Wesleyan University

Canon | Grid | Composition

By

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This document is structured around three pieces that I composed during the past two years: 3 Canons, Graph Study No. 1, and Notes. I use these pieces as points of departure to explore canon, composing on graph paper, and a few social and logistical aspects of music making respectively.

I focus on my time at Wesleyan because during this period the financial, geographical, and interpersonal conditions under which I operated were fundamentally different from what I had known previously. Being in a context where I was expected to both speak to and write about the music I produced had a significant impact on the nature of my work.

As a composer it is my goal to synthesize formal musical procedures with lessons gleaned in informal settings into a coherent, fulfilling compositional practice. I wish to create music that is clear, pleasing to listen to, and carefully constructed yet conveys a casual, tentative experience for listeners and places as little demand on performers as possible.

To begin with, I would like to reflect briefly on the M.A. thesis requirements as they appear on the music department website. They begin with the statement:

“The M.A. thesis may follow various formats and modes of musical investigation, but performance *per se* does not constitute a thesis without substantial, written ancillary materials.”

Inherent in this statement is a hierarchy of values: investigation over creation and the written word over “performance *per se*”. Also implied is that the written word is necessary to validate any substantial form of musical investigation. As Susan

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McClary points out, ours is, “a culture that values quantifiable knowledge over mere expression.”

In the context of graduate school I have been grasping for elements of music that can most readily be explored in written form and distilled into a paper that seemingly arrives somewhere. I have attempted to look closely at the things that I understood to be the raw, materials of music (such as pitches, chords, and rhythms) as well as explored structural devices.

Theodor Adorno writes that, “musical material itself is not natural material…but something historical,”. My values as a composer are constantly shifting and informed by the values of those around me at any given moment, the resources at my disposal, and the codes I have been conditioned in.

I have interpreted “investigation” as personal inquiry. Any attempt to place myself in some sort of historical lineage or identify my music with the “abstract path of progress” has not been productive so instead I will reflect on the things I have made up until now and the people and materials that I have engaged with during my time in graduate school in the hopes of figuring out how to move forward and continue to develop as a composer.

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4 Adorno, “Criteria of New Music,” 154.
Chapter One: Canon

The majority of the music that I have presented at Wesleyan has been performed by configurations of undergraduates, graduate students, and faculty, all of whom I know personally and work with regularly. This is similar to what my practice was prior to graduate school where my music would only be realized if I not only wrote the notes but assembled the individual players, organized rehearsals, and coordinated performances or recordings.

The opportunity to work with Mivos Quartet in the context of the graduate seminar led by Professor Tyshawn Sorey demonstrated what a drastically different experience it is to write for a professional, highly trained ensemble, with an established sound, interpersonal dynamics, who are being compensated for performance, and the impact that these considerations have on compositional decision-making.

Both the practice of putting together ensembles for specific occasions and writing music that can be performed by musicians of varied training and ability levels has been productive and humbling. There are social and political implications to a de-specialization of the performer and creating works that can be realized by musicians with disparate training and ability levels. It also forces a composer to reflect on the many factors that go into realizing a piece of music beyond the musical material – be they social, logistical, political, mental, acoustical, technical, etc.

With these considerations in mind I have noticed myself creating works that use open instruction, are more ambient in nature, and incorporate electronics, systems
or processes. After years of coordinating rehearsals and performances with both freelance musicians in New York and students/professors here at Wesleyan, all of whom are juggling countless obligations, I have developed a desire to write music that is clear, economic, enjoyable to perform, and not dependent on a tightly executed performance in order to be well realized. Through work with children, home recording, and free improvisation I have come to embrace (and at times strive for) an aesthetic that is unpolished, informal, or uncertain.

Given the musical training of the members of Mivos quartet, I saw this performance as an opportunity to engage with more traditional, rhythmic (in the sense of being unified by a common pulse) musical devices that I had avoided in my fall recital piece, *Notes*, which I composed at the same time as the string quartet. While my colleagues who performed on *Notes* are highly capable musicians, that particular ensemble had never performed together and only had time to rehearse the piece once on the day of the concert. That piece consisted of sparse, loosely coordinated gestures with players relying on stopwatches for their cues.

A desire for simplicity has impacted the way I organize musical material when writing in standard notation and I notice myself gravitating towards a predominantly tonal vocabulary and structures that are transparent, perhaps not to the listener in concert performance, but upon looking at the score. These have taken the form of even blocks of material, canon, simple patterns, processes, and drones. There are countless precedents for restraint as a valid and liberating form of experimentation
and I believe that clarity and simplicity are at the core of most of the work that I am
drawn to, even if a complex sounding result is achieved.

By imposing limitations I wish to open up possibilities, not restrict myself
from trying new things or taking risks. I would like to learn how to stand by simple
decisions with more confidence and understand when I am avoiding difficult work
under the guise of simplicity and when I am accessing new and meaningful ideas
through clear and simple statements. I am discovering there are simple means for
achieving complex sounding results and vice versa (intricate methods for generating
music that is perceived as simple sounding). Both appeal to me. Jurg Frey writes,

“…to compose means to build a basic confidence in the clear and
restricted material that you are working with. It's a basic, existential
trust in such a simple thing as a third or a fifth. It's not given by itself;
one has to try to create it for every piece, to compose it and to find
a context for it.”5

The word “canon” might mean different things to different people so I will
quickly articulate my understanding of canon, which is rather broad. Canon is a
device in which the same material is sounded by other voices at different points in
time. In its most straightforward form instruments or voices sound exactly the same
material, in the same register, and rhythmic ratio and so the material could be notated
as a single melodic line with indications of where different voices are to begin.
However there are many ways to stretch this understanding through invertible
counterpoint (the material sounds in different registers), chromatic or diatonic

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5 Jürg Frey, “Discussion between Venezuelan composer Gil Sansón and Jürg
Frey,” interview by Gil Sansón, Another Timbre, n.d.,
transposition (the material sounds at an interval other than a unison/octave), prolation (the material occurs at different rhythmic ratios), or through treating a line in inversion, retrograde, or retrograde-inversion. A further variant would be to provide a single melodic line and have instruments (or voices) move through it at their own rate. In all cases a single string of pitches dictates the content and form of a piece.

The piece I composed for Mivos, aptly titled 3 Canons, consists of three movements of around 5-7 minutes each in which I attempt to create three distinct textures simply by varying the distance of entries and the intervals at which canons occur. For me canon is a generative form of composing; the simplest gestures multiply out and past, present, and future become intertwined. The distinction between melody and harmony is blurred, as is the distinction between content and form; the content shapes the form while the form dictates the content. In spite of the cerebral, controlled, and complex nature of canon writing, canon is frequently used in playful, informal settings such as children’s songs, games, and technical exercises.

I am intrigued by the ways in which canon might be perceived by listeners especially when it occurs in the context of a formal concert environment. On multiple occasions I’ve experienced listening to a work and being unaware of canon at play until I looked closely at the score. What Carl Dalhaus refers to as, “the dichotomy between a structure which nobody discerns without laborious analysis and an acoustical façade which nevertheless makes its effect.” In pieces like György Ligeti’s Lontano or Arvo Pärt’s cantus in memory of benjamin britten for example

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canon is used as a means to generate texture through dense orchestration and an additive procedure in prolation (respectively).

Ligeti writes,

“… Music as frozen time, as an object in the imaginary space evoked in our imagination, as an object, which in a real sense unfolds over time and yet in an imaginary way is simultaneously present in all its moments. The exorcism of time, the abolition of its passing, and its inclusion in the present moment is my main intention as a composer.”

While I don’t pretend to grasp all of the technical complexity of Ligeti’s music, the conceptual/structural clarity and holistic nature of his work is readily apparent upon analysis of his scores and hearing him speak about his own work. Music that unfolds over time and yet is “simultaneously present in all its moments” resonates with my ideal of canon.

In the music of Jürg Frey canon is intrinsically connected to the circular and long-duration work. *Extended Circular Music* is a collection of pieces that naturally cycle back to where they began and the length is determined at the discretion of the performer(s). The circular takes several forms; *Extended Circular Music No. 2* and *No. 6* for example are essentially chord progressions that seamlessly return back to the first chord and in the process of repetition abstract where the beginning of the cycle occurred. *Extended Circular Music No. 5* and *No. 3* are canons. On the album *Jürg: Chamber Music* these pieces appear out of order; *No. 1, No. 2, No. 5, No. 6,*

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No. 3, and No. 7. Direction, perception, orientation, and the part in relation to the whole seem to be on the composer’s mind.

Fig. 1.1: Excerpt of Extended Circular Music No. 3 by Jürg Frey

I listen to Jürg: Chamber Music on the never-ending stream of music that is Spotify, where the settings are such that an album begins over after the last song has finished. Through this medium I have come to understand the whole record as a circular experience with no beginning or end other than when I start it and when I stop it. This calls to mind an instruction provided by Girolamo Frescobaldi at the start of his Fiori Musicali (“Musical Flowers”) in which he tells the performers that if the pieces “appear too long, they may be concluded earlier by a cadence.”\textsuperscript{10} A composer giving the performer license to seamlessly enter into and out of a musical form at their discretion has significant implications; it does not put the onus on a performer to execute a work but allows one to engage with material for as long as it serves them.

In canon there is the potential for unity, as every instrument performs the same material; continuity, a means of generating material that can loop back on itself.

and continue indefinitely; and stasis, as a sense of linear development (in the temporal 

sense) can be overshadowed by individual musical lines simply interacting with each
other in space-time.

3 Canons (I.)

The first movement of 3 Canons is a four-part canon sounded at the unison
with entrances staggered by one beat. This creates a dense, washy texture in which 
every instrument is playing in a close range and echoing the player to their right. The 
density of the texture obscures the individual rhythms of each part, which are mostly 
quarter notes. The structure is a collection of short, folksy phrases crafted with the 
mechanism in mind. Leaps and arpeggios open up harmonic space and steps create 
clusters and moments of tension. There is an A/B phrase that acts as a refrain; the 
material branches off, at times into more dissonant passages, but always returns to 
one or both phrases of this simple refrain.

![Fig. 1.2: Refrain from 3 Canons (I.)](image)

The idea of refrain is something I seldom think to explore in instrumental 
music, though is a device I frequently use in songwriting. In the case of this 
movement, which consists of short phrases strung together, I found a refrain helped 
orient the somewhat nebulous material. I could establish structure on a micro level
simply by departing from and returning back to something familiar, seeking variety in the length of the departures and the nature of the returns. Sometimes the departures are quick, just the refrain melody with one or two altered pitches, and other times more extended, moving briefly into a different key or dissonant cluster. In constructing the piece this way I didn’t have to conceive of an overarching structure but could let the piece take form intuitively and end it when it felt appropriate given the circumstances.

While the canon writing remains strict throughout the movement it is ultimately a freely composed piece of music with phrases shaped at the piano and arranged in sequence by ear. Given the rigidity of the mechanism, I incorporated moments of silence and longer sustained tones to help break up the texture. The piece does not end with the familiar refrain but rather right as a section of new material begins.

In canon writing I find a balance of formal procedure and aural decision-making; it is neither a freely created block of self-expression nor a predetermined formal process unfolding. For me it is a cerebral exercise with the ultimate goal being to create something subtle, beautiful, and musical.

Brahms is quoted as saying, “When I do not feel like composing, I write some counterpoint.”\footnote{Arnold Schoenberg, \textit{30 Kanons} (Kassel: Bärenreiter-Verlag, 1963), v.} In the context of the Romantic tradition counterpoint would seem to be a technical activity divorced from the raw emotion that went into truly inspired
musical creation. Arnold Schoenberg, one of the pivotal figures between Romanticism and modernism, regarded counterpoint quite differently:

“One who assumes that counterpoint is cerebral while melody is spontaneous would be forced…to conclude that cerebral products can be written faster than those of spontaneous feeling. But nothing could be more erroneous; that one as well as the other may require much or little work. Whether much or little labor is necessary depends on circumstances over which we have no control. Only one thing is certain, at least to me: without inspiration neither could be accomplished.”\textsuperscript{12}

Weighing the cerebral against the spontaneous brings up important questions of subjectivity, inspiration, and labor. As a composer I am constantly asking myself if I should put less conscious thought into a piece and let decisions unfold naturally or incessantly toil over things; both over thinking and under thinking have yielded results I am pleased with. Should I compose based solely on what I am hearing/want to hear or explore conceptual ways of organizing material that yield sonic results I could not have otherwise imagined? Again, both have proved productive and are not mutually exclusive. Schoenberg’s statement resonates with me because I have observed that in either case, cerebral or spontaneous, there is something at play that is out of my control, maybe not inspiration \textit{per se} but a focus that allows an idea to be developed through to realization.

\textsuperscript{12} Schoenberg, \textit{30 Kanons}, v.
3 Canons (II.)

The second movement of 3 Canons is a slow, contrapuntal texture that is, for the most part, tonal. This movement, like the first movement, is structured with divergences oriented around a refrain; in this case a 10-bar passage acts as the refrain.

![Fig. 1.3: Excerpt of refrain from 3 Canons (II.)](image)

The entrance pitches are built from the chord D-F-A-C, a collection of diatonically stacked thirds, however the entrances do not occur from lowest to highest (i.e. a canon at the third) but rather Violin II begins the canon on the pitch A, Viola enters next on the F below, then Cello on the D below, and finally Violin I on the C above. The phrases that begin on A, F, and D play the canon in F Major however the final voice that enters on the C plays the canon diatonically in C Major (it is composed in such a way that a B natural in the fourth part never occurs simultaneously with a B flat in the other parts).

Each time the refrain occurs the instrumentation changes and the melody is slightly altered. Staggered between refrains are four divergent two-voice canons. In these canons the four initial points of entry (A-F-D-C) are established as drones over which a two-voice canon sounds in four distinct instrumental combinations. First,
Violin I and Cello hold A while Violin II and Viola play in canon, next Violin I and Viola hold F while Violin II and Cello play in canon, then Violin II and Cello hold D while Violin I and Viola play in canon, and finally Violin I and Violin II hold C while Viola and Cello play in canon (see figure below).

<table>
<thead>
<tr>
<th>Measure Number</th>
<th>Drone</th>
<th>Two-Voice Canon</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm. 22</td>
<td>1. Violin 1 + Cello (on A)</td>
<td>1. Violin 2 + Viola</td>
</tr>
<tr>
<td>mm. 55</td>
<td>2. Violin 1 + Viola (on F)</td>
<td>2. Violin 2 + Cello</td>
</tr>
<tr>
<td>mm. 86</td>
<td>3. Violin 2 + Cello (on D)</td>
<td>3. Violin 1 + Viola</td>
</tr>
<tr>
<td>mm. 114</td>
<td>4. Violin 1 + Violin 2 (on C)</td>
<td>4. Viola + Cello</td>
</tr>
</tbody>
</table>

*Fig. 1.4: Variations in instrumentation in 3 Canons (II.)*

The first canon occurs at the 5th (below), the second canon occurs at the 7th (below), the third canon occurs at the 3rd (below), and the final canon occurs at the octave (above). In all of these divergent canons entrances are staggered by three beats with the exception of the first one in which the entrance of the second voice occurs after four beats.

The movement was originally drafted on graph paper with no meter in mind. In transferring it into standard notation I first put it into the default meter (4/4) but realized given the nature of the work, adjusting the meters could help convey the shapes of phrases more naturally without using phrase or bow markings (which I generally avoid). The piece is predominantly in 3/4 with bars of 4/4, 5/4, and on one
occasion 7/4 interspersed to help provide the player find some sense of where the
weight of the phrases fall though the material is overall legato and unaccented.

Fig. 1.5: Original graph paper draft of what would become the refrain in 3 Canons (II.)

This second movement is largely informed by slow moving keyboard works I
discovered in Professor Ronald Ebrecht’s Pipe Organ seminar (which I’ve
participated in every semester since arriving at Wesleyan). Works by J.S. Bach,
Dietrich Buxtehude, Girolamo Frescobaldi, and Giovanni and Andrea Gabrieli had a
significant impact on my musical thinking and influenced me to revisit the study of
counterpoint through a close reading of Giuseffo Zarlino’s The Art of Counterpoint
(Book 3 of his Istitutioni Harmoniche, published in 1558)\textsuperscript{13} and Arnold Schoenberg’s
Preliminary Exercises in Counterpoint (published in 1963)\textsuperscript{14}.

A more recent organ work that had a profound influence on me is Pari
Intervallo (1976) by Arvo Pärt. In this piece a cantus firmus harmonized in thirds is
treated in the composer’s signature Tintinnabuli style in which a melody in one voice
is set systematically against the simple outline of a triad in another voice\textsuperscript{15}. The

\textsuperscript{13} Gioseffo Zarlino, The art of counterpoint. Part three of Le istitutioni harmoniche,
1558 (New Haven, Conn.: Yale University Press, 1968).
\textsuperscript{14} Arnold Schoenberg, Preliminary exercises in counterpoint (London: Faber and Faber, 1963).
\textsuperscript{15} Leopold Brauneiss, “Musical archetypes: the basic elements of the tintinnabuli
style,” from The Cambridge Companion to Arvo Pärt (Cambridge: Cambridge University
Press, 2012), 49-75.
rhythm of each part remains constant throughout establishing a static texture that simply begins and ends and is given shape by the gradual ascent and descent of the pitched material. There is a dichotomy between the mechanical and the expressive and Pärt re-contextualizes anachronistic techniques to make a clear, elegant, and modern piece of music that is clearly presented, pleasing to listen to, and calming to play.

![Fig. 1.6: Excerpt of Pari Intervallo by Arvo Pärt](image)

Note in the above example how the pedal part and the highest voice on the middle staff play whole notes and move in parallel thirds with each other. The other two voices simply outline a G♭ major triad with staggered but constant points of attack; the top voice articulates a pitch on every third beat and the lower voice articulates a pitch on every fourth beat. The rhythm, tempo, registration, and dynamics remain constant throughout the piece with only the pitched material changing.

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3 Canons (III.)

The third movement of 3 Canons moves away from melody, harmony, and rhythm and uses canon to generate a texture of organized, sustained tones. Entrances are staggered by 5, 7, and 13 beats and the canon occurs chromatically at the major 7th above the preceding voice, however, like the second movement this stack of intervals is presented out of order. From lowest to highest the initial pitches of entrance are A-G♯-G-F♯; however, they are presented in the order of A-F♯-G♯-G.

Fig. 1.7: Initial points of entry in 3 Canons (III.)

The piece is broken up into four 10-bar sections that can be thought of as four separate canons. The last voice to enter on one canon becomes the first voice to initiate the next. This allows for a moment of one instrument sounding alone to connect the last note of one canon to the first note of another. Each instrument has the opportunity to sound alone with the exception of Violin 1. This was an oversight on my end that remained in the final version. I could have rectified this by switching the
order of entrance of Violin 1 and Cello in Canon 2 and Cello and Violin 1 (or 2) in Canon 3 but allowed this mistake to remain in the final version.

- **Canon 1:** Cello, Violin 1, Viola, Violin 2
- **Canon 2:** Violin 2, Viola, Violin 1, Cello
- **Canon 3:** Cello, Violin 2, Violin 1, Viola
- **Canon 4:** Viola, Cello, Violin 1, Violin 2

*Fig. 1.8: Orders of entrance in 3 Canons (III.)*

In this piece I was loosely interested in structuring material in a way where the organization of the parts reflects the organization of the whole. The piece is a collection of three canons with each canon structured by smaller subsets of canons. In the first movement every phrase is a micro-canon, in the second movement there is a refrain occurring between four divergent two-voiced canons, and in the third movement there are four 10-bar canons pieced together, the ambient nature, chromatic ordering of pitches, and amount of space between entrances makes this last movement difficult to perceive as canon as such. I originally intended to have the piece be called *4 Canons* but in the end stopped writing at three. So the individual movements reflect a structure oriented around the number four however this ended up not being reflected on the macro level.

The correlation between the spacing of entrances and the intervals at which the canons occur is intentional: The piece begins with little space between entrances (1 beat) which corresponds to a canon at the unison; in the second movement there are three beats between entrances and the canon occurs at the third; and in the final movement the canon occurs chromatically at the major seventh above the preceding
voice with rhythmic entrances being varied, uneven, and spaced out much farther than in the preceding movements. In this sense there is a stretching out of both harmony and rhythm as the piece progresses. The goal was to begin with a canon so close so as to be imperceptible as such and end with one that was so spread out so as to be imperceptible as such.

There are countless precedents for canon writing but notable pieces that have contributed to my attraction to and understanding of the canon are *Music for String Instruments Percussion and Celesta* and No. 123 (*Staccato und Legato*) from *Mikrokosmos* by Béla Bartók, *Extended Circular Music* and *Canones Incerti* by Jürg Frey, *Symphony No. 3* by Henryk Górecki, *Lontano* by György Ligeti, *Round the World of Sound* by Moondog, *cantus in memory of benjamin britten* by Arvo Pärt, *Variations and Fugue on ‘La Folia’* and *24 Preludes* by Manuel Ponce, and *30 Kanons* by Arnold Schoenberg.

I am interested in the extent to which listeners are aware of the underlying conceit when listening to a work that operates in canon. I myself didn’t realize what the music on the album *Moondog 2*\(^\text{17}\) was until I checked out *Round the World of Sound*\(^\text{18}\) and saw familiar pieces notated as simple canons. With Arvo Pärt’s music I have to look at the score to discover the underlying nature of each piece; be it canon, prolation canon, simple modulations of melodies, a recurring rhythmic pattern, organum, or a *cantus firmus* treated with *Tintinnabuli* technique. These devices, as

\(^{17}\) *Moondog 2*, Moondog, Columbia KC30897, 1971.

simple as they appear on paper, are not necessarily consciously heard nor is it the composer’s desire for them to be consciously perceived by listeners. Such experiences have inspired me to pursue structuring musical material in a way that seems overtly transparent, simple, or obvious to me and note how it is perceived by listeners.

**Symphony No. 3**

One of the most striking uses of canon I’ve encountered in a large-scale, concert work occurs in Henryk Górecki’s *Symphony No. 3*. Górecki composed this piece, the ‘Symfonia pieśni żałosnych’ (Symphony of Sorrowful Songs), Op. 36 in 1976 while working as Rector of the Higher School of Music in Katowice, Poland. Nearly twenty years later the piece would gain unexpected popularity when a recording made by the London Sinfonietta (with Dawn Upshaw singing soprano and David Zinman conducting) was released by Nonesuch in 1992 (the record has sold over a million copies to date).

Górecki begins *Symphony No. 3* with a canon that recurs throughout the piece. A 24-bar melody collaged together from a Polish folk song (‘Oto Jezus umiera’), a hymn (‘Niechaj bendzie pochwalony’), and original material is sounded in full in the lowest register of the basses. The extreme low of the register makes it difficult for the listener to perceive the melody as such, let alone perceive the canon at play.

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21 Thomas, *Górecki*, 84.
This melody gradually rises up through the orchestra with each consecutive instrument entering a fifth above the preceding instrument (i.e. Contrabass II begins the melody on E, Contrabass I sounds the melody diatonically with B as it’s starting pitch, Cello II sounds the melody diatonically with F# as its starting pitch, etc.). The entrances are offset by twenty-five bars (the length of the full melody plus one bar). Once the melody has sounded on all seven pitches of the key (E, B, F#, C, G, D, and A) the original iteration (that begins on E) is reinforced in octaves before the outer voices are gradually stripped away.

Fig 1.9: Entrance of the second voice a fifth above its predecessor

In this manner the melody is sounded in every mode simultaneously. When the outer voices are stripped away only the iteration in G Ionian and D Mixolydian remain:

Fig 1.10: Viola and Violin II sound the melody in G Ionian and D Mixolydian


While the composer’s logic is clear upon looking at the score, the sounding texture is dense and striking. A similar density derived from such straightforward treatment of musical material can be seen in how Górecki voices chords; at times as fully filled in blocks from the basses up through the violins. In so doing, Górecki defies the logic of the overtone series as it is typically applied to orchestration (with larger intervals in the lower register and smaller ones on top).

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Fig 1.11:

*Four-note chords in close-voiced stacks spanning nearly four octaves.*

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The canons in *Round the World of Sound* (1970) by the composer Moondog had a significant impact on me on account of both the musical material itself, which is intricate and playful, and the medium in which the work is presented, as books of notated canons (copied by hand) in every major and minor key. Each book begins and ends with a canon in C Major (to complete the circle), which makes 25 canons per book (rather than 24 (12 major and 12 minor)); an even 100 canons in total:

“Like Bach, I have a piece in every key, twenty-four in all. We both start in C, but he has his in chromatic order, whereas I have mine in perfect-fifth order, by way of the major and relative minor keys, to the left, through the flats, on into the sharps, and ending up in C again, a total of 25 pieces...This gives the effect of a circle or cycle, a feeling of departure and return, of having gone around the world of sound by means of the round.”

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The music is in predominantly odd-meters of five and seven counts and the texts consist of simple language with content ranging from lighthearted, quotidian musings to profound, existential questions and sorrowful statements:

“Coffee beans make the finest coffee of all. It’s time to take a coffee break. To sit a while and savour the rarest coffee flavour of bean coffee I make with bottled spring water, is my day.” (Book 1, Canon VII)²⁷

(compared to)

“All is loneliness here for me, loneliness here for me, loneliness.” (Book 1, Canon IV)²⁸

There is a functional, educational aspect to the book and the material is presented in a way that facilitates hands on engagement with the music and with others.

![Fig 1.13: A key at the beginning of Round the World of Sound with the highest and lowest notes of every canon, allows singers to see at a glance which ones are within their range.][1]

I am drawn to works that were composed with the intent to help people learn about or improve at something. Bartok’s *Mikrokosmos*, for example, is a brilliant collection of piano pieces that gradually progress from simple to difficult over the

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course of six books. Girolamo Frescobaldi’s *Fiori Musicali* is a book of Toccatas, Kyries, Ricercari, and Canzonas, which he created as a reading tool for fledgling organists in 17th century Italy. He writes:

“It was always my endeavor… to be of assistance in my work to eager students of the musical profession… Concerning this book I should like to say that my main purpose has been to assist organists.”

The *Fiori Musicali* serves the dual function of helping organists improve their reading at the instrument as well as provide simple material that could be used as accompaniment during church services.

It is not the didactic nature of works like this that I am drawn to but the fact that they are not necessarily oriented around the formality of a concert presentation of the material. I don’t believe Moondog composed these pieces with the intent of instructing people; however, he chose to present them in a way that makes the canons transparent and accessible, both to perform and to understand how they are constructed. *Round the World of Sound* is a striking juxtaposition of a formal procedure (canon) presented in an informal and playful manner.

Moondog was born Louis Hardin. He was blinded at the age of 16 in an explosion at his family’s farm in Hurley, Missouri. The majority of his musical training occurred without sight and he composed in Braille notation, an ingenious system in which pitch and rhythm can be notated together using the same six dot

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30 Frescobaldi, “Fiori musicali 1635,” 2.
characters used in the Braille alphabet; however, any additional parameters such as range, dynamics, instrumentation, or additional lines of harmony need to be written out in separate lines of characters which a performer would need to process separately and then combine together. Canon allowed Moondog to generate substantial works with a single line of written material.

![Fig. 1.14: Pam Gross transcribing the canons of Round the World of Sound into standard notation.](image)

The book version of *Round the World of Sound* appears to be self-published with the copyright in the composer’s name and the address below listed as “Moondog Management, 39 West 55th Street, New York.” However at the back of the book there is a Public Relations insert from Columbia Records with a press photo of Moondog and a brief write-up about, “the blind poet/composer/conductor and New York

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33 Hardin, *Round the World of Sound, Moondog Madrigals, Books 1-4*, second-to-last page.
Legend.”34 The year of copyright is 1970, one year prior to the release of his second LP, Moondog 2, on Columbia Records. All of the canons from Book 1 of Round the World of Sound were recorded for Moondog 2 and the album came with an insert, a portion of Round the World of Sound.

Each canon is presented as a block of text above a single melody line with roman numerals that indicate points of entry. Moondog writes, “the music came first, then the words,”35 both of which were generated by the composer himself. As a justification for keeping the words in a separate block of text above the melody rather than incorporating them as lyrics under the notation the composer writes:

“The words are written separately for those interested only in the words. The music is written separately for those interested only in the music. Those interested in singing the words can copy them in, remembering that, not counting ties, one note of music equals one word or one syllable of text.”36

This is a playful statement with significant implications: The composer is not delicate regarding the handling of his work, the music need not ever leave the page, interested parties have license to focus solely on the aspects that interest them, and his decisions exist at the level of notes, rhythms, and text with decisions of instrumentation, dynamics, and context being left to the discretion of performers.

Given the nature of the book, which was clearly assembled at a typewriter, the decision to keep words and music separate may have had more to do with the difficulty of formatting typewritten text under notation and a poetic justification is

34 Hardin, Round the World of Sound, last page.
35 Hardin, Round the World of Sound, 3.
36 Hardin, Round the World of Sound, 3.
given to turn this limitation into intention. Whatever the reasoning, it is a striking presentation of the material. It is not in a form that facilitates sight-reading and just as Braille notation requires a performer to feel separate parameters and synthesize them together, *Round the World of Sound* asks the sighted reader/enthusiast/performer to learn parts separately (text and music) and combine them into a whole.

Even within this format where each piece is presented as a melody with indicated points of entry there is ample room for variety. Most notably there are no indications regarding tempo of the pieces. As mentioned previously, Moondog recorded all of Book 1, which provides some indication of what the imagined tempos and underlying groove (played by Moondog on his collection of handmade percussion instruments) of those pieces might be; however, much of *Round the World of Sound* remains unrecorded by the composer.

Beyond tempo there is the variety in combinations of voices and instruments. Moondog writes:

“Though written with voices in mind, they can be played by instruments of the orchestra, as well. They can be done all vocal, all instrumental or mixt [sic]. The possibilities are, four voices, three voices and an instrument, two voices and two instruments, one voice and three instruments and four instruments.”  

This merely addresses the ratio of instruments to voices; decisions regarding the order of entrances and types of instruments to be used are left entirely at the discretion of the performers.

Beyond this there is the question of register:

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37 Hardin, *Round the World of Sound*, 3.
“Four voices means two high and two low, to get the inversion, for all music in this form is invertible, which is impossible if all sing or play in the same register, at the unison... The four orders of entry are, low-high-low-high, high-low-high-low, low-low-high-high, high-high-low-low.”

From this statement it is unclear whether all instruments playing at the unison is expressly discouraged by the composer or if he is merely pointing out the fact that the counterpoint can only be inverted by a reorienting of the registers of the instruments/voices.

I presented five canons from *Round the World of Sound* at a recital held at Wesleyan Memorial Chapel on November 30, 2018. The ensemble consisted of piano (played by James Falzone), reed organ (played by myself), Casio (played by Emma Minges), accordion (played by Judith Berkson), and three voices (two sopranos (Leslie Allison and Lisa Stein) and one baritone (myself)). Most of the time we played the canons at the unison and the counterpoint worked well.

We performed four canons from Book I: #4 (*All is Loneliness*), #8 (*Down is Up*), #12 (*Nero’s Expedition*), and #2 (*Voices of Spring*) (all of these exist in recorded form on the album *Moondog 2*) and one canon from Book IV: #3 (*Leave Taking*) which, as far as I know, was not recorded by the composer. For *All is Loneliness* and *Down is Up* we used the pipe organ to establish a drone on D and C respectively.

To conclude, canon is more of an ideal for me than anything: a music that is self-informed and self-generated from a minimal amount of material, a cerebral puzzle that, when well crafted, conceals the nature of its form. The composers

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38 Hardin, *Round the World of Sound*, 3.
discussed in this chapter have demonstrated canon’s potential to express something abstract or emotionally charged through controlled, repetitive, and hyper-rationalized means. I intend to continue my exploration of canon as both an informal, quotidian exercise as well as incorporated into more formal, concert works.
Chapter Two: Grid

At Wesleyan I began using graph paper to generate and organize pitched material as well as map out larger musical structures. There are several influences I can pinpoint that led me to explore work on the grid: during my first semester I audited Gamelan with Pak Harjito and saw music notated as numbers on a grid; the compositions and exercises I learned in South Indian voice classes with Professor B. Balasubrahmaniyam were presented as *swaram* (Indian solfege syllables) on a grid; I discovered the graph pieces of Morton Feldman (*Intersections* and *Projections*); study of counterpoint (which requires events coordinated by a pulse but not necessarily meter); and work with children using a simplified form of graph notation.

Graph paper allowed me to step away from standard notation and the habits and tendencies that had formed over years of thinking in that medium. I was curious to see how my visual understanding of polyphony might affect how I arranged independent lines on a graph and how my understanding of the relationships between pitches might differ when thinking in letters of the alphabet rather than notes on a staff.

I found that both event scores, which rely on a timepiece, and standard notation could be easily translated onto a graph with units representing various increments of time, pulses, or subdivisions of a pulse. Working in this method allowed me to both generate and notate material quickly, enabling me to get ideas down on paper before reverting to self-critique.
Graph Studies

The first of the graph studies I composed did not specify instrumentation, tempos, or registers and were generally scored for four parts (SATB). These pieces were simply letters of the alphabet arranged within brackets (to indicate systems) on a graph with each box representing a pulse. In these exercises I explored patterns, additive procedures, polytonality, canon, working with limited pitch material, and a type of counterpoint oriented around finding familiar chords (triads and sevenths) and unisons in polytonal contexts.

Two of these pieces, Reed Organ 1 and Reed Organ 4, were presented at the “Getting a Read on the Reed Organ” concert in World Music Hall that the graduate composition students organized on March 8, 2018. I went on to expand Reed Organ 1, change the name to Graph Study No. 1, and score it for flute, clarinet, cello, harp, and tuba. This arrangement was selected for performance by the S.E.M. Ensemble as part of their Emerging Composers Workshop at the Willow Place Auditorium in Brooklyn on February 13, 2019.

In these studies each part is assigned a string of pitches (melodies) that vary in length. Some lines unfold additively while others repeat in full from the start. I explore density by varying the amount of simultaneously occurring events across the parts (four voices articulating a note at the same time versus one, two, or three of the voices articulating a note) and, in the arrangement I made for S.E.M., reducing the number of voices sounding at any one time. The pieces are static as regards tempo, dynamics, and expression. Because the pieces are not oriented around a meter but
rather rhythm is established by varying the number of pulses between each pitch, the entrances and exits of parts can feel surprising and random.

In *Reed Organ 1/Graph Study No. 1* the assignment of pitch material to parts is as follows:

**Voice 1** (Soprano): E D♯ C♯ F♯ B G♯ C♯ E E(8va)

**Voice 2** (Alto): G Bb

**Voice 3** (Tenor): D ↑ Bb A ↓ C ↑ A C Bb F A A ↓ D D(8va)

**Voice 4** (Bass): F B F♯ G♯

Arrows before a pitch indicate the direction of motion and when no arrow occurs the default is the least amount of distance. In other words if the pitches A and C appear consecutively, the player would move up a minor third, however if a player saw “A ↓ C” (as can be seen in the **Voice 3** part above) that would indicate to the player to jump down a major 6th. “8va” and “8vb” indicate an octave leap rather than a re-articulation of the same pitch.

In this piece the order of entrances is as follows: **Voice 3, Voice 1, Voice 2,** and finally **Voice 4. Voice 3** and **Voice 1** present the material additively, that is adding one pitch at a time (D…D ↑ Bb…D ↑ Bb A…D ↑ Bb A ↓ C…etc.) while **Voice 2** and **Voice 4,** which sound two and four pitches respectively, continue to repeat the sequence in full with rhythmic variations. The variations in rhythm of the same pitch material drastically obscures the fact that the material is being repeated over and over again and generates new phrases from the same sequence of notes. The additive procedure also further abstracts the repetitive nature of the piece.
Fig. 2.1: Excerpt of Reed Organ 1 in original graph notation and standard notation.

Reed Organ 4 works similarly though with less pitch classes, more stepwise and triadic motion, and more of an implied duple meter, albeit one that is constantly struggling to get a foothold. The pitch material to part assignment is as follows:

Voice 1 (Soprano): C B
Voice 2 (Alto): E F# G# A B
Voice 3 (Tenor): E G A B
Voice 4 (Bass): F# B D

Note that Voice 1 uses two pitches, Voice 4 uses three, Voice 3 uses four, and Voice 2 uses five. Though parts are stacked vertically on the graph, which would imply a shift in register, Voice 2 and Voice 3 occur in the same register as each other, one playing in E Major and one in E minor. I tried to observe the rules of species counterpoint between these two lines and avoid having the G# and G natural articulated simultaneously. As in the other graph studies, rhythms are established
through a mix of patterns, arbitrary variations in the number of pulses between events, and intuitive decisions based on what is occurring in the other parts.

For the “Getting a Read on the Reed Organ” concert I transferred these pieces into standard notation (in 4/4 meter) and arranged them for reed organ, Casio (electric organ), viola, and vibraphone. James Falzone played vibraphone, Judith Berkson played Casio, Jordan Dykstra played viola, and I played reed organ. All four of the instruments were sustaining so no rests were necessary. In January 2019, when I re-orchestrated the piece for the S.E.M. Ensemble, it was necessary to incorporate rests to allow the piece to be playable and comfortable for the wind instruments.

In rehearsal Petr Kotik (who conducted the performance) instructed the players that the cutoff of each tone was to be as pronounced as the attack; this had a significant impact on the density of the texture and how the individual rhythms interacted with each other. The harpist, Mélanie Genin, described the piece as a slow-moving mirage with no markers to orient the players. The parts themselves are simple, in a comfortable playing range, with no rhythmic values smaller than an eighth note but because meter is just a means of coordinating events, phrases and attacks are unpredictable and there is no constant for the players to latch onto; everything is slowly, subtly shifting.

Participating in the Emerging Composers Workshop was a significant experience for me. Petr Kotik founded the S.E.M. Ensemble in 1970 when he was a fellow at the Center of the Creative and Performing Arts, SUNY/Buffalo. Its earliest

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39 Mélanie Genin, aural comment in rehearsal, February 13, 2019.
members included Julius Eastman, Jan Williams, and Garret List. Over the past fifty years Kotik has worked with John Cage, Morton Feldman, Pauline Oliveros, Roscoe Mitchell, Alvin Lucier, and Henry Threadgill amongst countless others. The S.E.M. Ensemble currently operates out of a space on Willow Place in Brooklyn Heights that they share with a preschool and a community theatre. Every year they put out a call for scores to workshop and showcase the work of a handful of up and coming composers. The 2019 Workshop featured works by seven composers and was oriented around a performance of a Henry Threadgill piece: his setting of the Etel Adnan poem *The Arab Apocalypse*. Thomas Buckner premiered the piece in 1999 in Oakland, California. Buckner joined the S.E.M. Ensemble to perform for the 20-year anniversary and Henry Threadgill was also present for the workshop.

Fig. 2.2: The S.E.M. Ensemble performing The Arab Apocalypse V by Henry Threadgill, Willow Place Auditorium, Brooklyn, February 13, 2019. Photo by Dexter Dine.

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Threadgill scored *The Arab Apocalypse V* for baritone voice, flute, clarinet, cello, harp, tuba, and bass marimba. The call for scores posted by S.E.M. allowed for any combination of 1-7 instruments however Threadgill’s instrumentation was noted as being readily available to composers so I chose to score mine for all but the voice and bass marimba. I had never heard this instrumental combination before and it inspired me to make a point of avoiding expected instrumental combinations going forward (granted I often end up using odd instrumentation by necessity based on who is available and what instrument they play).

In both the arrangements of *Graph Study No. 1* – for the “Getting a Read on the Reed Organ” concert and for the S.E.M. Ensemble performance – four lines of material are divided across five instruments. This necessitates the doubling of one of the lines. In the reed organ arrangement the five parts are viola, vibraphone, Casio, reed organ (right hand), and reed organ (left hand); the vibraphone and Casio (electric organ) double the same line the whole time (*Voice 1*). In the S.E.M. arrangement this material is given to the flute and harp to play in unison for the duration of the piece, which ended up being approximately ten minutes long. The fact that one of the lines is doubled is not meant to call attention to that line but rather use two instruments to generate a distinct timbre with a struck attack (vibraphone and harp) and a clear sustain (flute and electric organ).
Another formative experience that influenced me to explore work on graph paper was my work with children. In 2015 I received a residency as a Teaching Artist Associate with the New York Philharmonic’s Very Young Composers Program. Jon Deak, a former bassist with the orchestra, founded the program in 1993. At the time he was still an active member of the orchestra (he joined in 1969, Leonard Bernstein’s final season as conductor) but retired in 2009 to devote his full attention to the Very Young Composers. The program operates as an after school program for third through fifth graders in eight New York City public schools. The kids who complete this component are invited to participate in the Composer’s Bridge, which meets weekly after school at David Geffen Hall (home of the New York Philharmonic).

Through the Composer’s Bridge young people have the opportunity to create pieces for visiting professional ensembles such as Mivos Quartet, TAK Ensemble, and loadbang as well as write for the full orchestra. Teaching Artists work with participants on the notational aspects of composition and are instructed to avoid influencing a child’s ideas through positive or negative feedback on the musical content of their work. I helped 11 year olds prepare scores for Mivos before I had the opportunity to write for them myself and have helped two 14 year olds, Benjamin

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Araujo and Lucas Alexander, prepare pieces that were performed by the New York Philharmonic.

After working with the Composer’s Bridge for two years I was put in charge of the program at PS 165 on the Upper West Side. The in-school component of VYC consists of games, creative tasks, and introduces children to various systems of notation: standard, graphic, verbal, event, and graph. Five instrumentalists come in individually over the course of a semester for an in-class demonstration to provide early exposure to the instruments of the orchestra. Once the children have heard all five instrumentalists individually they compose original works for the five instruments to play together at a final concert, which the whole school is invited to attend.

I wanted the children I was working with to have the opportunity to compose solo pieces for each visiting instrumentalist however I did not want them to begin to associate the act of musical creation with homework and other school obligations. I created simple graph templates in Photoshop and taught the children what letters are available for use in the musical alphabet and the effect of adding a sharp or a flat to any letter. On the days of in-class demonstrations, an instrumentalist would present some basic information about their instrument, discuss technical considerations, and perform some pieces from the repertoire. After this the class would break for 5-10 minutes for the children to compose simple graph pieces and have the opportunity to hear something they created interpreted by a performer. A two-row graph template allowed them the opportunity to create a two-voice composition (I would play the
second part on melodica) and hear different ways in which two instruments could interact (by playing the same thing, different things, etc.).

It was immediately apparent how distinct each child’s approach was to working within such limited strictures. Some chose to incorporate more rests (by marking a box with an “x”), some incorporated more sustained tones (by extending a line out from a pitch), some chose to incorporate sharps and flats while some just the letter names, and some chose to incorporate additional written instruction such as glissandi, trills, and accent marks. Additionally, the kids provided instruction regarding tempo, register, and overall feeling of their compositions. This allowed the children to hear an idea sounded immediately after it occurred, get a sense of how many parameters are available for a composer to work with, and help them to find and develop their musical and aesthetic preferences with their own ears without being told anything about music theory or standard practice. I also did not provide any commentary on enharmonic spellings allowing the child to hear for themselves what happens when they put an E# next to an F for example and how this might sound different on a keyboard versus on a string instrument.

To me this experience demonstrated graph paper’s potential to help access a relaxed, unconcerned area of musical thought. Every opportunity to hear my music sounded, regardless of whether the performance is successful or not, has helped to reinforce my understanding of myself as a creator of musical work and inform my preferences. I hoped to help these kids develop an understanding of themselves as creators of music, rather than passive consumers, by providing them with as many
opportunities as possible to hear their ideas sounded, even if they were seemingly random notes quickly jotted on a page.

This thesis is largely reflective; looking back on pieces I composed here, looking for meaning, and analyzing the circumstances they were created and performed under. It is hard for me to get perspective on things in the act of making, and setting specific musical intentions often gets in the way of my creative process which is ultimately haphazard, inconsistent, and dependent on countless factors outside of my control. I am increasingly interested in what lies at the very surface of my mind and what I can access without conscious thought and unnecessary mental/physical exertion.

**Study for Clamplights and Ensemble**

The concept of play in musical contexts that I observed in the Very Young Composers program trickled over into my own compositional work. My first semester at Wesleyan I composed *Study for Clamplights and Ensemble* which was performed at a concert in World Music Hall on December 6, 2017. The ensemble consisted of ten musicians with two players to a stand, doubling each part. The instrumental pairings were as follows; contrabass and trombone, cello 1 and bassoon, cello 2 and French horn, viola and flute, and sarangi and reed organ. Five clamp lights were suspended above each pair of instrumentalists facing the audience. I sat at the front of the ensemble (facing the ensemble) with a surge protector that had five independent outlets/switches and one master switch. The lights were used as cues for a player to
sound or silence a note. Notes were provided as simple letters on paper with a hollow circle before, indicating “light on”, and a solid circle after, indicating “light off”. The written part that I was reading from to perform the switching on and off of the lights was part mathematically determined, using method-ringing patterns that I was exposed to by my colleague James Falzone, and part free-composed to generate chords and counterpoint derived by ear.

![Fig. 2.3: Clamp light part for Movement 4 of Study for Clamplights and Ensemble.](image)

![Fig. 2.4: Reed Organ/Sarangi part for Movement 4 of Study for Clamplights and Ensemble. 10 pitches correspond to 10 events in line two of the clamp light part (Fig. 2.3). Pitches read from left to right.](image)

The whole piece consisted of six movements of varying lengths and densities. For the concert in World Music Hall we only performed three: Movement 4, Movement 5, and Movement 6. In Movement 5 the ensemble sounds a five note chord together: E G♭ B F♯ A♯. This chord contains the first five pitches of an E Lydian scale with the second and fourth degree voiced up the octave. From there each player
is assigned the first five notes of a major (Ionian) scale with their first pitch taken as the root and slowly ascend and descend that scale. In other words, contrabass and trombone (played by Ben Klausner and Tyshawn Sorey respectively) ascend and descend an E major scale, cello 1 and bassoon (played by Alex Waterman and Clara Babbott-Ward respectively) ascend and descend a B major scale, cello 2 and French horn (played by Lisa Stein and William Freudenheim respectively) ascend and descend a G# major scale (spelled as Ab major for playability), reed organ and sarangi (played by James Falzone and Suhail Yusuf Khan respectively) ascend and descend an F# major scale, and flute and viola (played by Marie Boussard and Jordan Dykstra respectively) ascend and descend an A# major scale (spelled as Bb major for playability).

The parts are staggered so that only one note is moving at a time and everybody holds their final chord together (which is the same as the starting chord) until the lights go out. This movement yielded some tonalities that I was excited to continue to explore, tonalities that were not explicitly dissonant but just slightly off in the context of the surrounding harmony. It was polytonal (pentatonical?) but slow moving and having only one element change at a time allowed me to hear how significantly the part could affect the whole.
Graph paper was instrumental in conceptualizing and structuring this piece. Play, patterns, independence of parts, and thinking of music in terms of numbers and letters was on my mind and all of which I could easily explore on the graph. It was also my intention to generate a piece from several disparate, independent components coming together in performance rather than conceive of the piece with some sort of master score in mind. I thought of the clamp light part as just another instrumental part to be performed by the “conductor” even though the result of it activated all the other parts and determined the content of the piece. Movement 4 and 6 require the clamp lights to follow specific time cues while Movement 5 was realized in such a way that the person operating the clamp lights (in this case myself) could simply follow the pattern at their discretion and it would activate the ensemble through their parts from beginning to end.

The players were distributed widely throughout the floor of World Music Hall. This was to help make clear which light corresponded to which stand; had players been too close together, the light going on over the stand next to theirs might have caused confusion. The spatial distribution, however, impacted the balance of the...
ensemble, which in turn impacted the harmony; oftentimes dissonant notes were sounded by pairs that were farthest away and thus lowest in the overall mix (cello 2 and French horn and viola and flute).

There was an unanticipated amount of discomfort for both instrumentalists and audience. The performers were put in the position of being unable to look ahead in their parts. They were given just a split second, when the light would illuminate their music, to find and sound their next pitch. I received feedback from the audience that the lights were abrasively bright and hard on the eyes, particularly during the first movement, which consisted of alterations between total darkness and all lights on. Video footage of the first movement gives some indication of how the audience might have felt; every time the lights go on the camera scrambles out of focus before slowly adjusting.

![Fig. 2.6: Stills taken from video footage of Study for Clamplights and Ensemble.](image)

Given the mechanical and, at times, algorithmic nature of the material the question remains as to why neither the lights nor the musical material was pre-
programmed. A rigid and exact coordination of musical tones and lights as executed by computers would not have achieved the same effect. Such a precise synchronization of visual and aural events would not have conveyed the responsive nature of the system at play. The slight delay after a light went on, the time it took for the tones to settle in tune, and the clicking of the switches being manually operated became crucial elements of the piece that all helped to establish a human, uncertain experience.

At the beginning of this thesis I laid out a desire to synthesize formal musical procedures with lessons learned in informal settings into a coherent compositional practice. What do I mean by this? What are the formal musical procedures I intend to explore and what are the informal settings that I have in mind?

The formal musical procedures are easier to identify: canon, counterpoint, patterns, additive procedures, organizing material in even blocks of time, and predetermined harmonic structures are a few that I have explored at Wesleyan. The informal settings and the casual feeling that I have in mind as my ideal in performance are a bit more nebulous and more social and political questions.

When I composed *Study for Clamplights and Ensemble* I was participating in the graduate composition seminar conducted by Professor Alex Waterman. Part of the prompt for our final concert was to compose music that could be performed by “non-musicians”*. While my final piece was ultimately performed by musicians, and highly trained ones at that, I conceptualized ways in which the mechanism (the clamp lights)
could be used to generate music by people without instrumental training, for example by assigning a sound or gesture to each letter that appeared in the parts. I also wished to create a piece that would ask the musicians to operate in a way that was new to them; their actions were responsive to a light going on and off at times that were unpredictable. This gave an overall tentative quality to the piece and produced a sonic result akin to that of an amateur orchestra tuning up. But the content of the piece presented in World Music Hall was generated through the exploration of formal, musical concepts such as scales, chords, and counterpoint.

**soft speak (friends and colleagues)**

*soft speak (friends and colleagues)* is a piece I composed for the Toneburst Laptop Ensemble (led by Professor Paula Matthusen) and Real-Time Autoschediasms Ensemble (led by Professor Tyshawn Sorey). *soft speak (friends and colleagues)* was performed at a concert in World Music Hall on May 9, 2018. Like *Study for Clamplights and Ensemble*, it was conceived as several disparate parts coming together in performance and either engaging with or activating other components. There were two main elements: the sound of the members of the laptop ensemble whispering into their laptop microphones and the group gestures performed by the members of the Autoschediasms Ensemble.

The whispering was divided into four parts with roughly three people to a part. All four parts were reading from the same list of names of people I had met during my time at Wesleyan. The parts came in the form of four simple Max patches
that contained specific time cues for when a player was to whisper, a stopwatch for the player to get their cues, and a simple delay patch with various rates of delay. The four parts helped to provide variations in density; sometimes the whole ensemble would be whispering and sometimes just one subset.

The members of the Autoschediasms Ensemble received a key that assigned ten distinct gestures (described in writing) with a number. They followed a conductor (in this case me) for their cues, which were simply a number of fingers and a down-beat. I followed a stopwatch to get my cues, which were preconceived. Everything operated on a 15-second grid so events occurred on the 0, 15, 30, and 45-second mark of each minute and continued for various lengths of time.

A third component emerged in the first rehearsal with the laptop ensemble that ended up playing a significant role: feedback caused by the close proximity of the laptop microphones to the hemispheric speakers they were being amplified through. This feedback was at times responsive to the ensemble and at times seemingly independent. A loud gesture sounded by the Autoschediasms Ensemble might get picked up by the laptop microphones and activate a wave of feedback or a syllable uttered too loudly and too close to the microphone might trigger the feedback.

Where *Study for Clamplights and Ensemble* established a system in which one element was responsive to another, *soft speak* was an attempt to explore multiple systems operating independently. I mapped out the whispering and group gestures with lines on a graph so that I could see how they would interact with each other in performance and what the contour of the piece was going to be.
The final “score” consisted of essentially five separate documents: the map pictured above, the key of gestures for the Autoschediasms Ensemble, the list of names read by the Laptop Ensemble, the Max patch (which was both the mechanism for performance and contained the parts for the Laptop Ensemble), and the conductor’s score which indicated where each gesture was to be cued.

In conversation after the concert, composer Matt Wellins commented on what he perceived to be the sinister tone of the piece and asked if this was intentional and reflective of my time at Wesleyan. This time in graduate school coincided with a time of significant change in my personal life as well as an unprecedented low in the national political landscape (Trump won office as I was preparing my Wesleyan application). I have also found living in Middletown a somewhat isolating experience.

All of these factors have contributed to a somewhat dark and detached mental state, which has no doubt trickled into the music I’ve produced during this time. However this seemingly “sinister” tone is in no way representative of how I feel about the many wonderful people that I have met at Wesleyan who have helped me
and influenced my musical thought. The list of names was ultimately a reminder to myself of the many thinkers I had encountered in such a condensed period of time and the piece an attempt to honor their presence in my life.

**Third Memorable Fancy**

*Third Memorable Fancy* is a piece I composed for my spring recital held on March 28, 2019 in Memorial Chapel. The piece is scored for the same instrumentation, more importantly the same instrumentalists, as my fall 2018 recital piece *Notes*: vibraphone (James Falzone), accordion (Judith Berkson), alto saxophone (Chris Pitsiokos), cello (Laura Cetilia), piano (me), and pipe organ (receiving MIDI information from a laptop).

Like *Notes*, the piece is oriented around the synchronization of events between prerecorded material and a live ensemble (*Notes* is discussed in more depth in chapter 3). In the case of *Third Memorable Fancy* the prerecorded material came in the form of the pre-programmed MIDI information realized by the pipe organ.

The piece is divided into six ten-minute sections. Each section is built on a different degree of an F Major hexatonic scale: the first ten-minute section is built on D (and only the pitches D and F♯ are sounded), the second ten-minute section is built on a G minor-Major 7th chord (with the D and F♯ holding over from the first section), the third a B♭ Major 6th chord, the fourth a C minor 9 chord, the fifth alternates between the pitches of both an A Major 6th chord and those of an A minor 7th chord, and the final section is built on an F major 7th chord.
The organ is used to create pads with the softest organ stop (Echo Viole), establish a low pulse on the pitch C (beginning in the fourth section), and sound passages of quick, fluttery material as well as long, windy tones with the broken Bourdon stop. An Arp 2600 is used to establish a pulse (also on a low C) at a different tempo than the pulse established with the organ. At the end of the piece when a low F is sounded by the pipe organ, the impulses from the Arp have the effect of rippling the sound wave.

The impulses from both the Arp and the organ are fixed at different tempos and pitted against each other throughout the second half of the piece. The organ pulse is established in an additive manner and then removed in a “macro subtractive” way; it begins with one pulse followed by one rest, then two pulses followed by two rests, three pulses followed by three rests, etc. In this manner a regular pulse is established over time, however as the number of pulses increase, the moments of silence in between grow longer (for example 17 pulses occur in a row followed by 17 rests) which has the effect of distancing the memory of the pulse, abstracting the tempo of the organ. It is additive up until 20 pulses occur. From there every other chunk of pulses is muted so that moments of silence become even longer (i.e. 20 pulses followed by 20 rests followed by 19 rests (which otherwise would have been pulses) followed by 19 rests, followed by 18 pulses followed by 18 rests, followed by 17 rests (which otherwise would have been pulses) followed by 17 rests, and so on (does this make any sense??)).
Soft feedback tones from four microphones scattered across the stage are regulated with a compressor and provide an additional texture that recurs throughout the piece and creates subtle polytonality against the pitched material played by the organ and ensemble.

The material sounded on the Bourdon was largely generated visually, by creating abstract shapes and patterns on the Piano Roll Grid in Logic.

![Images of the piano roll MIDI grid in the Logic file for Third Memorable Fancy](image)

Setting the BPM to quarter note = 288 in the Logic file allowed me to work on an extremely fine grid and produce very quick flurries of notes and sounds. At times they are quantized (snap to grid) and at other times they floated freely on top of the grid. These events occur sporadically throughout the piece, often in anticipation of a change in harmony or a new gesture. Meandering pads of varying harmonic density are sounded on the Echo Viole stop. These are largely atmospheric though contain moments of canon and melodic motives tucked into them. Material is repeated with slight alterations and moves slowly across registers.
The performers use stopwatches and the notated material consists of sustained tones and melodic motives to be sounded in “unison” within given time brackets. Though the players are for the most part performing the same pitched material they are doing so at their own rate so lines seldom sound in true unison. Feldman commented that, “when the performer is made more intensely aware of time, he also becomes more intensely aware of the action or sound he is about to play.” This was the third piece that I’ve composed in which I ask performers to rely on a stopwatch for their cues. In all three cases I have observed what Feldman is speaking to: When events are coordinated to a timepiece attacks have an entirely different energy than when players read from a score. I am drawn to how subtle the precision of coordinated events can be and how abstracted events can be in relation to what surrounds them. For example, in an hour-long piece a player could sit quietly for 45 minutes and then sound something at the same instant as another player without any sort of cue that indicates something is about to happen. It is not about achieving

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exactly precise coordination between players but composing in this manner leaves open the possibility of instantaneous coordination, which can be very exciting in live performance.

Generating the organ material in the logic file allowed me to establish the arc of the piece, incorporate accidents that would sound in the final version, and set specific events that could be easily synchronized with the ensemble. The nature of the MIDI piano roll allowed me to think on the grid and I was able to incorporate canon subtly into the soft, ambient material as well as in the material sounded by the live ensemble through providing players with the same single lines of pitches to work through at their own pace.

To conclude, graph paper provided an outlet that helped me to distance myself from the conventions and habits established in the medium of standard notation. It allowed me to pare down music to the materials I, for whatever reason, wanted to focus on most: equal tempered pitches and rhythms that can be readily perceived against a pulse. Presenting material to performers in a form other than standard notation, such as graph notation or verbal instruction, holds the potential to level the playing field across ability levels and discover musical values that are not necessarily dependent on skill level or training.

The system of letters on a graph that I became comfortable with allowed me to notate ideas more quickly than I was able to with standard notation, which helped me to capture initial ideas before they ossified. It allowed flexibility in reassigning parts
to different registers and specific instruments and also helped make concepts such as
canon, prolation, and various processes more visually apparent.

Over the course of two years I have already developed habits on the grid and
will continue to search for new ways to break habitual thought. Habits can be
grounding and comforting and regularity is necessary to some extent when
composing, developing a skill set, or exploring a concept in depth; however, at a
certain point habits hinder evolution and get in the way of the creative process.
Chapter Three: Composition

Several experiences working with both compensated and uncompensated musicians over the past two years as well as exposure to writers such as Christopher Small, Susan McClary, Jacques Attali, Theodor Adorno, and Cornelius Cardew have helped broaden my understanding of what goes into composition. To read social and political interpretations of performance practices was eye opening and has encouraged me to reflect on the values that are expressed in how I handle musical material, the demands I place on performers, how I speak/write about my music, the contexts my music is realized in, and how I engage with an audience. Participating in the Real-Time Autoschediasms Ensemble conducted by Professor Tyshawn Sorey led me to further examine my understanding of the relationship between composition and improvisation.

The piece I composed for my fall recital, Notes, was an attempt to delve deeper into improvisation as composition. It is a ~47 minute piece for ensemble (alto saxophone, accordion, cello, vibraphone, piano, and pipe organ) and a cassette tape of pre-recorded material (consisting of piano, guitar, and Arp 2600) that is spatially distributed across three mounted speakers. I sought to generate all the material through improvisation and provide a situation that required minimal rehearsal and placed very little demands on the performers.

Prior to coming to Wesleyan I composed music by selecting notes, gestures, and harmonic relationships freely and aurally. My pieces tended to be short and I did not begin composition with a structural or conceptual conceit in mind. They were all
presented in standard notation and highly dependent on being well rehearsed, which, due to a perpetual lack of funds, meant they were dependent on the volunteer labor of people I knew personally. During my time here at Wesleyan I have explored new ways of creating longer works, reallocating compositional labor, striking a balance between theoretically/conceptually informed decisions (usually at the level of structure), technically informed decisions (specific effects/timbres certain instruments/equipment can achieve), allowing room for happy accidents to occur, and generating works that do not require much rehearsal.

I began composition of Notes with the imperative that the harmonic structure of the piece was to be pre-determined. I had been experimenting with a Tascam 4-track cassette machine and decided to let the length of one side of a cassette tape (approximately 45 minutes) dictate the length of the piece. The number 45 is neatly divisible by five and nine so I broke the time up into nine, five-minute blocks. Organizing material in consistent, simple blocks of time is a technique I had previously explored in soft speak (friends and colleagues) (discussed in chapter 2). It turned out that there were approximately two minutes of extra tape at the end of the reel, which was added on to the final section.

After establishing the nine blocks of time, I created a schema to determine the harmony that would fill each block. I had used a method of pitch organization in my String Quartet No. 1, which was performed in Spring 2018 by the West End String Quartet at a reading in Ring Concert Hall. In this method, a pitch – D in the case of
both *String Quartet No. 1* and *Notes* – remains constant throughout the piece with the harmony shifting in relation to it.

I mapped this out as four pitches occurring in each block of time; however, pitches could be doubled, allowing for variations in harmonic density. Some blocks contain four different letters, others three, and the final block only has two (D and C#). Although they are written in an order which might indicate lowest to highest, the pitches can be sounded in any range and any inversion within each bracket of time. When the same letter occurs multiple times within a bracket this implies precedence.

D’s theoretical function in each chord shifts up by one every five minutes. In the first chord D is thought of as the root: “D A D C#”; a D major 7th chord without the third (F#). In the second chord D becomes the 2nd (or 9th): “C C D E♭”; a C minor 9th chord without the 5th (G) or 7th (B♭). In the third chord D becomes the 3rd: “D B D A #”; a B minor-Major 7th chord without the 5th (F#), etc. I find this method gives me a clear and transparent structure to operate within and it can act as a simple scaffolding to fill any amount of time. It helps me to observe how inversion, omission of pitches, and enharmonic spellings can manipulate what a chord sounds like and comment on how superfluous chord spelling and identification can ultimately be.

![Fig. 3.1: Cassette tape J Card with harmonic structure of Notes.](image)
Although I used the same system of pitch organization in *String Quartet No. 1*, the chords I arrived at are different, and in *Notes*, one additional chord is added to break the established pattern in the 25’-30’ bracket. This was necessary in order to meet the nine-block structure of the piece. If I had followed my concept until D returned to serve the function of root, it would have only yielded eight chords. So there are two consecutive sections in which D is the 6\(^{th}\) of the chord: at 25’-30’ the pitches are “F\# E D A\#”, which I thought of as some kind of F\#7\(^{th}\) chord without the 5\(^{th}\) (C\#) and with a flat 6\(^{th}\) (D), and at 30’-35’ the pitches are “C F D A”, which I thought of as an F major 6\(^{th}\) chord in inversion. In the piece I acknowledge this divergence from the structure by having the live ensemble remain silent during the 25’-30’ section, turning this time bracket into a tape interlude.

Once the structure and pitch material had been established I decided that the actual musical material would be generated in a first-pass improvisation. Because I was working with a recorded medium I could take advantage of the fact that I could incorporate into the final piece what was truly my initial instinct for handling the material. Often I find that in notating an idea it calcifies, energy is lost, and the material tends to settle into something boxier than what I originally had in mind. Reflecting on the challenges at the beginning of his career Jürg Frey writes,

“During the process of notation something had happened that had killed the music. Like with collections of butterflies in boxes; they look lovely, but also terrible, because the butterflies are dead.”

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44 Frey, interview.
I recognize that part of my work as a composer is finding a way to rectify this disconnect in my own practice. I am not suggesting that notation is some kind of limitation or evil. Carl Dalhaus points out, “musical hearing is permeated by elements that had been transmitted through writing,” and much of the way I hear and conceive of music is informed by how I have taken in music in written form.

Allen Ginsberg’s “first thought, best thought” mantra has lingered with me since I first heard it as an undergraduate at NYU. In poetry, where the material is either directly written or uttered by the poet, a first thought might be more readily directly captured and conveyed by the author, though granted a thought still needs to be translated into language. In creating notated music for others to realize I find the biggest challenge is to preserve the raw energy or clarity of an initial idea through the notation and rehearsal process.

At NYU I had the opportunity to study with trumpeter/improviser Ralph Alessi. In addition to first exposing me to the work of Moondog, Ralph encouraged me to reorient my thinking on the relationship between composition and improvisation, suggesting that improvising might be approached more compositionally and composing might be approached more “improvisationally”. Moondog himself expressed similar sentiments: a desire to use “classical means to arrive at an unclassical end, that of making a carefully written-out piece sound like off-hand improvisation.”

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45 Dalhaus, Analysis and Value Judgment, 55.
46 Scotto, Moondog, The Viking of 6th Avenue, 189.
I recorded three, first-pass, 45-minute improvisations with the cassette machine: first on piano, then on electric guitar, and finally with an Arp 2600. I could play anything provided I adhered to the pitches designated within each time bracket. Melodies, gestures, variations in speed and density unfolded spontaneously and naturally and as each new instrument was added it both responded to and veered away from what came before. I left in any mistakes and wrong notes. Shape and contour emerged from what on paper looked like a structure of identical, simple blocks of material.

I then took this material, determined the instruments that would be available to me at my recital, and set about transcribing moments that stood out to me and assigning them to the ensemble. I wanted there to be ten acoustic (sounded by the ensemble) events in each five-minute bracket (approximately two events for each instrumentalist); however, there are a few moments where this pattern is broken. The music of Arvo Pärt and that of my colleague James Falzone have demonstrated the beauty of letting a pattern, system, or conceit unfold unimpeded, while the work of Feldman and Ligeti have demonstrated the power of breaking patterns, trusting intuition, and incorporating compositional mistakes into a piece. In the case of Notes an “event” could be a single struck note, a chord, some kind of melodic phrase (designated as “motives” in the score), a noise, or a single tone held for several minutes.

The timer on my tape machine was not functioning properly which required working with an external stopwatch. This made it impossible or at least very difficult
to break the transcription work up into shorter segments of time, meaning that a full pass of the tape was required in transcribing events consistently to the stopwatch. In this sense the act of transcription occurred in real time and became improvisatory; I wrote down whatever I was drawn to and able to transcribe in the moment, often at the cost of missing the material that succeeded the event I was transcribing. This allowed me to discover new moments with each pass of transcription and, after several passes, pare down the material.

35:11-35:54 (piano) motive (1x)
39:00-40:00 (piano) motive (2x)
40:42 (organ) hold
42:14 (piano) strike
42:25 (piano) strike
44:10-45:30 single and binary variations ending on a held D

Fig. 3.2: Excerpt of Piano/Organ part. Motives are given to members of the ensemble to sound at their discretion within a given time bracket. “Single and binary variations” refers to any combination of striking the pitches D and C♯ once or twice. For example: DC♯, DC♯C♯, or DDC♯C♯, etc.

I imagined that the final piece would simply be a synchronization of events between the pre-recorded material and the doubling of that material by the live ensemble. I believe that no matter how disorderly or chaotic musical material can sound, having that material doubled by another person or instrument can act as a
grounding mechanism for listeners. However doubling can also become mundane, distracting, significantly alter the timbre, and weaken the impact of a single voice or instrument sounding alone.

What I could not anticipate in writing this piece was the difficulty in synchronizing the tape (which is subject to stretch), an old machine (Tascam Portastudio 464), and human performers each following their own, digital stopwatch. What this did to the piece however was fascinating and more successful in my opinion than a simple synchronization of events. The piece began with events synchronized and gestures clearly sounded in unison with the tape; however, over the course of the piece they gradually became farther and farther removed from each other until by the end the live ensemble was behind the tape by as much as ten seconds.

As in soft speak (friends and colleagues), my original conceit ultimately just provided the circumstances for an accident to occur that would come to play a significant role in the piece. In the case of Notes, an attempt to create synchronized moments between a live ensemble and recorded material was sabotaged by the stretching of tape and inconsistencies between an old machine and modern, digital stopwatches. In the case of soft speak an attempt to establish a texture of amplified whispers led to waves of feedback interacting with a live ensemble.
I composed Notes while reading *Noise: The Political Economy of Music*\(^{47}\) by Jacques Attali. In *Noise* Attali presents a chronological sequence of musical development that he breaks down into four approximate historical periods which he classifies as sacrifice, representation, repetition, and finally, composition. Composition was the present period at the time of publication (1977). Attali explores what functions both the individual composer and the creation of new work are serving in present day society, what values are being expressed in new works of music, and how new works both reflect contemporary society and herald impending social change.

In the author’s analysis the periods of representation and repetition seem to be periods during which the function of music is more intrinsically incorporated into the economy, whereas in the periods of sacrifice and composition the function music serves is fundamentally different and more at a remove from a consumer economy.

Attali’s use of the word “composition” in labeling the latter period is slightly confusing as this word carries so much weight in the tradition of Western European concert music. Susan McClary succinctly articulates the use of the word in her afterword to the book,

> “Attali’s usage returns us to the literal components of the word, which quite simply means ‘to put together’.”\(^{48}\)

To me this is a powerful idea that is relevant to my development here at Wesleyan.

Over the past year and a half I have put less energy into anticipating a final product


\(^{48}\) McClary, “The Politics of Silence and Sound,” 156.
and committed more fully to exploring the means by which I put a piece together: what musical materials I am drawn to and how I organize them in a way that is clear, structured, requires little rehearsal, and allows room for spontaneity at both the level of composition and performance (even when operating within a prescribed method or system).

I have indulged what Adorno cautiously refers to as “a fetishizing of means,” where “means” can be understood as both method and resources. I have come to believe that the most valuable resource for a composer of acoustic music is not time, money, nor technology but other people. In addition to exploring musical concepts and structures I have attempted to reflect on the ways in which I engage with and compensate the musicians that I am entirely dependent on and examine social structures that I at times take for granted (such as composer-ensemble-audience).

In Attali’s own words:

“Composition—a labor on sounds, without a grammar, without a directing thought, a pretext for festival, in search of thoughts—is no longer a central network, an unavoidable monologue, becoming instead a real potential for relationship.”

In other words, composition is no longer an established, result-oriented practice that one must adhere to, but instead can be understood as a mode of investigating relationships (between pitches, sounds, performers, audience members, etc.), can mean a wide variety of different things to different people, and is ultimately an active,

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50 Attali, Noise: The Political Economy of Music, 143.
lived practice. A composer’s social and musical values can remain consistent across their output; however, new grammars and modes of production can be invented with each new piece.

To return to the statement I made at the beginning of this thesis regarding a hierarchy of investigation over creation: I had interpreted the word investigation in a way that imagined the composer as pseudo-scientist estranged from the general public, dissecting something (music) that had developed through functional necessity and operating with the delusion that it might be analyzed, discussed, and created in an objective, authoritative manner. Perhaps investigation could be better understood as a sincere and constant inquiry into the social and musical relationships a composer chooses to explore?

I value clarity and creating music that is first and foremost enjoyable and not strenuous to perform. It is more meaningful to me when a player tells me they are moved by a piece of mine than an audience member. It has been productive for me to study composers and thinkers who prioritize concept, structure, and method; I have observed that the sounding result does not need to be the primary object of focus in order to create music that I enjoy the sound of. I have developed a certain kind of musical understanding at a subconscious level that informs fundamentally different decisions than conscious musical thought. Focus on method and form over content has allowed me to explore new ways of organizing material that facilitate fresh, meaningful connections with both performers and audience members and unlock new harmonic relationships in an attempt to move beyond a binary understanding of music.
(fast/slow, loud/soft, consonant/dissonant, major/minor, tonal/atonal, notes/noise, etc.) as well as work towards developing a sustainable practice that is not dependent on excessive self-isolation.

Attali writes that in the age of Composition:

“Music becomes the superfluous, the unfinished, the relational. It even ceases to be a product separable from its author. It is inscribed within a new practice of value. The labor of music is then essentially an “idleness” (D. Charles) irreducible to representation (to exchange) or to repetition (to stockpiling). It heralds the negation of the tool-oriented usage of things. By subverting objects, it heralds a new form of the collective imaginary, a reconciliation between work and play.”

If a composer wishes to write in a way that relinquishes control over material and lets sounds be, where does the labor in composition exist? What is the labor that distinguishes the composer from the artist or layperson or the professional composer from the amateur composer and is it even necessary to try to draw such distinctions?

In the case of Notes the harmonic and time structure were relatively quick decisions that established the overarching form. The majority of my work existed at the level of improvisation, transcription, coordination with performers, and technical set up in the space.

Regarding the labor and compensation of the ensemble: the ensemble was comprised of four of my colleagues in the composition program, Chris Pitsiokos, Judith Berkson, James Falzone, and Laura Cetilia. I cooked them a vegan, gluten-free meal on the evening of the concert, which we shared between rehearsal and performance. Like me they all receive a monthly stipend from Wesleyan University

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51 Attali, Noise: The Political Economy of Music, 141.
and we are constantly helping each other to realize projects, cover teaching obligations, or provide housing and rideshares. Rehearsal was exactly the length of the piece (~47 minutes); given the structure of the piece, a five-minute tape interlude in the middle (discussed earlier) provided a built-in window to go over any questions that had come up in the first half before finishing the piece.

I was not in a position to compensate people financially for the performance and felt strongly about not asking anyone to perform that I felt I was not in a mutually beneficial relationship with. This may be a limited way of thinking; perhaps there are undergraduate students or community members who would have found it a meaningful experience to participate in just as I have readily participated in projects for pleasure or when I benefited in some way other than financial compensation. For better or worse this was a major factor in putting the performance together. It should also be noted here that any claim to create music that requires minimal rehearsal is ultimately only possible in a context where the composer has knowledge of the abilities and level of care that the musicians they are working with will bring to performance.

The tape essentially provided a backing track that the live ensemble was playing along to, which on the surface sounds like kind of a cheap device; however, through putting the material on magnetic tape, EQ’ing it to remove most of the high-end frequencies, and assigning each track to different speakers distributed throughout the space it became more textural, allowed me to incorporate the first pass nature of the piece’s construction, and explore how the tones emitted by the live instruments
and the pre-recorded material would interact in the space. This is ultimately what the piece became about as the subtle inconsistencies in the speed of the tape affected both tuning of the recorded material and the coordination of events between the acoustic ensemble and the recorded material. Further, working with prerecorded material allowed me to ask less of the players and even incorporate a five-minute break into the piece.

It is strange to listen to a recording of a recording, and an audio recording of the live performance does not do the piece justice. At the same time in order for a live performance to be realized, a recorded element and specific technical setup is required, making it complicated to realize in circumstances where I am not present to oversee. There is not a master score but rather several individual parts and elements that come together in performance. This makes the piece difficult to commodify as an audio recording (repetition/stockpiling) and as a score (representation/exchange).

Given the ease of access to recording equipment and the abundance of recorded material in contemporary society, from mp3’s to phone Meta data to video surveillance, a live performance becomes that much more of an opportunity to engage with the fleeting, the ephemeral, the spontaneous, the undocumented, and the one off. This piece became about establishing a one-time experience with specific individuals and equipment under specific circumstances, ironically through the use of recorded material and a fixed, preconceived harmonic structure.

In “Towards an Ethic of Improvisation” Cornelius Cardew writes:

“Informal ‘sound’ has a power over our emotional responses that formal ‘music’ does not, in that it acts subliminally rather than on a
cultural level… The search is conducted in the medium of sound and the musician himself is at the heart of the experiment.”

While Cardew is speaking of sound as opposed to musical material, there is something in this statement that I strive for in handling traditional musical material: an unpolished aesthetic that allows for imperfection and vulnerability to come through at both the level of performance and composition.

In his essay “The Function of Counterpoint in New Music,” Theodor Adorno calls for a need to rethink the “relationship between the aesthetics and the craft of music.” He examines the distinction that musicologist Heinrich Jalowetz draws between counterpoint and polyphony:

“Polyphony is to be the name for the relationship between several more or less independent parts that are all of more or less equal importance in terms of their relative weight and melodic definition. Counterpoint is the procedure that adds to one or more principal voices one or more independent voices that are secondary in comparison, and on a graduated scale… To put it crudely, we might say that counterpoint holds fast to the idea of the songlike melody in the midst of genuinely worked-through polyphony, and thereby to the idea of the sovereign subject, rather than suppressing it in the spirit of a prebourgeois collectivity.”

In the early 20th century the world witnessed breakdowns of longstanding social and musical hierarchies. In the midst of socialist revolution, decolonization, world war, women’s suffrage, and the disintegration of empires, composers began to question intra-musical power dynamics. Arnold Schoenberg (with whom Jalowetz

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studied) advocated for a return to polyphonic thought after nearly two centuries of music dominated by melody and subordinate material. The twelve-tone technique supposedly gave all pitches equal weight and serialism was seemingly an attempt to get at something bigger than the aesthetic whims of a composer.

The return to a musical thinking in which all voices are treated as independent and the radical equalization of all pitches (and later all sounds) can be examined through an ideological lens. Adorno however cautions against composers justifying musical decisions with an egalitarian social ideology. With the individual composer ultimately exerting rigid control over the material, “no contrapuntal cosmos today could be the echo of a social one.”\textsuperscript{55} As much as the return to polyphony and development of twelve-tone technique are presented as emancipatory, they are both ultimately controlled, inflexible, and authoritative environments:

“Simultaneously violent and impotent, the contemporary evolution of the contrapuntal spirit offers us the paradox of a multivoiced music without a community.”\textsuperscript{56}

This is not to say that a composer should not have an ideology, make their political values known, or that music can’t be a powerful tool in bringing about social and political change, but rather an attempt to ask some questions about the relationships between a composer’s craft, aesthetics, and ideology and examine to what extent social/political ideals can be expressed at the level of notes and notation within the traditional hierarchy of composer $\rightarrow$ performers $\rightarrow$ audience.

\textsuperscript{55} Adorno, “The Function of Counterpoint in New Music,” 126.
\textsuperscript{56} Adorno, “The Function of Counterpoint in New Music,” 126-127.
A composer’s musical decisions will certainly be shaped by their beliefs, behaviors, and circumstances. Some composers write music to please listeners, while others write to provoke; some write music in a medium and style that is sanctioned by the professional community while others operate outside of it; some tell performers exactly what to do while others provide performers with more open-ended instruction; some composers make music by themselves while some make music with other people; some composers have resources and acknowledgment more readily handed to them while others have to fight for recognition. Of course these boundaries are porous and many composers navigate fluidly across and between categorizations.

In the keynote address at a conference on musical notation, Cornelius Cardew comments on the futility of such an event and points out that, “Problems of notation are secondary to musical problems, musical problems are secondary to social and political problems.”57 In other words social and political problems might be explored in but cannot be addressed by notation or even musical aesthetics alone. He goes on to say that it had been, “quite easy to organize this very expensive conference devoted to a very minor issue, but if you want to get money from the state to improve music education in schools you come up against complete refusal.”58

There is something unsettling about someone over-analyzing and conceptualizing social structures in isolation and I fear I may be guilty of this in this chapter. As my practice develops I want to be more cognizant of a few things: I no longer wish to engage with music in a way that requires excessive self-isolation. I

57 Cornelius Cardew, Stockhausen Serves Imperialism (ubuclassics, 2004), 90.
58 Cardew, Stockhausen Serves Imperialism, 90.
want to reduce the time I spend composing, notating, editing, worrying about, writing about, and thinking about music alone to the absolute, bare minimum. I want music to be a vehicle for truly engaging with and understanding other people.
Conclusion

I was unsure what form the thesis would take when I began. In the course of writing I decided to narrow my scope and focus on things I could speak directly to (such as my own music and firsthand experiences). I hoped to examine what my musical values have come to be in the context of graduate school, what the conditions were that shaped those values, and how I understand my music in relation to others.

Both canon and working on graph paper yielded sonic results that felt fresh to me and demonstrated the importance of seeking out new modes of musical creation, organization, and investigation. I have attempted to reflect on why I might have been drawn to them in terms of extra musical values; canon represents economy of material, craft, and independence of parts, graph notation: simplicity, shorthand (ease of transcription), and abstraction through rationalization. I have also attempted to reflect on the social/political implications of how I work, what my music sounds like, and how I treat performers and listeners.

It is my hope that this document might provide insight into my compositional process (for myself and anybody interested) as well as establish a written record of my time here at Wesleyan University and the people and ideas that I engaged with. The writing of it coincided with a conscious effort to simplify my musical thought which no doubt influenced my use of language, which I hope, was simple and direct.
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I’d like to express my gratitude to the staff and faculty of the music department at Wesleyan University for providing me with the opportunity to develop my music over the course of two years. It will take a long time for me to process all that I took in here. I have my work cut out for me now as I attempt to take concentrated ideas explored in a focused setting and synthesize them into a cohesive, enriching practice.

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