	Frank	Beurman	Gann <i>AM</i>	Gann <i>TDS</i>	Gann <i>TCP</i> Notes	Masnikosa	Lee	ap Sión
1	X	X	X		X	X	X	
2		X			X	X		
3	X	X						
4		X			X			
5		X			X			
6		X	X		X			
7	X	X		X	X			
8		X						
9	X	X	X	X	X		X	X
10		X			X			
11		X		X				
12	X	X						
13		X	X		X			
14		X			X			
15	X	X	X	X	X			
16	X	X						
17		X						
18		X						
19	X	X						
20		X						
21	X	X						
22		X			X			
23	X	X			X			
24		X						

His album notes for the Neely Bruce recording cover the widest breadth of preludes in his writings, briefly touching on thirteen.³⁶ Gann examines Preludes 9 and 15 in more depth in two books, his *American Music in the Twentieth Century*³⁷ and his chapter titled “A

³⁶ Gann, “Liner Notes To...”.

³⁷ Gann, *American Music*, 331; Gann, “Technically Definable Stream,” 46. Gann served as an editor for the *Ashgate Research Companion* in which this chapter appeared.

Technically Definable Stream of Postminimalism, its Characteristics, and its Meaning” in *The Ashgate Research Companion to Minimalism and Postminimalism*. Additionally, Gann provides short analyses of Preludes 1, 6, and 13 in *American Music* and of Preludes 7 and 11 in “A Technically Definable Stream of Postminimalism.” Regarding Prelude 13, Gann discusses Duckworth’s use of ambiguous modes (i.e. alternating between A \sharp and A \flat in F), as well as his use of the Fibonacci series to create rhythmic structures.³⁸ Gann details the processes Duckworth uses in the other two preludes covered in the *Ashgate* chapter: Prelude 7 is bitonal with “a trace of additive process;” Prelude 11 features a melody that sounds like a single line, but which Gann demonstrates is in fact two. Duckworth rotates one of the melodic lines with each statement, creating a phasing effect.³⁹ This is not the only prelude where Duckworth disguises phasing: Chapter IV will demonstrate how Prelude 6 achieves the same goal with different techniques.

Masnikosa’s article in the same collection, “A Theoretical Model of Postminimalism and Two Brief ‘Case Studies,’” uses Preludes 1 and 2 as backdrops to discuss postmodernism in postminimalist music. Masnikosa argues that Duckworth’s quotations, paraphrases, and borrowings from other composers and styles are not in themselves postmodern; instead, it is the hierarchical layering of these traits, especially in contrast with minimalism’s non-hierarchical “flat surfaces,” that are postmodern.⁴⁰ A

³⁸ Gann, *American Music*, 331.

³⁹ Gann, “Definable Stream of Postminimalism,” 47; 43–44.

⁴⁰ Marija Masnikosa, “A Theoretical Model of Postminimalism and Two Brief ‘Case Studies,’” in *Ashgate Research Companion to Minimalist and Postminimalist Music*, eds. Keith Potter, Kyle Gann, and Pwyll ap Siôn (Burlington VT: Ashgate, 2013), 304–307.

more extensive discussion of philosophical theories of postminimalism will appear in Chapter II.

Beuerman's 2003 dissertation about the twenty-four-piece prelude set focuses on *TCP* as the prime representative of the genre composed after 1924. Beuerman offers succinct information about every prelude in *TCP* at least once, grouping together preludes based on similarities in form, timbre, pitch, intertextuality, and process. Walter Frank's thesis provides overviews of more than half of the preludes, examining the same aspects as Beuerman, though Frank organizes his discussion by prelude instead of by trait.⁴¹ Both papers are useful for quick information about the preludes, including processes that are present.

As **Table 1.2** shows, of all the preludes, Prelude 9 has been most discussed. It is a prime target for analysis due to its consistent process and clear quotations of Satie's *Vexations* (ca. 1893).⁴² ap Siôn describes the process as one that is strict and "masks the quotation by introducing Satie's melody in long note values against an eight-bar pattern that undergoes a gradual process of pitch substitution."⁴³ The interaction of its pitch and rhythmic material is akin to that of the isorhythmic motet's *color* and *talea*. **Figure 1.1** shows the first three statements of the *talea*, with numbers indicating each pitch's original position in the *color*, while **Figure 1.2** provides the first half of *Vexations* for

⁴¹ Walter Frank, "The Piano Music of William Duckworth" (MM thesis, Wesleyan University, 2005).

⁴² Frank, 36–40.

⁴³ ap Siôn, 267.

comparison, along with a re-notation eliminating double accidentals.⁴⁴ The prelude begins with both hands playing the *color*, which is composed of linear statements of the chords in the right-hand part of *Vexations* (the first six notes of each repetition of the *color* is indicated in **Figure 1.1** with a number above the note).⁴⁵ In m. 18, the left-hand stops doubling the *color* and begins to play a direct quotation of the left-hand theme of *Vexations*. Duckworth applies a subtractive process to the *color* by removing the first pitch with each successive statement. The end of the *color* is punctuated with two accented G5 eighth notes that happen in the same beat, mimicking the final two notes of the first half of *Vexations*. The eighth-note Gs migrate systematically through the *talea* due to the differing number of notes in the *color* and rhythms in the *talea*. In **Figure 1.1**, the locations of these Gs are circled as they migrate through the *talea*. Duckworth changes some of the rhythms of the *talea* to keep the Gs within the same beat. Eventually, the Gs even change the opening rhythm of the *talea* in m. 49. This additional element of misalignment between the *color* and *talea* further obscures the *talea* as the *color* gets shorter, causing the repeated Gs to become more frequent.

References to Prelude 9's isorhythmic-like process and the *Vexations* quotation are ubiquitous to the point that it is more notable when a writer doesn't mention them than when they do. ap Siôn's comments about the process (quoted earlier) are his only mention of the process, though he does examine the use of *Vexations*.

⁴⁴ For clarity, the re-notation uses exclusively sharps. Accidentals apply only to the pitch they immediately precede.

⁴⁵ Frank, 36.

Figure 1.1. First Three Statements of Prelude 9's Rhythmic Pattern.

The image shows three staves of music, labeled '8va.', 'm.9', and 'm.17'. Each staff contains a sequence of notes with various rhythmic markings. The first staff starts with a measure containing notes with stems pointing up and down, followed by a series of notes with stems pointing down. The second staff continues this pattern, with some notes having stems pointing up. The third staff shows a similar pattern, with some notes having stems pointing up and others pointing down. There are some circled notes in the third staff, possibly indicating specific rhythmic features or accents.

Figure 1.2. The First System of *Vexations* and a Clearer Re-notation.

The image shows two systems of notation, labeled 'a. Vexations' and 'b. Re-notation'. Each system consists of a grand staff with a treble clef and a bass clef. System 'a' shows a complex rhythmic pattern with many notes and rests, including some notes with stems pointing up and others pointing down. System 'b' shows a similar pattern, but with a different notation style, possibly indicating a clearer or more simplified version of the original notation.

The three Gann publications listed refer to *Vexations* and the subtractive bassline process, which removes a sixteenth-note duration with each statement of the left-hand theme (from a half-note to a dotted-quarter plus a sixteenth, dotted quarter, quarter-plus-sixteenth, etc.), but not to the process guiding the right-hand part.⁴⁶

Conversely, Lee's discussion of Prelude 9 is one of the most substantial of any analysis of a single prelude from *TCP*.⁴⁷ In addition to discussion of the two processes and the *Vexations* quotation, Lee identifies five rhythmic patterns that are manipulated to create what he calls the prelude's rhythmic ground. Lee argues that the regularity of the right-hand rhythms and the left-hand theme create a meter that lend the piece a sense of linear time, while the static nature of the process contributes a sense of vertical time.⁴⁸ Additionally, Lee discusses Prelude 1, where he points to Mixolydian aspects of its pitch collection. He concludes that the lowered seventh scale degree adds tension, and therefore a sense of linearity for the listener, while Duckworth subverts the linear aspects by only implying tonic and dominant harmonies. Lee claims that by using those harmonies exclusively, the contrasts between them weaken.⁴⁹

Though it does not examine *TCP* specifically, Adam Silverman's article on Duckworth's choral cycle *Southern Harmony* is one of the most thorough sources pertaining to any single composition by Duckworth. Silverman begins by providing

⁴⁶ Gann, *American Music*, 331; Gann, "A Technically Definable Stream of Postminimalism," 46; Gann, "Liner Notes To... ."

⁴⁷ Richard Andrew Lee, "The Interaction of Linear and Vertical Time in Minimalist and Postminimalist Music" (DMA diss., University of Missouri-Kansas City, 2006), 86-91.

⁴⁸ Lee, 189.

⁴⁹ Lee, 103-104.

background information about the shape-note hymns that served as source material, then analyzes three movements from the choral cycle. Silverman demonstrates how Duckworth retains elements from both the shape-note tradition and minimalism, while creating something that went beyond both aesthetics. On this point, Silverman states:

Southern Harmony acts as a setting in which two American styles co-mingle. Whether this piece is minimalist or Old Harp, classical or folk is an issue that does not require resolution. The important conclusion is that in Duckworth's *Southern Harmony*, styles and procedures coexist by illuminating the salient features of each other.

A similar point can easily be made about *TCP*. While *TCP* doesn't exclusively demonstrate the influences of American folk music, it is still a near seamless blending of features from various other genres and styles, like gamelan and European art music.

My hope is that the preceding literature review demonstrates that while there is literature examining *TCP*, much of it only begins to scratch the surface of the work's compositional complexities. Richard Cohn grappled with a similar problem in his 1988 article "Inversional Symmetry and Transpositional Combination in Bartók." In the article, Cohn advocates using transpositional combination to analyze Bartók's music, rather than the established transpositional symmetry. Cohn points out that "when some entity or groups of entities is seen to possess only a single property, then mere citation of that property is automatic grounds for assigning it explanatory status."⁵⁰ I argue that much of the critical literature on *TCP* operates in a similar way, only detailing a single

⁵⁰ Richard Cohn, "Inversional Symmetry and Transpositional Combination in Bartók," *Music Theory Spectrum* 10 (Spring 1988): 26.

minimalistic process while ignoring other patterns present in the work. This is the case in Prelude 6, where existing explanations of the form and process fall short because the analyst doesn't realize it is essentially a phase piece, and Prelude 14, where there have been explanations of the process but not the numerous melodic relationships. Despite various citations by Gann and others of the importance of *TCP*, few theorists have provided in-depth examinations of the preludes. I hope that this thesis will begin to fill the gaps in the scholarship on *TCP* and open the door to deeper discussions of *TCP*, Duckworth's music, and postminimalism.

CHAPTER II

AESTHETICS

Aesthetics of Minimalism

In what ways did *TCP* depart from earlier minimalist compositions? In a series of articles on minimalism and postminimalism for the website *NewMusicBox* titled “Minimal Music, Maximal Impact,” Gann provides twelve basic characteristics that most minimalist works exhibit. **Figure 2.1** reproduces the headings of the subcategories from this list.

Figure 2.1. Ideas, Devices, and Techniques of Early Minimalism According to Kyle Gann.⁵¹

1. Static Harmony
2. Repetition
3. Additive Process
4. Phase-shifting
5. Permutational Process
6. Steady Beat
7. Static Instrumentation
8. Linear Transformation (“generalization of processes such as additive structure above”)
9. Metamusic (i.e. music created by overtones)
10. Pure Tuning
11. Influence of non-Western Cultures
12. Audible Structure

⁵¹ Gann, “Minimal/Maximal,” 2.

Though not a comprehensive list, these are often the traits associated with the early musics of the most prominent minimalists of the 1960s and 70s: Terry Riley, Steve Reich, and Philip Glass. Of the features on Gann's list, I would especially associate repetition, a steady beat, static harmony, phase shifting, additive processes, and the influence of non-Western cultures with minimalism. Composer John Adams lists similar criteria, including (1) a regular pulse [Gann's #6], (2) slow tonal harmonic rhythms [similar to #1], and (3) and repeated short melodic patterns that create larger forms.⁵² Gann criticizes the limited scope of this list, claiming that it intentionally excludes La Monte Young.⁵³ To be clear, I consider Young a minimalist; however, Steve Reich, Philip Glass, Steve Reich, and Terry Riley have been much more commercially successful, meaning their compositions have arguably had a larger impact on future generations due to their larger audiences. Of these characteristics, postminimalism primarily moves away from audible structures and static harmonies—departures which resulted from an increased emphasis on expressivity—to distinguish itself as a different style.

Absent from the main quartet of minimalists—Young, Riley, Reich, and Glass—is Adams. As a member of a slightly younger generation, his music has been described as both minimalist and postminimalist. K. Robert Schwarz considers Adams the original postminimalist, stating that the term was “invented to describe Adams's eclectic

⁵² John Adams, quoted in Kyle Gann, “Minimal Music, Maximal Impact,” *NewMusicBox*, November 1, 2001, 2, accessed September 7, 2015, <http://www.newmusicbox.org/articles/minimal-music-maximal-impact/>.

⁵³ Gann, “Minimal/Maximal,” 2.

vocabulary.⁵⁴ When asked if he ever considered himself a minimalist, Adams disassociates himself from the style and provides motivations for doing so that, as we will see, are distinctly postminimalist:

[H]earing minimalist music was this tremendous shock for me, and it was a pleasurable shock because it really pointed in a direction. . . . I heard those classic early minimalist pieces . . . and I felt that this was a way that I could find the sort of essential building blocks of the musical experience: pulsation, tonality, and repetition. . . . My first works were fairly obviously influenced, *Phrygian Gates* is the most minimalist of pieces of mine, but as you say, you know there was something always very restless about my musical self, and what I didn't like about minimalism was its sort of mechanical rigor. . . . I wanted a music that was more dramatic, that had highs and lows and sudden shifts.⁵⁵

It seems that Gann does not consider Adams's *Phrygian Gates* a postminimalist composition; indeed, he indicates that it was not until the eighties, well after *Phrygian Gates* (1977), *Shaker Loops* (1978), and Duckworth's *TCP*, that Adams "bounded away from minimalism in large leaps."⁵⁶ Perhaps Gann omits *Phrygian Gates* to support his narrative that *TCP* is the first postminimalist piece. It is more likely that the differences between Schwarz and Gann's interpretations are only semantic. While *Phrygian Gates* certainly seems to be a step towards postminimalism, Adams does refer to it as his "most minimalist" piece, so there is some room for interpretation.

⁵⁴ K. Robert Schwarz, *Minimalists* (New York: Phaidon Press, 1996), 170.

⁵⁵ John Adams, interview with Richard Knisely (audio recording), *Classical Profiles*, accessed September 24, 2016, www.wgbh.org/programs/Classical-Profiles-753?episode=10289, transcribed by Nicholas Luciano.

⁵⁶ Gann, *American Music*, 229. In his book, Gann groups Adams with George Crumb, Frederick Rzewski, Jacob Druckman and others as purveyors of "New Romanticism." To Gann, these composers continue the nineteenth-century European Romantic tradition, breaking from serialism without embracing minimalism's simplicity.

Two other authors who have attempted to define minimalism include Schwarz and Keith Potter. Schwarz points to many of the same characteristics that Gann does, such as non-Western influences, repetition, a steady pulse, and an audible structure, while also including a clear tonal framework and “intentionlessness” (i.e. a lack of drive towards climaxes and cadences).⁵⁷ Potter lists similar characteristics as well, but he focuses most of his attention on establishing a modernist interpretation of minimalism. He begins by establishing connections between minimalist music and minimalist and pop visual art before arguing that minimalist art, and by extension minimalist music, is modernist. Potter’s primary reasoning for classifying minimalism as a modernist genre is minimalism’s use of formalism (i.e. its strict processes) and experimentalism.⁵⁸

Gann gives special preference to the last trait of minimalism on his list: the presence of what he calls an “audible structure.” He states that in “classic minimalist pieces,” the work’s “structure was right on the surface” and that “part of minimalism’s early mystique was to have no secrets.”⁵⁹ The concept of having a foregrounded compositional method goes back to Steve Reich and his essay “Music as a Gradual Process.” In this short manifesto, Reich declares:

I am interested in perceptible processes. I want to be able to hear the process happening throughout the sounding music. . . . John Cage has used processes and has certainly accepted their results, but the processes he used were compositional ones that could not be heard when the piece was performed. The process of using the *I Ching* or imperfections in a sheet of

⁵⁷ Schwarz, *Minimalists*, 9–12.

⁵⁸ Keith Potter, *Four Musical Minimalists* (Cambridge: Cambridge University Press, 2000). Potter’s book focuses on Young, Riley, Reich, and Glass.

⁵⁹ Gann, “Minimal/Maximal,” 2.

paper to determine musical parameters can't be heard when listening to music composed that way. . . . What I'm interested in is a compositional process and a sounding music that are one and the same thing.⁶⁰

Reich is specifically referring to the process of phasing he developed using tape loops in *It's Gonna Rain* (1965) and then transferred to live performance in works including *Piano Phase* (1967) and *Violin Phase* (1967). Glass also used processes to organize his pieces from this period, though he tends to use additive processes, in which notes and rhythms are systematically added in a sequence.⁶¹ Wes York has noted “the emergence of formal relationships occurs through the interaction of the various processes themselves”—simply put, it is the processes that give the works form.⁶² We can contrast the form-creating properties of these processes—the phasing of Reich and the additive processes found in early Glass—with sonata form, for example, in which key areas and themes are the generators of the form. Gann's “own personal definition of minimalism is the ability of these processes to be clear to the ear in a way that the processes of serialism and indeterminacy are not.”⁶³

⁶⁰ Steve Reich, “Music as a Gradual Process” (1968), in *Writings on Music: 1965–2000*, ed. Paul Hillier (New York: Oxford University Press, 2002), 34–36. Reich's assertion that he does not use secret structures is disputed in Richard Cohn, “Transpositional Combination of Beat-Class Sets in Steve Reich's Phase-Shifting Music,” *Perspectives of New Music* 30, no. 2 (Summer 1992).

⁶¹ A clear example of Glass's use of an additive process is in the opening of his opera *Einstein on the Beach*, in which the chorus chants “one, two, three, four, one, two, three, four, five, six, [one], two, three, four, five, six, seven, eight.” Though the pattern is not continued, and does not determine the form of the piece, the basic idea is the same.

⁶² Wes York, “Form and Process,” in *Writings on Glass*, ed. Richard Kostelanetz and Robert Flemming (New York: Schirmer Books, 1997), 61.

⁶³ Gann, “Minimal/Maximal,” 2.

As for *TCP*, it retains many of the basic traits of minimalism. Most, if not all, of the movements contain a steady beat, static and mostly diatonic harmony, repetition of short melodic patterns, and some sort of process. Gann indicates that the end of the use of strict audible processes in the music of Reich, Glass, and Riley—around 1980—is the juncture at which these composers began to cease to identify themselves as minimalists and when postminimalism began to emerge,⁶⁴ though it was not until the late 1980s that it became clear that postminimalism had become a new style distinct from minimalism.⁶⁵ The later compositions of Reich and Glass reflect more of postminimalism's characteristics—using far fewer strict audible processes while also featuring more conventional melodies and climaxes. As a result of the delay in recognizing the new style, *TCP* was classified as minimalist for almost a decade by Gann and others who expected it to fit into the minimalist aesthetic. Despite the presence of minimalist traits, it is what *TCP* lacks, and what new elements it brings to the table, that makes it a harbinger of a new style.

⁶⁴ Gann, "Minimal/Maximal," 2.

⁶⁵ Gann, *American Music*, 327.

Aesthetics of Postminimalism

The objectives and aesthetics of postminimalism were strikingly different from minimalism despite their displaying clear markers of the earlier style. Postminimalist works are characterized by an increased emphasis on expressivity⁶⁶ and a diminished audible structure.⁶⁷ Duckworth and other postminimalist composers were usually a few years younger than the original minimalists, and were typically listening to minimalism but also combining it with other influences.⁶⁸ While they retained some of the basic features of minimalism in their music, for example its “steady beat, diatonic tonality, and even formal archetypes,”⁶⁹ the postminimalists also charted new territory.

Robert Fink gives credit for the beginning of the decline of minimalism to Reich’s *Music for Eighteen Musicians* (1976), whose “rich, reverberant sonic landscapes, the lushness for its own sake,” leads to more emphasis on expressivity, less [on] rigour and experiment[ing with processes].⁷⁰ Though Fink continues by stating that postminimalists still tended to avoid climaxes in their music, other writers contradict this point; for example, Schwarz calls attention to the “impassioned climaxes [that] left minimalism behind” in John Adams’s *Phrygian Gates*.⁷¹ Schwarz primarily points to the use of

⁶⁶ Robert Fink, “(Post-)minimalisms 1970–2000: The Search for a New Mainstream,” in *The Cambridge History of Twentieth-Century Music*, ed. Nicholas Cook and Anthony Pope (New York: Cambridge University Press, 2004), 543. Other writers that have proposed similar criteria include Dimitri Cervo, quoted in Lee, 7; Potter, 16; Schwarz, *Minimalists*, 178.

⁶⁷ Gann, “Minimal/Maximal,” 6; Schwarz, *Minimalists*, 217; Gann, *American Music*, 326.

⁶⁸ Gann, “Minimal/Maximal,” 6.

⁶⁹ Gann, “Minimal/Maximal,” 6.

⁷⁰ Fink, “(Post)minimalisms,” 543.

⁷¹ Schwarz, *Minimalists*, 178.

climaxes and the fusion of “high” and “low” art styles to define Adams as a postminimalist.⁷²

The increased use of climax was symptomatic of a larger trend in postminimalism: an increased focus on musical expressivity. In the context of this paper, I will use the term expressivity to encompass several criteria that lead to an emphasis on expressiveness in a composition. I do not mean to imply that early minimalist composers had no regard for the sounds produced in their compositions, but rather that the typically static nature of the works tended to limit their emotional and dynamic range. Claims about a greater emphasis on timbre, dynamics, and emotional expression in postminimalist works are difficult to quantify, as no two listeners are going to react to a composition in the same way. One of the primary pieces of evidence I will use are climaxes, which for the purposes of this paper will be defined as dynamic points of arrival. I will also consider the construction of melodies, though this is certainly more subjective than counting the appearances of *crescendi* and dynamic accents that often accompany climaxes. For example, a melody that is only two notes over several measures likely will not be considered cohesive, while a longer, better developed one would.

Process-driven early minimalism was a product of what Gann describes as an “objectivist mindset,” which aimed to “remove human personality from the creation of music” and allow nature to take over.⁷³ Gann singles out Duckworth as the postminimalist antithesis of this mindset, stating that he “had no intention of submerging

⁷² Schwarz, *Minimalists*, 170.

⁷³ Gann, “Let X=X,” 147.

his individuality into minimalism's motoric impersonality."⁷⁴ Instead, Duckworth and other postminimalists sought to make minimalist techniques a vehicle for their own ideas and personal expression. Gann's claims are at least partially in line with statements from Reich's "Music as a Gradual Process," in which Reich distances the role of the composer to a degree, stating that it is the process that "determine[s] all the note-to-note (sound-to-sound) details and the overall form."⁷⁵ However, Reich does not fully embrace objectivity, stating later in the essay that "processes can give one a direct contact with the impersonal and also a kind of complete control, and one doesn't always think of the impersonal and complete control as going together."⁷⁶

One of the side effects of incorporating more expressivity into postminimalist works is the diminished sense of vertical time created by the static nature of most early minimalist pieces. The differences between vertical and linear time are detailed by Jonathan Kramer, who argues that music with verticality exhibits "a single present stretched out into an enormous duration, a potentially infinite 'now' that nonetheless feels like an instant;" conversely, music with linearity projects "the determination of some characteristic(s) of music in accordance with implications that arise from earlier events in the piece."⁷⁷ Minimalism and postminimalism are typically associated with vertical and linear time, respectively, although Richard Andrew Lee argues in his dissertation that

⁷⁴ Gann, "Minimal/Maximal," 6.

⁷⁵ Reich, 34.

⁷⁶ Reich, 35.

⁷⁷ Jonathan Kramer, quoted in Lee, 14–17.

both styles mix aspects of both vertical and linear time as part of a continuum.⁷⁸ The strict repetition of minimalism generally keeps the music from building to anything other than the completion of the process—Kramer explains that “there is no hierarchy of phrase structure. . . . the motion is so consistent that we lose any point of reference, any contact with faster or slower motion that might keep us aware of the music’s directionality.”⁷⁹ Fink disagrees with nonteleological assessments for most minimalist music, stating that “any music with a regular pulse, a clear tonal center, and some degree of process is more likely” to have some level of goal-directedness, which he calls “recombinant teleology” (as opposed to anti-teleologic music, which would have no such directedness).⁸⁰

Other compositional devices that create a sense of linear time in postminimalist music, while also creating a more expressive feel in the music, include “melodic lines and melodic expressiveness,”⁸¹ “exploration of textures, and, perhaps most importantly, ‘the arrival of a kind of harmonic motion.’”⁸² The appearance of these devices creates more of a sense of cause-and-effect within the music, where one event leads to another in a connected way, leading to linear time and a significantly diminished conception of vertical time.

The other major characteristic that typifies postminimalist music is the diminished importance of the audible process. Given Gann’s claim that the inclusion of an audible

⁷⁸ Kramer, quoted in Lee, 23.

⁷⁹ Kramer, quoted in Lee, 18.

⁸⁰ Robert Fink, *Repeating Ourselves: American Minimal Music as Cultural Practice* (Berkeley: University of California Press, 2014), 43.

⁸¹ Cervo, “Post-minimalism: A Valid Terminology,” 42, in Lee, 7, as well as Potter, 16, in Lee, 6.

⁸² Potter, 16, in Lee, 6.

process was significant to early minimalist works to the point that it is his “own personal definition of minimalism,” the exclusion of such a trait would fundamentally change the nature of the genre. In *TCP*, the practice of writing “structurally obvious” works did indeed begin to break down. Gann notes that *TCP* is “mysterious, not analyzable on first hearing,”⁸³ and he was not the only critic or scholar to note that the processes that drive *TCP* are not as clear as the phasing of Reich or the additive processes of Glass. In his review of the 1980 New Music America festival performance of *TCP*, the *Village Voice*’s contemporary music critic Tom Johnson called the piece “unique” and mentions how

each Prelude seems to be in a different mode, and while these modes are relatively simple, they are also quite unusual. . . . The music ripples along in fairly regular beats, though it never confines itself to steady eighth notes. . . . The modal qualities, the rhythmic interest, and the purely pianistic discoveries add up to the rather complex sequences that defied my efforts to find specific patterns in what was going on, and yet there was something very smooth and orderly in the way the music progressed.⁸⁴

Composer Paul Epstein, who is identified by Gann and Marija Masnikosa as a postminimalist, outlines the aim of this departure from audible structure. Epstein argues that minimalism and postminimalism are different because of “the amount of intervention the composer makes” in the processes; Masnikosa clarifies that “strict, ‘discovered’ processes are minimalist, while music in which the composer changes (or corrects) the

⁸³ Gann, “Minimal/Maximal,” 6.

⁸⁴ Tom Johnson, *The Voice of New Music: New York City 1972–1982* (Paris: Editions 75, 2002), 250, accessed March 13, 2016, <http://www.editions75.com/Books/TheVoiceOfNewMusic.PDF>.

process to satisfy his own taste and expression is postminimalist.”⁸⁵ In this way, the move away from an audible structure relates to the renewed emphasis on expressivity.

As Epstein hints at above, the exclusion of audible processes does not mean the exclusion of *all* processes; in fact, Gann declares that *TCP* is a “seminal example” of the use of postminimalist techniques of process.⁸⁶ Postminimalist works still frequently contain processes similar to those found in minimalist works of the 60s and 70s. The difference is that the processes in minimalism were “generally meant to be obvious to the listener,”⁸⁷ and in postminimalism they were not. There are two ways that postminimalist composers can weaken the strict audible process—by either making it less strict through intervention or disguising it to make it less audible. Often, these two methods go hand-in-hand, but it is still important to make a distinction between the two. Reich believed that serialism, indeterminacy, and minimalism all had similarly strict processes, separated by their audibility; in postminimalism, the distinction between process and audibility is less clear. Just as in serial and indeterminate compositions, the processes in postminimalism might not be quite as audibly detectable, but they might not be as strict, either.

⁸⁵ Masnikosa, 300.

⁸⁶ Gann, “A Technically Definable Stream of Postminimalism,” 43.

⁸⁷ Gann, “A Technically Definable Stream of Postminimalism, 40.

Postminimalism and Cultural Theory

Minimalism and postminimalism's places in history are presently unclear and ill-defined. Difficulties arise when attempting to reconcile either style with the two dominant philosophical theories of the last century: modernism and postmodernism.⁸⁸ Postmodernism is almost impossibly vague and broad—Andrew Dell'Antonio begins his *Grove* entry on the topic by stating that it is a “term carrying diverse and sometimes contradictory meanings, used to describe aesthetic tendencies as well as critical approaches beginning in the 1970s.”⁸⁹ The breadth of this statement hints at a major issue when writing about postmodernism concerning this repertoire—the ambiguities within modernism and postmodernism lead to a great deal of confusion in the application of the philosophies to minimalist and postminimalist music. Musicologist Helga de la Motte-Haber contends that due to the compound construction of the word ‘postmodernism,’ we first need a clear definition of modernism. Unfortunately, the definition of modernism, like postmodernism, is also broad and uncertain. Modernist music is primarily associated with compositions from the early 1900s through the 1960s containing an increased focus on isolation and alienation, a scrutiny of tonality, and an opposition to traditional

⁸⁸ My use of the term postmodern in this paper should not be confused with the term ‘postmodernist,’ which is typically used to describe composers like George Rochberg and Luciano Berio. ‘Postmodernism’ is a broad and unwieldy term. Characterizing minimalist or postminimalist music does not in turn invalidate Rochberg or Berio’s use of postmodern concepts in very different ways, for example through explicit use of quotation and pastiche; the postmodernists are simply different manifestations of the same mode of thought. Joakim Tillman, “Postmodernism and Art Music in the German Debate,” in *Postmodern Music/Postmodern Thought*, eds. Judy Lochhead and Joseph Auner (New York: Routledge, 2002), 75.

⁸⁹ Andrew Dell'Antonio, *Grove Music Online*, s.v. “Postmodernism,” accessed March 16, 2016.

concepts of beauty.⁹⁰ Clearing up the ambiguities between modernism and postmodernism is certainly not within the scope of this thesis. However, some level of discussion is needed to examine some of the often problematic philosophical issues surrounding minimalism and postminimalism.

Recent attempts to position minimalism and postminimalism in history have had inconsistent results. Schwarz and the majority of other theorists and commentators characterize minimalism as a postmodern style because it was an intentional break from modernist serialism. However, Schwarz also says that minimalism was trying to break away from Cage's indeterminacy,⁹¹ an approach which is itself categorized as postmodern by Jameson in his seminal philosophical text, *Postmodernism, or, The Cultural Logic of Late Capitalism*.⁹² Taruskin's examination of minimalism frames postmodernism as the main contributing factor to minimalism's development, pointing to minimalism's unification of high and low genres as the key to its accessibility. Indeed, the unification of high and low genres is regularly cited as evidence of both minimalist *and* postminimalist music's categorization as postmodern musical forms. Dell'Antonio specifically cites postminimalist John Adams's *Chamber Symphony* (1992) as a piece whose high and low elements "destabiliz[e] the hierarchical opposition."⁹³ Gann touches on two pillars of postmodernism—the juxtaposition of high and low and eclecticism—

⁹⁰ Leon Botstein, *Grove Music Online*, s.v. "Modernism," accessed September 24, 2016.

⁹¹ Schwarz, *Minimalists*, 11.

⁹² Fredric Jameson, *Postmodernism, or, The Cultural Logic of Late Capitalism* (Durham: Duke University Press, 1991), 26.

⁹³ Dell'Antonio, "Postmodernism." Dell'Antonio also lists Riley, Reich, and Glass as composers whose use of triadic consonance without functional harmony questions master narratives.

when he asserts that “[b]eneath a patina of stylistic homogeneity, [*TCP* makes] reference to a panoply of genres: Balinese gamelan, folk, pop, jazz, eighteenth-century chamber music, Renaissance music, and even national and specific tunes and compositions.”⁹⁴ Additional examples of eclecticism is Duckworth’s use of the Fibonacci series,⁹⁵ and Messiaen’s non-retrogradable rhythms in *TCP*. Duckworth’s juxtaposition and combination of Bartók, Stockhausen, and Messiaen’s modernist techniques with “low” genres like folk, pop, and others is an inherently postmodern act.

There are other composers, critics, and scholars who believe that minimalism does not fall under the umbrella of postmodernism. For example, music critic Ulrich Dibelius posits that if “something unmistakably new is created under new circumstances, such music does not fall under the concept of postmodernism, even if certain features associated with musical postmodernism occur.”⁹⁶ A work’s newness or novelty might not be specific enough to define a piece as modernist, but it does raise the issue of the term’s connotations of newness. Though some of minimalism resembles Cage and Feldman’s musics, it was still a distinctly new aesthetic in Western art music.

Another argument for minimalism as a style that leans towards modernism comes from Gann, who uses strict processes and static emotions as a point of comparison between the basic concepts behind serialism and minimalism. His argument is that both styles are characterized primarily by their claims to objectivity in the compositional process: “to allow mathematics in one case and nature in the other . . . to speak for

⁹⁴ Gann, “A Technically Definable Stream of Postminimalism,” 40.

⁹⁵ Gann, “American Music,” 331.

⁹⁶ Ulrich Dibelius, quoted in Tillman, 82.

themselves without the ego's intervention."⁹⁷ Along the same lines, Schwarz asserts that minimalists and serialists share

the desire to dictate the outcome of the work as precisely as possible. Both minimalists and serialists achieve their goal by means of precompositional planning: the designing of the musical process in the case of the minimalists, the creation of the pitch and durational rows in the case of the serialists. And both pursue their compositional systems with dogmatic single-mindedness, concerned more with the impersonal working-out of a process than with personal intuition.⁹⁸

Gann and Schwarz's arguments about objectivity and impersonality indicate modernist leanings in minimalism, and therefore postmodernist leanings in postmodernism, but Jameson's description of emotion in postmodern works actually presents the opposite viewpoint. Jameson argues that a key feature of postmodernism is *the waning of affect*, which he describes as "the emergence of a new kind of flatness or depthlessness, a new kind of superficiality in the most literal sense."⁹⁹ Jameson later connects the waning of affect to a diminished focus on time and temporality.¹⁰⁰ According to him, then, postminimalism's increased focus on expressivity would not necessarily be a postmodern trait. The concept of the waning of affect points strongly

⁹⁷ I think that Gann's reference to "nature" in this case is referring to the *process*, which is, in a way, "natural." It is, after all, through processes that the minimalists attempt to achieve the objectivism to which Gann is referring. Regardless, it is odd to refer to processes as "natural" given their roots in tape music. Kyle Gann, "Let X=X," *Music Downtown: Writings from the Village Voice* (Berkeley: University of California Press, 2006), 147.

⁹⁸ K. Robert Schwarz, "Process vs. Intuition in the Recent Works of Steve Reich and John Adams," *American Music* 8, no. 3 (Autumn 1990), 272.

⁹⁹ Jameson, 9–10.

¹⁰⁰ Jameson, 16.

towards early minimalism's static affect and vertical time, while problematizing postminimalism's flexible affect and horizontal time.

What are left are two styles that do not fit easily into either aesthetic. Perhaps, then, minimalism and postminimalism represent something separate from *both* modernism and postmodernism? Some theorists and commentators have promoted this view: Fink argues that minimalism's descendants, ambient and electronic dance music (EDM), are the future of music,¹⁰¹ while Gann speculates that someday scholars might reflect on minimalism by saying "[o]ur current musical language arose in the 1960s and '70s. In its nascent, simplistic state, it was first mistaken for a full-blown style in itself, and was termed '[m]inimalism.'"¹⁰² While it might currently be too ambitious to posit that the heirs of minimalism might one day be the dominant force in music, the existence of postminimalism certainly points towards minimalism's continued influence. If minimalism indeed ends up resulting in a new paradigm somewhere down the road, Gann's same hypothetical scholars may very well find the distinction between minimalism and postminimalism irrelevant.

In this thesis, I will demonstrate that one of postminimalism's most important works has significantly varying degrees of affect and strength of process. The three movements that I will examine in depth range from strict processes with flat affects (Prelude 6) to unclear processes with a wide emotional range (Prelude 15). If *TCP* can have differing levels of process and affect in a single composition, why couldn't they

¹⁰¹ Fink, *Post-minimalisms*, 555–56.

¹⁰² Kyle Gann, "Forest from the Seeds of Minimalism," August, 1998, accessed July 12, 2016, <http://www.kylegann.com/postminimalism.html>.

exist within minimalism as a style? The differences between minimalism and postminimalism are less definite than between Mendelssohn and Mahler, but both composers are often labeled Romantic composers. Perhaps someday what we currently call minimalism and postminimalism will be approached with a similarly broad view.

Conclusion to Part 1

As with Gann's list of the features of minimalism, my list of factors delineating postminimalism from minimalism—increased expressivity, a diminished audible structure, and the eclecticism, quotation, and paraphrase associated with postmodernism—is in no way meant to be definitive for every situation. Though this list was compiled with *TCP* in mind, not every prelude, nor every postminimalist work, displays all of these traits perfectly. However, most of these traits can typically be found in works categorized as postminimalist.

The next three chapters will examine individual movements of *TCP*. Preludes 14, 6, and 15 will appear in Chapters III, IV, and V, respectively. I chose these movements since they demonstrate the traits of postminimalism while exhibiting different styles and degrees of process. The goal of my analyses is to provide insights into both the processes that govern them and their form. The order in which these preludes are examined reflect my conception of the relative strictness and obviousness of each prelude's process: Prelude 14, a jumpy, high-energy piece in which a subtractive process acts on melodically-related "strings" with Fibonacci-inspired lengths; Prelude 6, an entrancing piece that most closely resembles minimalism's sound aesthetic while disguising the fact

that it is a phase piece; Prelude 15, a piece that potentially has no guiding process outside of a constantly growing pitch-class framework. The varying levels of the processes in these three preludes present additional questions regarding postminimalism: for example, could varying levels of process connect more closely to minimalism than originally believed, creating a continuum of minimalism instead of separate styles? This question and others regarding the nature of processes in postminimalism will be the focus of the conclusion of the thesis.

CHAPTER III

PRELUDE 14

The pitch and rhythm content of Prelude 14 is highly regimented. Despite containing a process whose strictness is reminiscent of early minimalism, this prelude features climaxes that are largely absent from the earlier style. Additionally, Duckworth finds ways to obscure the underlying process in the work, further separating this prelude from the early works of Reich and Glass.

The Gann quotation in Chapter I regarding a “converging sense of time” is especially applicable to Prelude 14, which features a literal convergence of its melodic material via a subtractive process. The movement is in D Dorian and constructed of four strings of quarter note length rhythmic cells. The piece is divided into two large formal sections: mm. 1–92, characterized by a monophonic melody doubled at the octave in both hands; and mm. 93–116, in which the left hand only doubles the opening two accented Ds of each string, playing an accompanimental figure for the remainder of the movement. The number of cells in each string is governed by the Fibonacci series: 5, 8, 13, and 21.¹⁰³ Each string is stated once in the right-hand part in the second half of the piece; in the first part, these strings are subjected to a process that I shall discuss later. I numbered these

¹⁰³ Beurman, 179–81.

strings 1 (m. 93), 2 (mm. 94–95), 3 (mm. 96–98), and 4 (mm. 99–103). With some minor variations in pitch, it is as if each string (save the last) is split in half and filled in with new—but related—material by the next string, like a linguistic infix. **Figure 3.1** demonstrates the construction of each string, with special attention to the transposition (t), inversion (I) and retrograde inversion (RI) of quarter-note cells. The outer material in string 2 is nearly identical to the material above it in string 1, while the infixed materials are often either inter-string (circled) or intra-string (boxed) transformations. For example, timepoint 3 of string 1 is transformed into timepoint 3 of string 2 via I_G^G , (the inversion that maps G onto G, F♯ onto A♭, et cetera) and timepoint 4 of string 1 is transformed into timepoint 7 of string 2 via t_5 , with the lower-case “t” indicating a transposition in diatonic space. The rhythm of each cell is unaffected through each transformation unless noted otherwise.

I have striven to indicate the origin of as much of the infixed material as possible in **Figure 3.1**, especially in string 4, as it has the most infixed material. Timepoint 9 of string 4 is the only unaccounted cell in the string—no other cell contains intervals of a fourth and a third. In fact, the interval of a fourth is not even used until earlier in string 4. There is, however, a precedent of only transposing a part of a cell: the eighth beat of both string 3 and 4 is an example. Perhaps a similar situation applies to this cell. Another possibility could be an I_A^A of string 3’s timepoint 7, with the F substituting for a G. The construction of each string contributes to a level of continuity throughout the piece, with the slight pitch differences adding a level of variety.

Figure 3.1. The Nesting of Melodic Strings in Prelude 14.

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The figure displays a musical score for four strings (String 1, String 2, String 3, and String 4) with various annotations. The annotations include:

- I_G^G : An annotation above String 1, with an arrow pointing to a circled note.
- RI_G^A : An annotation above String 2, with an arrow pointing to a circled note.
- I_B^G : An annotation above String 3, with an arrow pointing to a circled note.
- I_B^B : An annotation below String 4, with an arrow pointing to a circled note.
- t_0 : An annotation below String 4, with an arrow pointing to a circled note.
- t_2 : Two annotations, one above String 3 and one above String 4, with arrows pointing to circled notes.
- t_5 : An annotation above String 2, with an arrow pointing to a circled note.
- t_6 : An annotation above String 3, with an arrow pointing to a circled note.
- t_0^* : Two annotations, one above String 1 and one above String 3, with arrows pointing to circled notes.

Other features include:

- A bracket labeled "String Restarts?" spanning a section of the String 4 staff.
- A legend at the bottom left: "* Rhythmic Change".
- Arrows indicating relationships between circled notes across different strings.

Beurman briefly details the subtractive process that generates most of the movement in his Example 8.22, from which I have taken cues in **Figure 3.2** below.¹⁰⁴

Figure 3.2. The Subtractive Process in Prelude 14.

The figure shows three staves of music for String 1, String 2, and String 3. String 1 is in 5/4 time and consists of five measures, each containing a five-note descending sequence. The first measure is marked with a bracket and the number 1, the second with a box and the number 2, the third with a box and the number 3, the fourth with a box and the number 4, and the fifth with a box and the number 5. The first measure is also marked with 'p subito' and the second with 'crescendo'. String 2 is in 4/4 time and consists of six measures, each containing an eight-note descending sequence. The first measure is marked with a bracket and the number 1, the second with a box and the number 2, the third with a box and the number 3, the fourth with a box and the number 4, the fifth with a box and the number 5, and the sixth with a box and the number 6. The first measure is marked with 'p subito' and the second with 'left hand simile'. String 3 is in 3/4 time and consists of four measures, each containing an eight-note descending sequence. The first measure is marked with a bracket and the number 1, the second with a box and the number 2, the third with a box and the number 3, and the fourth with a box and the number 4. The first measure is marked with 'p subito'. An upward arrow points to the start of String 3.

I have added several symbols to aid in recognizing the process: (1) the initial, unprocessed statement of the string is marked with brackets, (2) the subsequent, shortened statement with boxes, and (3) the complete statements with parentheses. The numbers are borrowed from Beurman, who uses them to represent each cell's original position in the string. Apart from string 2, each string is stated n times, where n equals the number of beats in the string. With each repetition of the string, the first beat of the statement is removed. The final repetition of each string is thus one quarter note in

¹⁰⁴ The rest of the paragraph summarizes various observations from Beurman, 179–186.

length, after which the next string begins, marked by two accented D \sharp s.¹⁰⁵ Beuerman's example demonstrates this process in string 1, and **Figure 3.2** extends it to string 2 and the beginning of 3.

The core of each string is a three-note pitch cell, FGA. Following the opening Ds, the first string is constructed entirely with this cell. The first and third statements of the cell are set as eighth notes, while the second changes to sixteenth-eighth-sixteenth. Other strings expand this sixteenth-eighth motive, resulting in cells like the C-B-C that appears in string 3. Duckworth then begins to methodically introduce pitches: string 1 only uses D4, F4, G4, and A4, string 2 introduces B4 and E4, and string 3 introduces C5 and D5. Since the middle cell's durations are palindromic and the first and third cell's are the same, the three statements of the FGA motive thus form a rhythmic palindrome. The palindrome rhythm is the result of the string being nearly palindromic, <22222121222> (sixteenth duration is one). When the initial cell is omitted in the first repetition, two four-beat segments of the string, <222121222>, combine to form a palindrome.

Beginning with string 2, the ending E–F motive of each string followed by the opening Ds of the next produces a cadential effect. An example can be seen immediately before the beginning of string 3 in **Figure 3.2**. The Es appear in the final beat of these strings mark the only appearances of scale-degree 2 in D-Dorian. In the first half of the piece, E-natural's pull towards D is intensified as the strings get shorter and the E–F cells grow closer together. The most extreme case of this intensification is the ending of string 4 in mm. 89–93, in which this cell sounds five consecutive times and nine times out of

¹⁰⁵ This is not unlike the two Gs that conclude Prelude 9's *color* (see Chapter II).

twelve to end the section. The string's lengthy amplification of this cell results from the unprocessed string ending with two statements of the E-F cell. Only the second string, beginning in m. 4, does not go through the entire process. This iteration, indicated in **Figure 3.2** with an arrow, skips the three-beat (678) and two-beat long (78) repetitions. The result is consecutive cells oscillating from E to F. That the process as applied to string 2 eschews other cells but still concludes with statements of this one supports the E-F cell's ability to build towards the arrival of each new section.

It is through this subtractive process that we see this prelude's treatment of the "convergence of time." This and other preludes that use similar processes contain the most "logical endpoints with built-in closure" because there is nothing left to repeat once the process has run its course.¹⁰⁶ The subtractive process is nearly as strict as Glass's additive processes, but by *removing* the beginning beat of each successive statement, Duckworth obscures the repetition of the strings. The similarities between many of the strings further obscures the process; for example, **Figure 3.1** marks a cell with a bracket labeled "string restarts?" This point in the string mimics timepoints 1–3 of string 4, disorienting the listener with the only instance where a cell contains only eighth notes midway through the string. These three cells strongly resemble a beheaded version of string 4. I think that Duckworth is intentionally subverting expectations. By mimicking a repetition of the string within itself, Duckworth masks its construction.

¹⁰⁶ Refer back to the discussion of Prelude 9 in Chapter I for more on subtractive processes.

Unlike Prelude 6, this movement contains numerous written dynamic changes that contribute to the expressivity of the piece. Following the accented D-naturals that begin each new string, most of the piece is written with a dynamic marking of *piano*. The dynamics changes as the process begins to run its course, with *crescendi* leading into strings 2 and 4. These *crescendi* build as each new section approaches, the culmination of which creates multiple dynamic peaks within the piece, each corresponding to and providing audible cues for the beginning of the next string. The *crescendi* and the repeated use of scale-degree 2 help to create in this prelude the traits that Schwarz describes in his definition of postminimalism, a “much more emotional, climactic, and directionalized musical language. . . . [rejecting] the mechanistic impersonality of early minimalist pieces.”¹⁰⁷

Finally, there’s a certain degree of contradiction present. Prelude 14 is constructed through the interaction of an additive process (the infixing of material) and a subtractive one (beheading the string with each repetition). Contradictory elements like this interaction are not unique to this prelude, and will be discussed further in Chapter IV.

¹⁰⁷ Schwarz, 177.

CHAPTER IV

PRELUDE 6

A cursory listening to the sixth movement of *TCP* may remind listeners of Philip Glass's later piano music, in that continuous eighth notes, short melodies, drones, and diatonicism are typically viewed as hallmarks of Glass's compositions. But despite commonalities between the two composers, this prelude has more in common with Steve Reich's early minimalist works. This chapter will examine the prelude through the lens of the Gann quotation from Chapter I that claims the preludes contain a "converging sense of time, curving toward their logical endpoints with built-in closure."¹⁰⁸ In the case of Prelude 6, I argue that Duckworth uses inversional symmetry and arch form to alter and manipulate the listener's experience of time.

The score is comprised of 11 individual systems, each of which is stated between five and seven times. The number of repetitions is indicated by repeat signs that end each system.¹⁰⁹ The number of repeats in successive systems strictly increases or decreases

¹⁰⁸ Kyle Gann, "Liner Notes to . . ."

¹⁰⁹ Gann incorrectly states that this is the only prelude in the set to use repeat signs, which are common in early minimalist works but uncommon in *TCP*. In Preludes 4 and 17, the repeats act in a similar manner to those in Prelude 6: containing single measures that repeat a certain number of times. Prelude 20, the only other prelude to use repeat signs, has markings for two five-measure segments. The repeats in Prelude 6 are much more extensive and integral to the construction of the piece, but these examples clearly counter Gann's statement. Gann singles out this movement to demonstrate the uniqueness of *TCP* as a whole; by generally avoiding repeat signs, Gann claims that Duckworth breaks from the past conventions of minimalism. Gann, *American Music*, 329, as well as his liner notes for Neely Bruce's recording.

between the maximum of six and the minimum of four repetitions. The lone exception in this pattern is a “holding pattern” of 4s: 6, 5, 4, 4, 4, 5, 6, 5, 4, 5, and 6.¹¹⁰

There is a steady stream of eighth notes and droning pedal notes in Prelude 6 combine to create the movement’s trance-like quality, which the piece’s rotational process augments; unusually, the key signature of Prelude 6 contains two flats: D \flat and G \flat . The pitch-class content of the piece is rather limited: G \flat , A \flat (sometimes notated as G \sharp), A \natural , B \natural , and D \flat . There is a curious enharmonic duality in Prelude 6 stemming from Duckworth’s choice of notation for these pitches: G \flat minor and F \sharp minor are equally represented (G \flat 3 and G \flat 4, A \flat 4, and D \flat 4 representing the G \flat -minor scale and G \sharp 4, A \natural 4, and B \natural 4 representing F \sharp minor). An example of near-symmetry can be found in the overall pitch-class content. The two hands interact to produce both exact and nearly-exact inversional symmetry of both pitch- and beat-class sets. The pc set [689e1] belongs to set-class (02357), the first 5 notes of the minor scale. The subset [689e], found in the right-hand part in systems 1, 2, 5, 6, and their partners, is inversionally symmetric, mapping F \sharp onto B and G \sharp onto A. Additionally, the left-hand parts in systems 1, 4, 5, and their corresponding later systems are comprised of the pc set [681], inversionally symmetric around D \flat /G.

¹¹⁰ Bruce Brubaker and Richard Andrew Lee’s respective recordings follow the repeats strictly. Neely Bruce, who is the pianist on the first commercially available recording, does not follow the repeats strictly. Bruce’s deviations cannot be attributed to concerns with the album length—he only undercuts one system #2, playing four repetitions instead of five, while adding an additional repetition to systems #7 and 11. William Duckworth, *The Time Curve Preludes*, Bruce Brubaker, Arabesque Recordings, 2009, CD; William Duckworth, *The Time Curve Preludes*, R. Andrew Lee, Irritable Hedgehog, 2011, CD; William Duckworth, *The Time Curve Preludes*, Neely Bruce, Lovely Music CD 2031, 1993, CD.

Daniel Harrison's article "Nonconformist Notions of Nineteenth-Century Enharmonicism" provides clues as to why Duckworth notated the prelude using a mix of the impractical key $G\flat$ minor with the more common $F\sharp$ minor.¹¹¹ While Harrison does not focus on entire movements written in non-traditional keys, he raises several points that can be applied to *TCP*. Harrison proffers several reasons why a composer may employ enharmonicism, including personal tastes and quirks (preferring sharps over flats, for instance), orchestrational conventions, investment in the symbolic value of certain notations, and even composer indifference.¹¹²

One possible explanation is that there may not be a point to the notation. According to Harrison, enharmonic transformations need to be audibly perceptible.¹¹³ This is not the case in Prelude 6 because it sounds like it is written entirely in one key. The enharmonicism *cannot* be confirmed aurally. Another possibility is that Duckworth could be trying to make the score more challenging for a performer. The $G\flat$ -minor components of the pitch-class collection fall deep into zone two of Harrison's "pressure zones," meaning there is pressure to conform to a more standard key signature.¹¹⁴ Regarding these zones, which extend the circle of fifths into unsigned and impossible keys, Harrison notes that "the further one ventures into the unsigned key area, the more double accidentals must be employed, thickening the score and demanding greater

¹¹¹ I have renotated the first six systems of the prelude in $F\sharp$ minor and included it as Appendix A.

¹¹² Daniel Harrison, "Nonconformist Notions of Nineteenth-Century Enharmonicism," *Music Analysis* 21, no. 2 (July 2002), 117–118.

¹¹³ Harrison, 117.

¹¹⁴ Harrison, 141–42.

concentration from the performer.¹¹⁵ By creating a hybrid between G \flat minor and F \sharp minor, Duckworth complicates the score by increasing the number of accidentals in the piece.

Another possible explanation for the notated key in Prelude 6 is that Duckworth prefers flats over sharps. Of the key signatures of the twenty-four preludes, fourteen begin with flat key signatures (1, 3, 4, 5, 6, 8, 10, 12, 13, 15, 17, 18, 19, 23), seven with natural key signatures (2, 9, 14, 16, 21, 22, 24), and only three with sharp key signatures (7, 11, 20).¹¹⁶ Five of the preludes in natural keys—numbers 2, 14, 16, 21, and 22—either heavily favor flats over sharps or exclude sharps altogether. The pitch centricities in preludes without signatures vary; for example, Prelude 2 has a firm center of C, with accidentals that constantly shift the modality from major to minor; Prelude 14 is in D Dorian with no accidentals; and Prelude 16 is atonal.

In his dissertation examining various piano prelude sets, Eric Beuerman speculates that the prelude “might evoke a Gamelan sound with its steady eighth-note pulse and very narrow melodic range.”¹¹⁷ Beuerman also briefly details the process that determines the form, explaining that the temporal distance between attacks of the G \flat pedal increases by an eighth note in each successive system.¹¹⁸ Beuerman lists the duration between the two pedal attacks within each system and the remaining duration until the next attack, expressing those two values as a ratio. Each system has a time

¹¹⁵ Harrison, 141–42.

¹¹⁶ Prelude 18 is the only prelude to change signatures mid-movement. An F \sharp is occasionally added to a signature of B \flat and E \flat .

¹¹⁷ Beuerman, 184.

¹¹⁸ Beuerman, 187–188.

signature of 7/4, so the numbers of the ratio always add up to fourteen. For example, the ratio in the first system is 2:12, the second is 3:11, the third is 4:10, and so forth. I have demonstrated the movement of the second $G\flat$ in the first three systems in **Figure 4.1**.

Figure 4.1. The Migration of the Second Pedal $G\flat$ in Prelude 6.

The figure shows three systems of musical notation. Each system has a right-hand (R.H.) staff and a left-hand (L.H.) staff. The R.H. staff contains a melody of eighth notes. The L.H. staff contains a series of chords. In the first system, the second G-flat of the second chord is circled. In the second system, the first G-flat of the second chord is circled. In the third system, the first G-flat of the second chord is circled. The ratios for each system are indicated below the L.H. staff: 2:12 for the first system, 3:11 for the second, and 4:10 for the third.

Inversionally-related ratios correspond to pairs of systems that are equivalent under rotation. For example, system 11's ratio is 12:2, and is a rotation of system 1 (ratio 2:12). The systematic pairing of rotationally-related systems produces an arch form: first system and last, second and second-to-last, and so on. The relationship between systems 1 and 11 is shown in **Figure 4.2**: System 11 is rhythmically transposed T_{12} from System 1 (i.e. two eighth notes earlier).

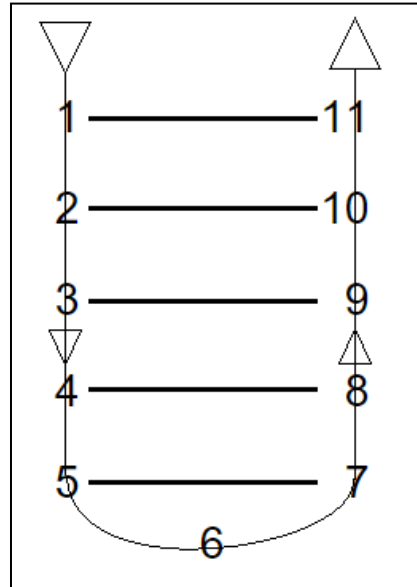
Figure 4.2. System 1 and its Rotational Equivalent, System 11.¹¹⁹

The image shows two musical systems. System 1 is a grand staff with a right-hand (R.H.) and left-hand (L.H.) part. The R.H. part consists of a sequence of chords, each with a flat sign. The L.H. part consists of a sequence of notes, each with a flat sign and a dynamic marking of *mf*. System 11 is a single staff showing a similar sequence of chords, representing a rotational equivalent of System 1. The chords in System 11 are arranged in a different order compared to System 1, illustrating the concept of rotational equivalence.

Figure 4.3 models the full list of rotationally equivalent systems. The arrows around the “U” in **Figure 4.3** indicate the order of the systems in the score; the horizontal lines cutting across the “U” join rotational equivalents. Since there are eleven systems in all, the middle system, #6, has no partner. Prelude 6’s “logical endpoint” is its return to the rotated beginning of the piece, after which there isn’t any remaining material to cycle through. The rotational relationship between each pair of systems is obscured by the repeats. When the latter of each pair is repeated, the listener can latch on to the melodies from the earlier rotation of the system, causing them to hear an exact repeat of the original systems instead of a rotation. The rotation is therefore only evident when one system transitions to the following system, where the listener would be able to more easily perceive the differences caused by rotation.

¹¹⁹ Beurman, 188.

Figure 4.3. Order and Equivalence of the Systems in Prelude 6.



Beuerman's analysis does not quite capture the true essence of the process in Prelude 6. The prelude strongly resembles the phase pieces pioneered by Steve Reich, with the rotationally equivalent systems result from the phasing. The vast majority of the pitch and rhythmic content is generated by superimposing two statements of the pattern found in **Figure 4.4** and expanded upon in **Figures 4.5** and **4.6**: a fixed form of the pattern beginning on timepoint 0 and a rotating form that moves one eighth note later with each system.

Figure 4.4. The Pattern.



Figure 4.5. The Fixed Pattern's Manifestation.

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Musical score for Figure 4.5. It consists of 11 systems of music, labeled System #1 through System #11. Each system contains two staves: a right-hand (R.H.) staff and a left-hand (L.H.) staff. The music is written in 7/4 time with a key signature of one flat. The notation includes various dynamics such as *mf* (mezzo-forte) and *f* (forte), and articulations like slurs and accents. The pattern from Figure 4.4 is repeated throughout the score, with some variations in the right-hand part.

Figure 4.6. The Rotating Pattern's Manifestation.

The image displays a musical score for 11 systems, numbered 1 through 11. Each system consists of two staves: the upper staff is for the Right Hand (R.H.) and the lower staff is for the Left Hand (L.H.). The music is written in a key signature of two flats (B-flat and E-flat) and a 4/4 time signature. The notation includes various rhythmic values such as quarter notes, eighth notes, and sixteenth notes, along with rests and accidentals (sharps and flats). The score illustrates a 'rotating pattern' where the melodic lines in the R.H. and L.H. staves are offset from each other across the systems, creating a complex, interlocking texture. The first system is labeled '1. R.H. L.H.' and includes a '7' above the R.H. staff. The subsequent systems are labeled 2 through 11. The overall structure shows a consistent rhythmic and melodic relationship between the two hands that evolves across the 11 systems.

In effect, rotationally equivalent systems swap fixed and rotating forms of the pattern, resulting in the inverted ratios provided by Beuerman (e.g. 12:2 becoming 2:12).

The bracketed sections of **Figure 4.4** indicate invariances built into the pattern. With the exception of B4 substituting for a G \flat 4 (marked by an asterisk), timepoints 2–5 are pitch invariant at beat-class T₄ and T₈ (eighth note equals 1). **Figure 4.5** shows the fixed pattern, while **Figure 4.6** shows the rotating pattern, which systematically progresses from beat-class T₂ in the first statement through beat-class T₁₂ in the last. The left- and right-hand parts are assigned by which pattern contains the higher pitch at each given timepoint.

Though at its core a phase piece, Prelude 6 displays striking differences from Reich's works using this compositional technique. Typically, Reich has performers briefly alter their *tempi* to achieve the phasing effect, while Duckworth creates the shift without changes in tempo. Reich considered the transparency of the phasing as an integral aspect of the composition, so disguising the phasing process subverts Reich's original intent of the form. Also, the pattern is never stated by itself, which is a common occurrence in Reich's phase pieces. In fact, Duckworth not only excludes the statement of the rotating pattern that would begin on timepoints 0, but also those that would begin on timepoints 1 and 13. Excluding the rotating pattern starting at timepoint 0 keeps the pattern from ever being stated in unison, while timepoints 1 and 13 may have been "too close" to unison.

The phasing process results in right- and left-hand pitch contents that shift in each system because a pitch might be the higher pitch in one simultaneity and the lower pitch

in the next system. This is because the left-hand always plays the lower pitch, and the right-hand the higher. The left-hand only plays G \flat 3, and the right-hand only plays B4, because these are the respective lowest and highest notes in the piece. Both hands play D \flat 4, G \flat 4, and A \flat 4 depending on what each pitch matches up against.

Though the prelude's underlying pattern contains only eighth notes, the way that Duckworth treats common pitches between the fixed and rotating forms produces surface rhythms that contain quarter notes and dotted quarter notes. Duckworth adjusts the rhythms to avoid occasional unisons and consistent eighth notes by deleting a pitch from the right hand. The deleted note's duration is added to the previous right-hand note. The lengthening of durations disguises the phasing—without this treatment of rhythm, the entire piece would be rendered as eighth notes. For example, a D \flat 4 falls on timepoint 2 of system 1 in both the fixed and the rotating patterns. As a result, its duration is added to the rotational row's opening A \flat , which changes from an eighth note to a quarter note. Conceptually, that note isn't *really* a quarter note because both patterns are on D \flat , but Duckworth notates it like this to construct a melody in the right-hand part and retain the illusion of two independent voices. In system 3, the sixth and seventh notes of both patterns are D \flat and G \flat , respectively, due to the T₄ invariance. As a result, both of their durations are added to the fifth note of the rotating row, the A \flat , which becomes a dotted quarter note.

Roughly 5% of the pitches cannot be accounted for by the fixed or rotating patterns. These additional pitches do not alter the two interacting patterns, which remain

consistent throughout the piece; rather, they attempt to exert some level of control of rhythms. The added notes are $D\flat_4$ and $G\flat_4$, to prevent any durations in the right-hand part that are longer than a dotted quarter. **Figure 4.7** shows one instance where these notes are found, system 5.

Figure 4.7. System 5's Pattern Membership and Unaccounted Notes.

The figure displays two staves of musical notation in 7/4 time, with a key signature of two flats. The notes are marked with symbols indicating their membership in patterns: a circle for 'Fixed Pattern', a triangle for 'Rotating Pattern', and an overlapping circle and triangle for 'Both'. The right-hand part (top staff) contains notes marked with triangles, circles, and overlapping symbols. The left-hand part (bottom staff) contains notes marked with circles, triangles, and overlapping symbols. A legend at the bottom left identifies the symbols: a circle for 'Fixed Pattern', a triangle for 'Rotating Pattern', and an overlapping circle and triangle for 'Both'.

In the figure, the right- and left- hand parts have been placed on separate staves for clarity, with pitches that are members of the rotating pattern indicated by a triangle, the fixed pattern by a circle, and both by an overlapping triangle and circle. Two notes are unaccounted for by the patterns, a $D\flat_4$ and a $G\flat_4$ occurring at timepoints 3 and 4, respectively. These two notes break up a stretch of three consecutive overlapping notes, again resulting from T_4 invariance. If Duckworth followed the rhythmic process described above, the B_4 would last for a half note, which is a duration that does not occur in the prelude.

Though Duckworth allows the process to determine most of the rhythms, he independently decides how each note should be emphasized. The *tenuto* markings contribute to the emergence of melodies that are unique to each rotationally equivalent pair of systems. By contrast, in Reich's *Violin Phase* or *Piano Phase*, new melodies emerge as the result of the phasing, but they aren't specifically emphasized. Duckworth's intervention into Prelude 6's melody construction exhibits one of postminimalism's main differences from minimalism. Gann describes Duckworth as having "no intention of submerging his individuality into minimalism's motoric impersonality,"¹²⁰ and I believe that is the case here. Instead of deciding to allow the process full autonomy once it has been set into motion, Duckworth decided to weaken it so he could make the piece more musical.

Due to the phasing technique present in Prelude 6, it seems appropriate to examine the prelude using beat-class set theory pioneered by Richard Cohn in his article on Reich's phase pieces. While Cohn mostly focuses on transpositional combination, I will primarily focus on inversional symmetry. I focus on these accents because I believe that they help to explain Duckworth's treatment of time in the prelude. Following Cohn's example, I segmented the piece on the basis of a few criteria:¹²¹ I considered beat-class

¹²⁰ Gann, "Minimal/Maximal," 6.

¹²¹ Cohn's analysis primarily considers accents resulting from the highest and lowest notes in each rotation. Cohn cites Reich's belief that "the highest and lowest registers . . . possess strong identities as 'psycho-acoustic byproducts,'" and that they were important to perception. While I have not found a statement of Duckworth's that echoes this sentiment, the debt to Reich is clear through the use of phasing, so similar principles are likely to apply. Cohn, "Transpositional Combination of Beat-Class Sets," 150.

sets constructed from *tenuto* markings, note values longer than an eighth, and appearances of the registral high and low notes in the right-hand part B4 and D \flat 4. In **Figure 4.8**, the beat-class sets are indicated on the score using beams to connect the accented notes, and agogic accents are indicated with an “A”. The value of each eighth note is set at 1 because it is the shortest duration. **Table 4.1** lists the beat-class set classes formed by these accents. The bc set classes resulting from the accent types in the right-hand part all have I-symmetry. The axes are different for rotationally related systems, even though their prime forms are the same. The axes for the different systems are separated with semi-colons in the third column of **Table 4.1**.

I have also included information regarding the presence of transpositional combination (TC) and maximal evenness (ME). TC is a property whereby a longer set can be generated through the combination of a set and its transposition. The equation that accompanies the TC designation includes the generating set class with a number following an asterisk indicating the interval of transposition. For example, (02)*4 indicates that set class (02) is transposed by 4 to form (0246). ME is a property where members of a set are as equally distributed throughout a universe as possible.¹²²

The right-hand D \flat 4s in systems 4 and 8 are counted as right-hand accents, even though D \flat is typically found in the left-hand part. The sudden absence of notes in the melody’s typical register (on downbeats, to boot) resemble a *loud rest*.

¹²² John Clough and Jack Douthett, “Maximally Even Sets,” *Journal of Music Theory* 35, no. 1/2 (Spring, 1991), 93–173.

Figure 4.8. Location of Beat-class Accents in Prelude 6.¹²³

The figure displays six systems of musical notation for Prelude 6, each with a system number on the left. The notation includes treble clefs, a key signature of one flat, and a 7/8 time signature. Beat-class accents are indicated by 'A' above notes and numbers below the staff. System 1 has accents at 0, 2, 10, and 12. System 2 has accents at 0, 3, 10, and 13. System 3 has accents at 0, 4, 8, 10, and 12. System 4 has accents at 0, 1, 5, and 10. System 5 has accents at 0, 2, 4, 6, and 10. System 6 has accents at 0, 3, 4, 7, 10, and 11. Tenuto markings are shown in parentheses above notes at measures 7 and 10 of System 6.

¹²³ The two *tenuto* markings that appear in parentheses do not appear in the score.

Table 4.1. Inversionally Symmetrical Mod-14 Beat-Class Set Classes in the Melody of Prelude 6.

Systems	Beat-class Set Classes	BC Axes	Other
1; 11	(0246)	6/13; 4/11.	TC (02)*4
2; 10*	(0347)	6.5/13.5; 3.5/10.5.	TC (03)*4
3; 9	(0246t)	4/11; 0/7.	
4; 8	(0459)	0.5/7.5; 2.5/9.5.	TC (04) *5
5; 7	(0246t)	3/10; 4/11.	
6*	(037t)	1.5/8.5 and 5/12.	ME; TC (03)*7

*Duckworth does not include *tenuto* markings in system 10 and the second half of system 6. For the purposes of this table, the positions of the *tenuto* markings have been carried over from system 2 and the first half of system 6, respectively.

Table 4.2. Inversionally Symmetrical Mod-14 Beat-Class Set Classes in the Accompaniment of Prelude 6.

Systems	Beat-class Set Classes	BC Set Inversional Axes	Other
1; 11	(02468)	4/11; 2/9	TC (024)*4
2; 10	(0347t)	None	
3; 9	(02468t)	3/10; 6/13	TC (024)*6
4; 8	(0257t)	None	TC (025)*5
5; 7	(0248t)	6/13; 0/7	
6	(01478e)	0/7 and 3.5/10.5	TC (014)*7

Table 4.3. Resultant Mod-14 Beat-Class Set Classes from Combining the Right- and Left-hand Parts.

Systems	Beat-class Set Classes	BC Set Inversional Axes	Other
1; 11	(02468tw)	All	ME, TC (0246)*6
2; 10	(03467t)	5/12	
3; 9	(02468tw)	All	ME, TC (0246)*6
4; 8	(024579e)	None	
5; 7	(02468tw)	All	ME, TC (0246)*6
6	(01478e)	0/7 and 3.5/10.5	ME; TC (014)*7

Justin London describes a loud rest as a moment where “the lack of an articulation . . . [is a metric surprise] aided by the melody and harmony.”¹²⁴ The A \flat 4s (Re in G \flat minor) that precede the absent notes exacerbate the surprise because the listener expects each of them to resolve to G \flat at the point of the loud rest.

Although the accent types are slightly different, the left-hand part also features I-symmetric beat-class sets. **Table 4.2** lists accents resulting from articulations of the pedal G \flat and the vertical interval of a major or minor second between the left- and right-hand parts. Cohn’s segmentation based on register is rooted in perception,¹²⁵ and the dissonances in Prelude 6 similarly demand attention from the listener in an otherwise consonant piece. I also chose to include these dissonances because there are no long durations or *tenuto* markings in the left-hand part; otherwise, only the pedal notes would

¹²⁴ Justin London, *Hearing in Time: Psychological Aspects of Musical Meter*, 2nd edition (New York: Oxford University Press, 2012), 107.

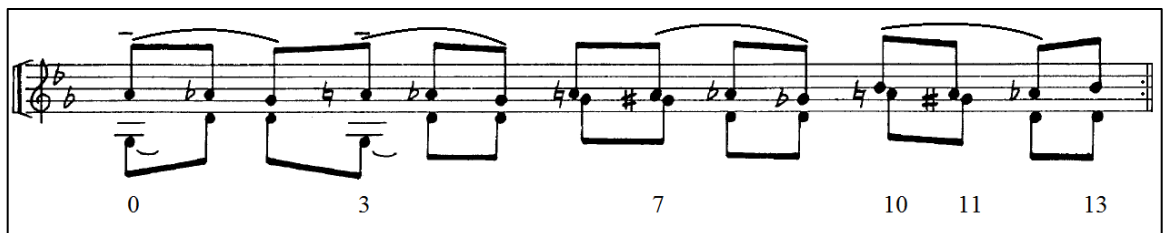
¹²⁵ Cohn, 150.

have been included. Dissonant accents are only included in the analysis of the left-hand part because they often result from the left hand encroaching on the right-hand part's range. While dissonances are created by the right- and left-hand parts together, the left seems to be the instigator of the dissonance. In most cases (four of the six), the beat-class set classes are inversionally symmetric.

When the bc-sets for both parts in each system are combined, additional patterns emerge. The bc set classes of the combined sets are collected in **Table 4.3**. Perhaps the most curious pattern is that the combined bc sets for the rhythmically identical (all eighth note) even-numbered systems are diverse, while the bc sets for the rhythmically diverse odd-numbered systems are identical.

There is evidence that supports the parsing of these beat-class sets. For example, there is a short hemiola in systems 2 and 10. These systems have figures that mimic a waltz bass line accompanying a three-note descending motive. **Figure 4.9** indicates the combined accents in system 2 in relation to the melody's grouping. The first two accents, at timepoints 0 and 3, correspond with the hemiola explained above.

Figure 4.9. Grouping in System 2.

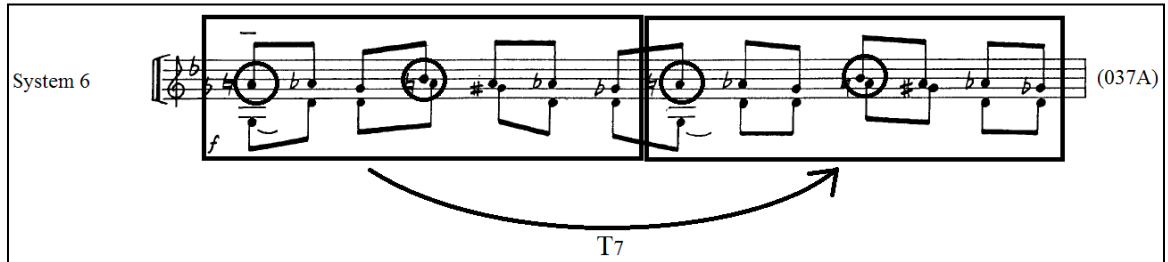


At timepoint 7, the third accent begins another statement of the motive that continues the pattern established by timepoints 0–5. While it could be argued that timepoint 6 should be marked an accent instead of timepoint 7 because it is the first note under the slur I annotated, I argue instead that the latter note’s dissonance and role in triggering the downward motive give it a stronger claim. The accent at timepoint 10 begins another statement of the descending motive. The only accent that does not seem to reflect the grouping is on timepoint 11, which occurs in the middle of the motive.

The symmetries in system 6 are especially notable. Comparisons can be drawn to Cohn’s analysis of Reich’s *Violin Phase*: Cohn demonstrates that as the phasing process moves from its most unified point ($T_{0,0}$ —meaning two patterns start at timepoint 0) to its most symmetric division ($T_{0,8,4}$ —three patterns with one each starting at timepoints 0, 8, and 4), the number of attack-points increases, eventually completing a twelve-beat aggregate at its most even point.¹²⁶ There isn’t a unified point in Prelude 6, but system 6 is evenly bisected at $T_{0,7}$, and it exhibits special properties as well. **Figure 4.10** demonstrates that it is the only *transpositionally symmetric* system in the prelude, and that the right-hand accents (circled) are maximally even across the system. As a result, system 6’s beat-class sets have two axes of inversional symmetry (**Tables 4.1** and **4.2**), the only system where this is the case. There are also striking similarities between system 6 and systems 2 and 10. All three figures contain a Fa-Me-Re-Do-Me-Re-Do motive that results from the T_4 and T_8 invariance.

¹²⁶ Cohn, 158.

Figure 4.10. Transpositional Combination in System 6.



Like the large-scale symmetry of the overall form, the beat-class symmetries outlined above help Duckworth manipulate the listener’s perception of time. Listeners may recognize similarities between accents in the right-hand part’s even-numbered systems, which all draw from the same superset. The repetition of this superset may in turn lead to an increased perception of vertical time, the “single present stretched out” quoted earlier. The bc sets also reveal trends in the even-numbered right-hand part, as the accents move from temporally condensed (system 2) to ME (system 6), to condensed again (system 10). The expansion and contraction of the accents contribute to the piece’s “logical endpoints”: accents condense from their most evenly distributed form, and conclude after they reach their most tightly packed (at least the most tightly packed present in the piece, since it isn’t maximally compact). An examination of the bc sets therefore reveals that the piece alternates between systems that projecting varying degrees of vertical and linear time.

Despite using a well-worn minimalist trope like phase-shifting, Duckworth subverts the very characteristic that first attracted Reich to the technique in the first place:

its transparency. Contradiction is a running theme in *TCP*: Prelude 6 hides what would have been a transparent compositional method, Prelude 14 contains simultaneous additive and subtractive processes, and the subject of the next chapter, Prelude 15, suggests an additive process when it is unclear if one is indeed present. These contradictions exemplify Duckworth's break from minimalism.

CHAPTER V

PRELUDE 15

Though Prelude 15 is the one of the shortest movements of *TCP*,¹²⁷ it has been one of the most widely discussed in the written literature. Analysts have focused on different aspects of the work: Frank examines form and melodic material, Gann focuses on the limited use of musical materials and the apparent absence of a guiding process, and Beuerman gives some background information about the movement and speculates that its pitch collection may be inspired by Indian raga.

Frank's analysis divides the movement into two parts: mm. 1–28.3 and 28.4–67. His reasoning for interpreting the movement in this way focuses primarily on dynamics—both sections begin quietly before *crescendoing* over time.¹²⁸ Additional pieces of evidence that support Frank's division include the last pitch of his first section, E \flat 6 (one of only two times that the piece strays that high), which is highlighted by both a pitch accent and an agogic accent, as well as the bass line in mm. 26–28, which echoes the stepwise descent from B \flat to E \flat that leads into a new section in mm. 14–16.

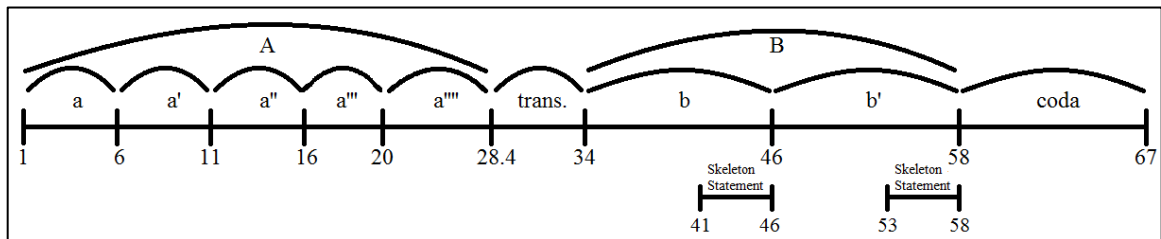
¹²⁷ This distinction is regarding performance duration. Prelude 15 is the shortest prelude on Neely Bruce's debut recording at 1:40. It is the second shortest on R. Andrew Lee's album at 1:59. It is curious that this piece is one of the shortest despite a relative abundance of musical materials while Prelude 6 is the longest piece on both recordings despite essentially being six measures.

¹²⁸ Frank, 45–46.

Dynamics are certainly important to this movement; indeed, Prelude 15 features the most expressive markings of any of the preludes that have been examined to this point. The piece begins *pp* and steadily builds to a *fff* climax in m. 28.¹²⁹ The score indicates no fewer than fourteen *crescendi*, *decrescendi*, or *subitos*, plus numerous other dynamic markings. This number of dynamic markings in a relatively brief piece is in stark contrast with the typically static dynamics featured in minimalist works. These markings, in combination with the steady streams of ascending and descending eighth notes, produce an undulating effect.

Figure 5.1 is my representation of the form of this prelude.

Figure 5.1. Form of Prelude 15.



Although I agree with Frank that m. 28 is the beginning of a new formal section, I disagree with his assessment that it is the beginning of a second higher-level section. To me, it is a transition into a second section beginning at m. 34. To parse the sections marked with a lower-case “a,” I primarily considered temporary pauses in the melody and Sol–Do motions in the bass. Typically, the Sol–Do motions are realized as a B \flat eighth-note anacrusis to an E \flat pedal, though in mm. 14–16 the bass line moves from B \flat to E \flat

¹²⁹ Frank, 46.

through stepwise motion. B is distinct because mm. 34-46 are almost exactly repeated in mm. 46-58. This repetition retrospectively makes mm. 28-34 sound like a transition. The D-E \flat pedal motion from mm. 31-34, mimicking Ti-Do, hints at a dominant-tonic relationship that would anticipate a new formal section. While both sections contain repetition, the A section features much more variation than the B section. They also differ thematically, with subsections in A typically beginning slowly after a downbeat rest, and B beginning immediately with eighth notes. The two sections also seem to have different goals, with A gradually interpolating pitches to expand the skeleton and B content to repeat itself. The B section does not emphasize the skeleton as much as the A, as its skeletons begin midway through the sub-sections.

Moreover, m. 34 is the centermost measure of the piece and contains the centermost beat of the piece,¹³⁰ so viewing it as the beginning of a new section creates a balanced form. Although mm. 26-28 have an equally strong bass motion, a louder dynamic, and a higher pitch than in m. 34, b' repeats b very closely, grouping those sections together. The prelude concludes in mm. 58-67 with a coda featuring rhythmically diminished variations of the main theme.

Melodically, Prelude 15's organization is reminiscent of Preludes 6 and 14 in that it has a sort of melodic skeleton that is fleshed out over the course of the prelude; however, the skeleton in this movement is not nearly as strict as the organizing devices in the other two examples. Measures 1-5 present the skeleton of the piece, which is given as

¹³⁰ These distinctions may seem trivial, but the meter changes every measure. Recall that Prelude 6 also had a balanced structure whose center (system 6) was important.

the first line of **Figure 5.2**. Successive systems of the example show the remaining presentations of the skeleton. The beams above the staff indicate the notes of the skeleton. With the exception of m. 42, in which two notes can be considered part of the skeleton, only one note per simultaneity has been included in the figure. As with the pattern in Prelude 6, the skeleton moves freely between the voices.

As the piece progresses, the skeleton is stated with less consistency and clarity, with gaps explained as embellishments between pitches. The clearest statement of the skeleton is within the first five measures. The only notes in this statement that I do not consider to be a part of the skeleton are the second pedal E \flat and the final B \flat . Another clear statement, mm. 6–10, has only one passage with multiple notes interpolated between statements of an E \flat . Similarly, Gs in mm. 13 and 15 only represent a single G of the skeleton.

I hesitate to call this organization a process. Unlike early minimalist pieces, the framework and organization seem too free to be compared to “pulling back a swing, releasing it, and observing it gradually come to rest.”¹³¹ The looseness of the organization is evident when compared to Prelude 6, where there is a consistent skeleton running through the piece, and Prelude 14, where subsequent segments infix new material within melodic heads and tails that are nearly identical.

¹³¹ Reich, 34.

Figure 5.2. Skeleton in Prelude 15.

The image displays a musical score for 'Skeleton in Prelude 15' in G major, 3/4 time. The score is divided into four systems of measures:

- mm. 1-5:** A single melodic line starting on G4, moving stepwise up to D5, then down to G4. A bracket spans measures 3-5.
- mm. 6-10:** A single melodic line starting on G4, moving up to D5, then down to G4. Brackets are present under measures 7-8 and 9-10.
- mm. 11-20:** A single melodic line starting on G4, moving up to D5, then down to G4. Brackets are present under measures 12-13, 14-15, and 16-17. An 'Alternate Interpretation' is shown for measures 18-20, which is a more rhythmic, eighth-note version of the descending line.
- mm. 41-45:** A single melodic line starting on G4, moving up to D5, then down to G4. A bracket spans measures 42-45.

Instead, the locations, lengths, and methods of varying this pattern are less systematic. For example, a twenty-one measure segment between mm. 20–40 begins with the skeleton, but after m. 22 it is less convincing than other statements. A skeleton in this passage is not emphasized like in more concrete statements: notes appear sporadically in the middle of runs and are rarely seen in consecutive chunks. Labeling these notes as members of a skeleton feels like note-picking to confirm the theory. This being said, weakening and disguising processes is an important aspect of postminimalism, so it is possible that the statement is less convincing because it has been intentionally obscured.

The statement of the skeleton beginning in m. 41 is later repeated with some minor alterations in m. 53 as part of the b' section. Because they are defined using slightly different criteria—the skeleton is only defined by the order of notes, while the form is defined by harmonic motion and complete melodic ideas—statements of the skeleton do not always correspond with the formal areas detailed in **Figure 5.1**. The two statements of the skeleton in the B section occur in the middle of the two b phrases in mm. 41–45 and 53–57.

Much of the material interpolated between skeleton pitches is derived from the skeleton itself. For instance, there is a five-note passage identical to part of the skeleton in m. 18: F \sharp –G–A–B \flat –A–G. A similar figure appears in mm. 9–10, though this time it is missing the first A. I have marked the locations of this motive with either a complete or an incomplete bracket, based on the completeness of the appearance of the motive. Statements and fragments of this motive that are not a part of the skeleton might hint at a higher level of melodic organization in the prelude, such as a second skeleton. The

bracketed motives suggest a pattern in the skeleton's embellishments: in mm. 9–10, the motive is the entirety of the embellishment, while the motive is itself fragmented in mm. 18–19. I have represented mm. 18–19 two different ways in **Figure 5.2**. The first is a stricter interpretation, where the beam ends on the last note present in the initial skeleton.¹³² The second reinterprets the oscillating D–E♭ as interpolated pitches, where the number of Ds and E♭s is not fixed. In this scenario, the subsequent material, including the aforementioned bracketed motive, are an embellishment of E♭4 and its octave-displaced counterpart E♭5.

Frank asserts that this prelude's main theme uses material from the *Dies irae* plainchant, though the listener might not immediately notice the connection and may be skeptical that one is present.¹³³ Duckworth's use of the *Dies irae* is not a quotation per se, but is more accurately a *paraphrase*. A paraphrase allows for more latitude than a quotation, providing Duckworth with more liberty to alter aspects of the melody while still retaining any intertextual connotations. Comparing the opening of this prelude with the more obvious paraphrase in Prelude 1 helps to reveal Prelude 15's relationship to the *Dies irae* (see **Figure 5.3**). On the first system in **Figure 5.3** is the familiar *Dies irae* melody.

¹³² In mm. 11–20 and 41–45, the final B♭ is omitted. The note's preparatory function complicates its place in the figure—does it occur at the beginning of one skeleton, or the end of the previous one, or is it just added to the E♭ that starts the subsequent skeleton statement and isn't a part of the skeleton at all? Although I include it in the first two systems of **Figure 5.2**, the note is more closely tied to preparing the next section to make the beginning of the skeleton clearer.

¹³³ Frank, 45.

Figure 5.3. Comparison of the *Dies irae*, Theme of Satie’s *Vexations*, and Thematic Excerpts from Duckworth’s Preludes 1 and 15.

The figure displays four musical excerpts in G minor, each on a treble clef staff. The excerpts are:

- Dies Irae:** Shows a sequence of notes with a boxed region containing five notes. Below it is the fingering: csubseg: 4 1 3 0 2.
- Prelude 1 (Dies irae Theme, mm. 23-24):** Shows a sequence of notes with a boxed region containing five notes. Below it is the fingering: cseg: 4 1 2 0 3.
- Prelude 15 (Skeleton Melody Line):** Shows a sequence of notes with a boxed region containing five notes. Below it is the fingering: cseg: 4 1 2 0 3.
- Vexations (Theme, First 5 Notes):** Shows a sequence of notes. Below it is the fingering: cseg: 2 0 3 1 4.

 Annotations include:

- A curved arrow labeled t_6 pointing from the boxed area of Dies Irae to the boxed area of Prelude 1.
- A curved arrow labeled "Contours R-Related" pointing from the boxed area of Prelude 1 to the boxed area of Vexations.
- Arrows connect the fingerings of Prelude 1 and Prelude 15, showing they are identical for the boxed section.

That the initial minor second of the *Dies irae* is changed—to a major third in Prelude 1 and to a perfect fourth in Prelude 15—makes it difficult to detect the paraphrase. Looking past the opening interval, the two excerpts are very similar. The boxed areas are transpositionally-related pitch-class series in diatonic space (marked by a lower-case “t”) and both melodies conclude with repeated notes. In all, five of seven step intervals are shared. The first five notes of both Prelude 1 and 15 (omitting the pedal $E\flat$ that opens the

piece) have nearly identical contours: only the third and fifth notes are swapped (indicated by the arrows connecting those two cseg members). Additionally, the five pitches of the Prelude 15 excerpt (E♭, F, G♭, G♯, and B♭), are a subset of the first six pitches of Prelude 1's excerpt (those plus A♭). I think Prelude 15 owes a previously unnoted debt to Satie's *Vexations* as well. The first ten measures of Prelude 15 exhibit a jagged melody, ambiguous modality, and slow pace that are reminiscent of Satie's work. Frank points to three other preludes that are related to *Vexations*: numbers 7, 9, and 16.¹³⁴ The respective contours of the first five notes of the Prelude 1 excerpt (<41302>) and of the *Vexations* theme (<20314>) are retrograde-related.

Duckworth's treatment of the *Dies irae* in Prelude 1 demonstrates Frederic Jameson's definition of *pastiche*:

[It] is, like parody, the imitation of a peculiar or unique, idiosyncratic style, the wearing of a linguistic mask, speech in a dead language. But it is a neutral practice of such mimicry, without any of parody's ulterior motives, amputated of the satiric impulse. . . . Pastiche is thus a blank parody.¹³⁵

The foreboding nature of the *Dies irae* has been lost because the major tonality replaces the foreboding nature of the original. While a parodic use of the melody would likely be

¹³⁴ Frank, 35, 36, and 47.

¹³⁵ Jameson, 17. Jameson gives examples of *pastiche* that, like the *Dies Irae*, are more specific than styles. He points to the film *Body Heat* (1981), which was a loose remake of the film *Double Indemnity* (1944), arguing that "the word remake is . . . anachronistic to the degree to which our awareness of the preexistence of the other versions . . . is now a constitutive and essential part of the film's structure." Jameson, 20.

grotesque or ironic (as in Berlioz's *Symphonie Fantastique* or Liszt's *Totentanz*), *TCP* forgoes these options for a much flatter affect.

Rhythmically, the divisions of the beats in Prelude 15 are indicated not by a time signature, but by two or three numbers in hexagons above each measure. Duckworth uses this technique in several of the movements, though if there is a pattern to the organization of the beat divisions, neither Gann, Frank, nor I have yet been able to find one.¹³⁶ Frank speculates that the beat divisions may have been chance determined.¹³⁷ This supposition may hold some merit, in that Duckworth used chance to determine formal elements in the otherwise non-Cagean composition *Mysterious Numbers*.¹³⁸ Composing by chance directly contradicts the goals of Reich's "Music as a Gradual Process," which singles out Cage as a composer who uses methods that Reich considers to be processes (using the *I Ching*, imperfections in paper, etc.) that are not generally heard by a listener.¹³⁹ Even if there is a rhythmic process, its obscured nature still represents a break from early minimalism.

To say that the prelude "lacks" a minimalistic process is an inadequate description of what Duckworth is doing in this movement. The piece sounds like it is actively rejecting or even mocking an audible structure. When I first listened to this prelude, I was convinced that there was some kind of additive process in the piece that would reveal

¹³⁶ Preludes 12 and 16 also use this organizational system.

¹³⁷ Frank, 41 and 46.

¹³⁸ Kyle Gann, "No Escape from Heaven: John Cage as Father Figure," in *The Cambridge Companion to John Cage*, ed. David Nicholls (New York: Cambridge University Press, 2002), 250–1.

¹³⁹ Reich, 35.

itself in the early stages of my analysis; after all, the piece *seems* to systematically add more and more eighth notes with each statement of the theme. However, Gann declares that this movement “seems to point to a pre-compositional pattern that is in fact not there.”¹⁴⁰ In his essay published in *Postmodern Music, Postmodern Thought*, Kramer provides a list of sixteen common characteristics of postmodern music. The second of these points is that such music “is, on some level and in some way, ironic.”¹⁴¹ I believe that this is what is happening here: Duckworth is using irony to subvert our expectations for a systemic rhythmic process. The listener is expecting to hear melodic lines that appear to grow methodically via an additive process both because such a process is used in the rest of the set and was a staple of minimalism. Such a rejection of an expected process would be one of the strongest examples in *TCP* of a break from early minimalism.

In conclusion, Prelude 15 presents some unique opportunities for an analyst to examine the traits of postminimalism. Its apparent absence of a minimalist process, its large number of markings that foster expressivity, and its relationship to other works, make it unique among the three movements I have studied. Prelude 15 also demonstrates that even if there is not a process that is as clear as that of a Reich phase composition, other forms of melodic and rhythmic organization, such as a skeleton and changing beat divisions, can play a part in organizing the preludes of *TCP*.

¹⁴⁰ Gann, “Technically Definable Stream,” 54. Interestingly, this is the same paper where Gann calls *TCP* “a seminal example” of process in postminimalism.

¹⁴¹ Kramer, 16.

CHAPTER VI

CONCLUSION

A lot of ground has been covered in this thesis regarding *TCP* and postminimalism, including a questioning of postminimalism's place in history and long-term status as a distinct style. Despite this questioning, I believe that there's at least *some* place in history for postminimalism. *TCP* is a fascinating case study because it serves as a bridge between minimalism and postminimalism by subverting and manipulating classic minimalist tropes. Duckworth may not have intended to be a harbinger of a new style, but still it seems clear that he was at least trying to expand the boundaries of minimalism, and he succeeded. Though they might not be as renowned as Glass or Reich, Duckworth and other postminimalists are significant figures in the history of recent art music.

While Duckworth may be regrettably underappreciated, *TCP* helped to pave the way for a style that is represented by several critically and commercially successful composers. John Adams is the most instantly recognizable postminimalist, but John Luther Adams (winner of the Pulitzer Prize for Music), Jonathan Kramer (a composer and analyst whose work on vertical versus linear time is cited in Chapter II), and the influential collective Bang on a Can (containing two Pulitzer winners, David Lang and Julia Wolfe) have had their music categorized within either postminimalism or its sister

genre totalism.¹⁴² Gann lists dozens of other postminimalists in his book *American Music in the Twentieth Century* and article “Minimal Music, Maximal Impact.” Most of these composers have spread their music by touring extensively or by serving as music faculty members at colleges and universities, allowing the fingerprints of postminimalism to appear on future generations of composers and audiences.

Perhaps one of the reasons that the postminimalist’s contributions are less well known is that, as Gann argues:

[i]t never formed a “scene” centered in New York or San Francisco or anywhere else, and the composers involved range in location from Maine to Mexico and from Florida to Hawaii. This is one reason postminimalism hasn’t been perceived as a movement, but if you listen to a lot of music by composers, . . . the impression of a unified style is remarkably vivid, especially considering that these people had never heard of each other’s work.¹⁴³

Gann also claims that many postminimalists only met each other later in their careers because he introduced them,¹⁴⁴ so there are some geographic reasons that explain why postminimalism never really formed a scene. When considering scenes or “schools,” there is typically something radically different about the music that attracts disciples, subsequently spreading the school to other parts of the country and future generations. John Cage and Arnold Schoenberg attracted disciples in part because their musics were

¹⁴² Totalism is a more rock-infused, rhythmically complex off-shoot from minimalism. See Gann, “Minimal/Maximal,” 7. The composers and collectives listed are described as postminimalists and totalists in Gann, *American Music*, 368, 348-349, and Alex Ross, *The Rest is Noise* (New York: Picador, 2007), 568, respectively.

¹⁴³ Gann, “Minimal/Maximal,” 6.

¹⁴⁴ Gann, “Minimal/Maximal,” 6.

radically different from anything heard before. Perhaps the similarities between minimalism and postminimalism have overshadowed the differences, keeping a scene from forming. I don't think that it's a stretch to say that the postminimalists have been overshadowed by the commercial success of Reich and Glass. While Gann cites Duckworth as a major influence in his own music, the lack of a scene limits Duckworth's direct impact on other composers to a certain degree. While it may be hard to truly say how much *TCP* directly affected other composers, it was still an accessible composition with a widely available commercial recording, and it was performed in high-profile settings like the *New Music America* festival, described by Gann as postminimalism's "first important public unveiling."¹⁴⁵

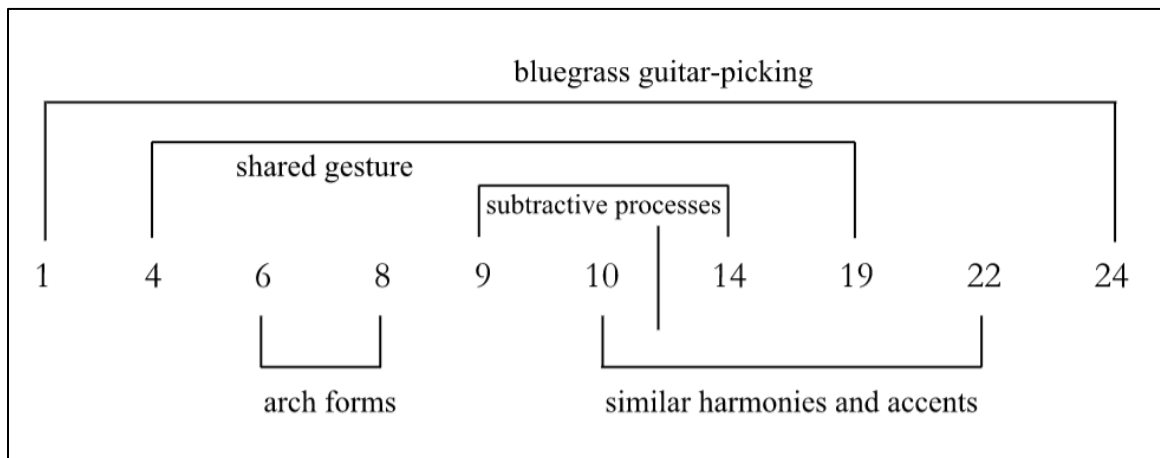
Despite postminimalism's decentralization, Duckworth and *TCP* have played an important role in its success. Even if it is not the first postminimalist work—an earlier candidate is John Adams's *Shaker Loops*—it was still an early, well received, and influential example of the style. The same holds true in critical literature about postminimalism: Gann obviously discusses *TCP* frequently, and both Richard Andrew Lee and Walter Frank single out *TCP* as the impetus for choosing the topics of their respective dissertation and thesis. There seems to be something that speaks to its listeners, whether it's curiosity from knowing something interesting is happening that you can't put your finger on, or simply its beauty and accessibility.

Clearly, additional research into minimalism and postminimalism is needed to determine Duckworth and *TCP*'s impact. Hopefully, this research would include

¹⁴⁵ Gann, "Minimal/Maximal," 6.

increased analytical literature on not just Duckworth’s music, but other deserving composers as well. As for *TCP*, recommendations for future research would be to investigate the possibility that the “curve” referred to by the title might not only be a spiral or parabola as detailed by Beurman,¹⁴⁶ but also an arch. **Figure 6.1** illustrates some significant connections between pairs of preludes. The line between Preludes 10 and 14 denotes the divide between book one and book two.

Figure 6.1. Connections between Preludes.



I have already demonstrated that arch forms exist in individual preludes like Prelude 6, and Beurman points out another one in Prelude 8;¹⁴⁷ Beurman also points out that the first and last prelude are strikingly similar, with both mimicking bluegrass guitar-picking patterns.¹⁴⁸ While not conforming to a perfectly symmetrical arch over the whole set, several other movements reflect commonalities across the work, and some are nearly

¹⁴⁶ Beurman, 160–162. Beurman writes how curves created by the Fibonacci sequence could be the impetus for *TCP*’s title.

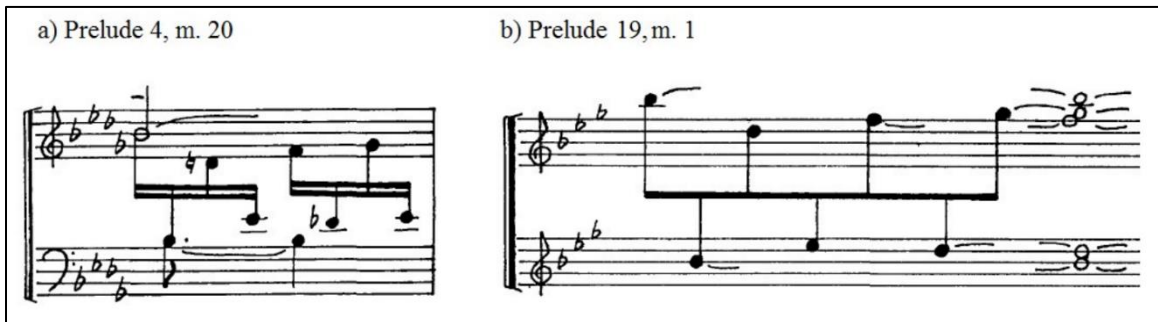
¹⁴⁷ Beurman, 188.

¹⁴⁸ Beurman, 82.

equidistant from the beginning or the end: there are connections between Preludes 9 and 14 (subtractive processes) and between Preludes 10 and 22 (similar harmonies and accents). *TCP* could very well have some levels that are organized by spirals, and some with arches.

Preludes 4, 15, and 19 are also connected.¹⁴⁹ Preludes 4 and 19 contain almost identical melodic gestures, as seen in **Figure 6.2**. Relative to Prelude 4, Prelude 19 states the gesture up an octave, changes $D\flat$ to $D\sharp$, and deletes the repeated $E\flat$.

Figure 6.2. Duckworth’s Prelude 4 m. 20 and the Opening to Prelude 19.



The similarities are concealed by the tempo differences between the selections—Duckworth instructs the performer to play Prelude 19 “slowly [and] hesitatingly,” while Prelude 4’s quarter note = 132 sixteenth notes are barely perceivable. The slower tempo allows the melody to be more clearly perceived by the listener.

This is not the only occurrence in *TCP* of an initially obscured melody that is later clarified: although it is on a smaller scale, Prelude 14 does not reveal the “unprocessed”

¹⁴⁹ A relationship between Prelude 4 and 19 is noted on Frank 49 but not expanded upon.

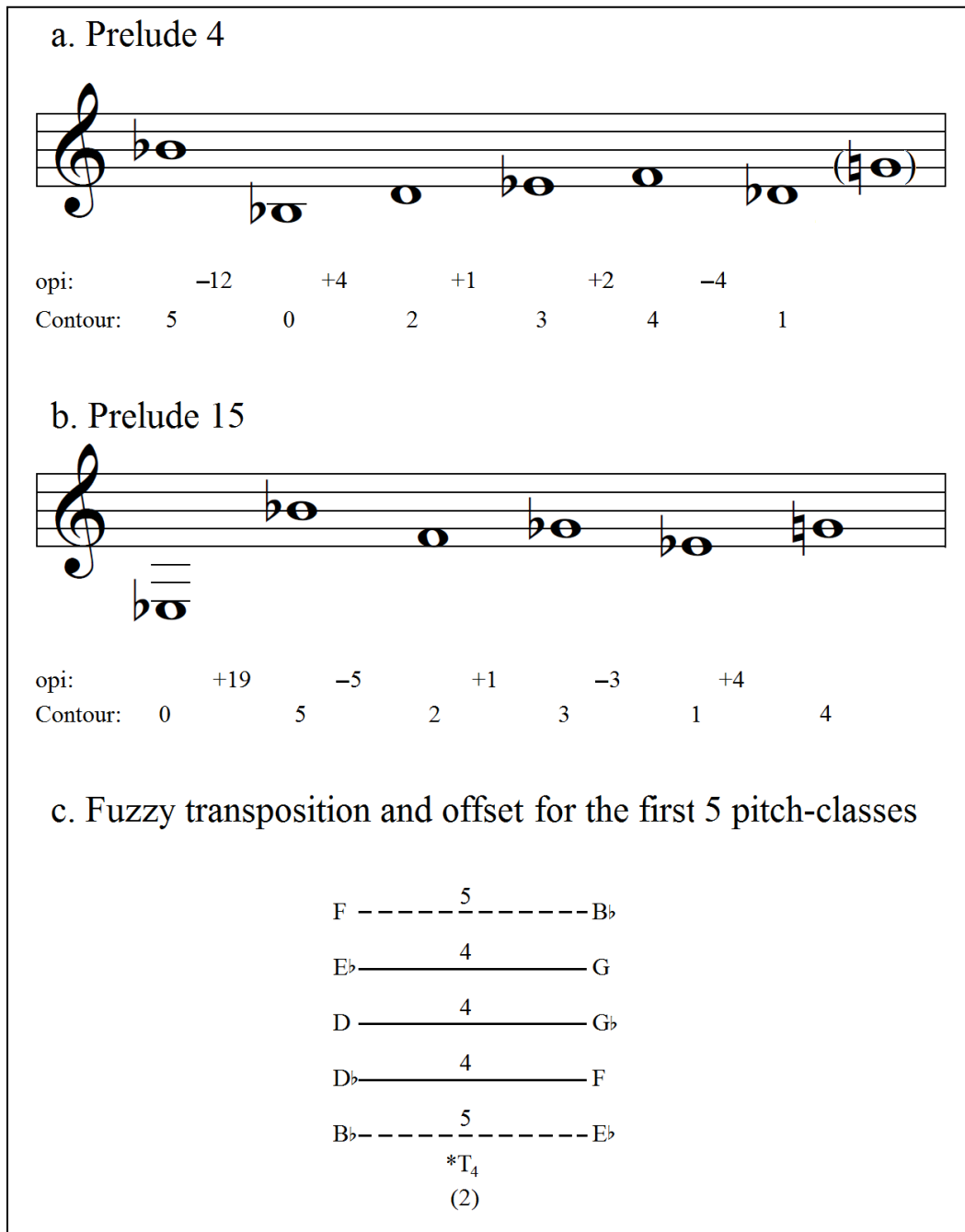
versions of the melodic strings until the second half of the piece. These revelations could be remnants of the audible component of the processes of early minimalism. Duckworth retained the use of processes from minimalism, and while the processes are not always immediately recognizable, Preludes 4 and 19 contain compositional devices that can assist the listener.

As for Prelude 15, it displays many similarities in pitch-class content, pitch intervals, and melody contour to these melodic gestures from Preludes 4 and 19, shown in **Figure 6.3**. The section labeled “a” shows the pitch intervals and contours in m. 20 of Prelude 4, while “b” is the first six pitches of Prelude 15’s skeleton. The contours of the first six notes of these two excerpts are near-inversions of each other; only the third and fourth c-pitches are swapped. All of the pitch intervals other than the first are either identical or within a half step.¹⁵⁰ If the pitches are stacked, those same notes can also be considered a *fuzzy-T₄* of each other, with an offset of 2, as shown in the section labeled “c.”

These connections relate to another topic that has been briefly explored in this thesis: the presence of hidden structures within *TCP* that are “revealed” somewhere else. These hidden structures might be revealed later within a single prelude (Prelude 14) or in different preludes (Preludes 4 and 19).

¹⁵⁰ The G♯ in parenthesis was included to show how similar the endings of the passages are, but it is not included in the pitch interval and contour analysis.

Figure 6.3. Pitch Intervals and Contours of Duckworth's Prelude 4 m. 20, Prelude 15, and their Fuzzy Transposition.



Additionally, Lee points out that in Prelude 9, only the third statement of the talea is rhythmically unaltered by the migrating Gs, instead of the first.¹⁵¹ Lee even calls this iteration “the most pure representation of the [rhythmic] ground.”¹⁵² Once again, this structure is not revealed until midway through the piece, though in this case it is immediately obscured afterwards. Prelude 6 operates like this as well: its overall symmetry rises to the surface in system 6, in which the rotating form of the pattern begins exactly halfway through the system, making the central system transpositionally symmetric. As I stated earlier, I believe that the revealing of these structures are remnants of the audible process being uncovered, as if Duckworth was not entirely ready to abandon the trait in his music. It is very possible that similar clues to hidden structures exist across the work.

¹⁵¹ Lee, 160.

¹⁵² Lee, 160.

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APPENDIX A

PRELUDE 6 RENOTATED IN F# MINOR

The image displays a musical score for a piece titled "PRELUDE 6 RENOTATED IN F# MINOR". The score is presented on six staves, each beginning with a treble clef, a key signature of three sharps (F#, C#, G#), and a 7/4 time signature. The notation consists of a series of eighth and sixteenth notes, often beamed together, with some notes marked with a double underline. The music is contained within a rectangular border.