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COMPOSITIONAL PROCESS AND THE CREATION OF OIL, STEAM, AND STEEL - A MECHANISTIC CONCERTO FOR ALTO SAXOPHONE AND STRINGS

ANALYTICAL NOTES

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A thesis submitted in partial fulfilment of requirements for the degree of Master of Music (Composition)

Sydney Conservatorium of Music
University of Sydney
2015
I declare that the research presented here is my own original work and has not been submitted to any other institution for the award of a degree.

Signed: …………………………………………………………………………….

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ABSTRACT

This thesis discusses aspects of the creative process and challenges faced in the creation of *Oil, Steam, and Steel—a mechanistic concerto for alto saxophone and strings* (2014-2015). Challenges include: concerto structure and proportion, clarity of musical gestures, inadvertent musical quotations, and the trial of sustaining musical interest throughout a 25-minute work. To facilitate commentary on *Oil, Steam, and Steel*’s development and eventual form, various structural, motivic, and harmonic analyses of each movement are included. This study also contains an analysis of an earlier work, *Sonata for Alto Saxophone and Piano* (2010), to investigate the creation of musical character through a piece’s sonic components, an idea developed further in the concerto.

Included in the discussion is a selective survey of five concerti by other 20th- and 21st-century composers. The survey notes how the composers dealt with the issues of structure, proportion, coloration, musical development, dramatic pacing, and the relationship between the soloist and ensemble. These concerti are: Harri Vuori’s *Concerto for Saxophone and Orchestra* (2004); Takashi Yoshimatsu’s *Albireo Mode* (2005); Thomas Adès’ *Violin Concerto “Concentric Paths”* (2005); Paul Stanhope’s *Piccolo Concerto* (2012-2013); and James MacMillan’s *Veni Veni Emmanuel* (1992).

In addition to the major work, the attached portfolio contains a number of other pieces in different forms and for varying performing media, including a string quartet, a scherzo for orchestra, and a programmatic piano quintet. These pieces, composed between 2013-2015, served as practical avenues to experiment with ideas elicited by other composers’ works and to pursue personal objectives. These creative responses shaped the creation of *Oil, Steam, and Steel* and assisted in developing a more efficient compositional process in subsequent works.
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Appendix 1: Score - Adelaide Coles *Sonata for Alto Saxophone and Piano* (2010)
Chapter One:
Building the Foundation - Contemporary Concerti Survey and Sonata for Alto Saxophone and Piano Analysis

1.1 Introduction and research aims

The purpose of this study was to add substantial work for alto saxophone and string orchestra to the modern concerto repertoire. In doing so, I wished to explore the sonic combinations of string instruments and saxophone, observe and reflect on aspects of my compositional process, and develop my compositional voice. Since composing my Sonata for Alto Saxophone and Piano (2010), I had been interested in writing a concerto utilizing classical saxophone. The result was Oil, Steam, and Steel, a mechanistic concerto for alto saxophone and string orchestra. The title refers to the image I internalized during the creation of this work: a Great Machine coming to life. The image and title occurred to me after I was well-entrenched in the writing process. When they did appear, they gave purpose to existing sketches and supplied a central focus for all future material. It took longer to discover the full character of the Great Machine; that discovery process paralleled the work’s development from sketches, to drafts, to rehearsals, and finally to its current form. This will be discussed in detail in Chapter 2.

During the course of my research, I became interested in how other composers create their music — how they perceive their composing methods, the implementation of conscious and unconscious decisions in their work, and how they progress from beginning a piece to completing it. I wanted to learn the stories behind the notes on the page, to go deeper into the composers’ own thoughts about the final product presented to the audience. There were several key sources that influenced my thinking on the topic of process throughout this project: Andrew Ford’s interviews with contemporary composers; Richard McGregor’s interview with Scottish composer James MacMillan, Bruce Duffie’s interview with Finnish

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1 The word “mechanistic” does not refer to my compositional process for this piece, but rather the personified elements of the machine that the piece freely explores.

2 Andrew Ford, Composer to Composer: Conversations about Contemporary Music (Sydney: Hale and Iremonger 1993).

composer Einojuhani Rautavaara⁴; and self-analyses by Australian composers Stuart Greenbaum⁵ and Paul Stanhope.⁶

Existing research in this emerging field falls into two main categories: direct insights by composers into their processes (like the previously mentioned interviews and analyses), and synthesized insights by researchers of creative practice. The first category is especially appealing to me, as it provides a direct link from one composer to another as to his or her perceptions of the composition process. There is great value in detailing the intentions, thoughts, and struggles of the person inside the compositional process by that same person; no one knows better than the composer how the piece came to be. The composer is in a unique position of being able to personally evaluate not only the final product but also the initial musical cells and hundreds of transformations that took place to create that final product. However, there are several limitations in self-reflection and analysis by composers themselves. Often their descriptions could be deemed “imprecise” from a quantitative point of view, due to the complexity of speaking about such a multi-layered and often intangible metacognitive topic.⁷ Additionally, some composers are unaware of or unwilling to divulge their own processes, or else they might not remember precisely how they arrived at certain musical choices unless immediately interviewed.⁸

Thus, the second category of research is valuable because it allows for specialists to observe and comment on these processes from a vantage point which resides outside the composer’s own mind, allowing for extrapolations and contextualizations that otherwise might not have been apparent, due to the reasons stated above. Under the current consensus of creative processes being reasonably well-explained by the dual-process theory⁹, it has been shown that composing comprises two main types of thought: intuition¹⁰, meaning the fast and

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⁷See Ford’s Composer to Composer for numerous examples of this difficulty in articulating the leap from conception to implementation.
unpredictable process governed by instinct, and reflection\textsuperscript{11}, meaning the deliberate and systematic process of analysis.

The extent to which intuition and reflection each act on creative processes is a developing field, and there is contention about whether the dual-process theory or any other singular theory can be specific enough to be scientifically useful and still allow for the unpredictability of creative work. In her recent qualitative case study, Pohjannoro categorized parts of the composer’s process into intuitive and reflective thinking without minimizing the fluidity and reflexivity between the two\textsuperscript{12} - an important component of compositional process. She expanded upon the dual-process theory to include several intermediate processes (“metacognitive acts” which could function either as intuitive or reflective) in order to better reflect qualitative data. An earlier case study by Collins\textsuperscript{13} (2005) dealt with this problem of how to classify acts by the composer similarly, synthesizing several different process theories to analyze the composition process, and concluded that the stages of composing followed both linear and recursive progressions of problem-to-solution and goal reformulation.\textsuperscript{14}

In the absence of a research team to document and analyze my output over the past two years from theoretical or psychological perspectives, I will retell and discuss the creation of \textit{Oil, Steam, and Steel} myself. I recognize inherent flaws in appraising my own compositions and the imperfect recollection of my compositional process; nevertheless, composers engage in self-evaluation in order to improve. This thesis would be of particular interest to researchers of creative practice, to music theorists looking for insight on analysis of 21st-century music, and to people curious as to how notes come to be on the page. It will also help me streamline and gain insight into problem areas of my own compositional process. I hope that this study proves useful to other composers too, as investigating compositional methods beyond my own assisted me greatly in my pursuit of efficiency and efficacy.

\textsuperscript{11}Also called “intellect” in Michele Kaschub and Janice Smith, \textit{Minds on music: Composition for creative and critical thinking}, (R&L Education 2009) and “beyond-domain processes” in Katz and Gardner, “Musical materials.”

\textsuperscript{12}Pohjannoro, “Inspiration and Decision-making,” 167.


1.2 Method

In creating *Oil, Steam, and Steel*, I aspired to the same principle that guides all of my musical projects: in order for a piece to be truly successful, it must impart great enjoyment or meaning to the composer, the performer, and the listener. If a composer cannot make his or her meaning clear through the music, it may be lost on the performer. Consequently, if a performer does not understand the purpose of the notes he or she plays, this indecision is passed on to the listener. To me, the listener is the final arbiter of whether a piece communicates merely the notes that make it up, or something more.

This philosophy guides the creation of my compositions, and I continually appraise whether my meaning is clear to all three parties involved in the collective experience of music. In order to gauge my work against these tenets, my compositional process includes taking on the role of not just composer, but of performer and listener as well.\(^\text{15}\) As a saxophonist, I was reasonably confident in my ability to successfully write for the eventual soloist, referring to Netti and Weiss’ saxophone technique book for instruction on notating extended techniques.\(^\text{16}\) However, less experienced in writing for strings, I had more difficulty conveying my compositional intent to the string orchestra. I improved upon this by composing a piano quintet and two movements of a string quartet prior to the concerto (see attached portfolio), and by being receptive in rehearsals and string workshops.

Throughout history, composers, music critics, and researchers have debated as to the listener’s role in the musical experience. Some assign the listener responsibility equal to that of the composer in immersing him or herself into the experience of “perceiving” a piece of music\(^\text{17}\), while others view the listener as an imperfect and often hopelessly uneducated receiver of sounds\(^\text{18}\) \(^\text{19}\). In my own work, I aim to utilize universally communicable aspects of music to ensure my compositions have auditory appeal to listeners of varying levels of

\(^{15}\) Parallels can be drawn between the personal metacognitive act of variously assuming the roles of listener/performer/composer and Edward de Bono’s work in group thought processes, “Six Thinking Hats”, particularly through the understanding that certain actions are taken with the purpose of addressing specific areas at a time. Edward de Bono, *Six Thinking Hats*, (London: Penguin, 2000).


\(^{19}\) For a detailed discussion on the topic of the role of the listener, see Cook, *Music, Imagination and Culture*. 
musical knowledge; while composing, I try to listen with fresh ears in order to make sure the work has logical proportions, compelling musical gestures, and, particularly with this concerto, dramatic impact to sustain a listener’s interest. With these characteristics supporting the auditory experience, I aim to supply listeners with the tools to follow the work on several levels if they wish, leaving the freedom of interpretation ultimately with the listeners themselves.

My method for this project comprised three main components. First, I surveyed many concerti, especially contemporary works, to bring my knowledge of repertoire up to date with current forms of thinking in the medium. Next, I targeted elements in my Sonata for Alto Saxophone and Piano (2010) to pursue further in a concerto, focusing on the idea of creating a unique sound world or “character” for a piece through my musical choices. Finally, I wrote other pieces prior to and in simultaneity with the concerto to gain practical experience with the weaker areas of my compositional craft and to experiment with ideas elicited by other composers’ works.

1.3 Contemporary concerti survey

The topic of contemporary concerti should be prefaced with an summary of the concerto as a genre. The term “concerto” has grown to define a genre of music generally characterized by a solo instrument interacting with and being supported by a larger force.\(^\text{20}\) Despite evolving initially as an alternative to the *concerto grosso* and its small group of soloists, there are many examples of concerti with more than one solo instrument, such as Mendelssohn’s concerto for two pianos and orchestra (1823 and 1824), Shostakovich’s *Concerto for Piano, Trumpet, and Strings* (1933), and Ligeti’s *Concerto for Flute, Oboe, and Orchestra* (1972). There are a growing number of concerti “for orchestra” that do not feature a soloist at all, but instead focus on the color combinations and virtuosic possibilities present within the ensemble itself, such as those by Bartok (1943), Lutoslawski (1954), and Carl Vine (2014).

The traditional organization of concerti into three movements stems back to the early 18th century’s *ritornello* concerto, where the fast-slow-fast arrangement emphasized the dramatic tension between solo passages and the ensemble’s repeated *ritornello* figure.\(^\text{21}\) In the


\(^{21}\) Griffiths, “Concerto.”
19th century, performers like Paganini influenced the concerto’s development into a medium in which a solo performer’s virtuosity often overshadowed all else, while the ensemble was often relegated to mere “accompaniment”. The 20th century embodied a resurgence in the importance of the interaction between soloist and ensemble, and it is this quality which attracts me most to the genre.

This survey begins with a comparison between two vastly different saxophone concerti, one by Finnish composer Harri Vuori (b. 1957) and the other by Japanese composer Takashi Yoshimatsu (b. 1953). Following that is British composer Thomas Adès’ (b. 1971) contemporary reinterpretation of the bastion of Romantic ideals: the violin concerto. Rounding out the discussion are two concerti featuring unusual solo instruments, the piccolo and percussion, by Australian composer Paul Stanhope (b. 1969) and Scottish composer James MacMillan (b. 1959) respectively.

The decision to include these particular concerti in this survey came after exploring many works throughout my compositional process. These five concerti had the greatest influences, direct and indirect, on the creation of Oil, Steam and Steel. Many of my compositional choices regarding structure, group dynamics, and coloristic orchestration came from observations of methods in these concerti. Indeed, this selective assimilation of characteristics from other works comprises a key part of my compositional process, and the purpose of these analyses was to evaluate options for my concerto.

These concerti reveal a wide variety of musical inspirations, from MacMillan’s extramusical liturgical journey in Veni, Veni, Emmanuel to Yoshimatsu’s musical personifications of stars in Albireo Mode. Their structures offer several innovations on and deviations from the traditional three movement concerto form, like Adès’ concise three movement arch structure, Vuori’s addition of an extended introduction to the traditional form, and Stanhope’s distilled two movement, palindromic form. They also embody vastly different

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22 The violin concerti of Paganini influenced both the concerto genre and violin technique. This aspect of virtuoso performers redefining performance practices of their instruments continues today, with many concerti being commissioned by or written for virtuoso performers looking to push the boundaries of their instruments. Of the five concerti discussed below, four of them were composed for specific performers: Albireo Mode for saxophonist Nobuya Sugawa, Concentric Paths for violinist Anthony Marwood, Concerto for Piccolo Flute and Orchestra for Andrew Macleod, and Veni, Veni, Emmanuel for percussionist Evelyn Glennie.

23 Griffiths, “Concerto.”
compositional styles, as suggested by the composers’ diverse musical and cultural backgrounds.\textsuperscript{24}

1.4 Harri Vuori \textit{Concerto for Saxophone and Orchestra (2004)}\textsuperscript{25} and Takashi Yoshimatsu \textit{Albireo Mode (2005)}\textsuperscript{26}

\textbf{Structure and proportion.}

Vuori structures his 22-minute concerto in four movements: \textit{I. Introduzione e cadenza pastorale; II. Moderato; III. Lento; and IV. Finale}. In this, Vuori adds an extended four-minute cadenza as an introduction to the traditional three movement form. The first movement goes on \textit{attacca} to a five-minute, faster second, followed by a slower, textural third and an intense finale that switches between an intricately subdivided \textit{adagio (\(\text{\(q\)} = 60\))} and slightly faster tempi (\(\text{\(q\)} = 74/78\)). Though there are four movements, contrasting characters between them are not immediately discernible; even the transitions between movements are subtle enough to miss, as the character of the piece is rather homogenous.

Yoshimatsu’s concerto is also 22 minutes in length; however, it is balanced in two near-equal-length movements, \textit{I. Topaz} and \textit{II. Sapphire}, whose titles reflect the colors of the two stars of Albireo, the double star in the constellation Cygnus.\textsuperscript{27} In his program notes, Yoshimatsu mentions that his two-movement concerto also represents the dual character of the soprano saxophone, “combining both coolness and heat, both beauty and depth. That is why I named the cool and beautiful first part ‘Topaz’ and the hot and deep second part ‘Sapphire.’”\textsuperscript{28} With this backstory entwined in the piece’s structure, the work flourishes in its unconventional through-composed two-movement structure. The characters of each movement are quite distinct. \textit{Topaz} shows off a lyrical saxophone in a peaceful, unhurried

\textsuperscript{24}I would like to make it clear that the following discussion is undertaken with the greatest respect for the composers of these works, and reemphasize for the reader that this practice of subjective analysis is a key tenet of my compositional process.


\textsuperscript{26}As there is no published score of \textit{Albireo Mode} presently available, this analysis refers to the only commercially-available recording, performed by Nobuya Sugawa with the BBC Philharmonic, and to the composer’s comments in the liner notes.

\textsuperscript{27}Takashi Yoshimatsu, Liner Notes, \textit{Nobuya Sugawa plays Honda, Yoshimatsu, Ibert, Larsson}, Nobuya Sugawa (saxophone), Chandos CHAN 10466, 2008, compact disc.

\textsuperscript{28}Yoshimatsu, Liner Notes.
exploration of color and melody,\textsuperscript{29} while \textit{Sapphire} begins with almost indecent sensuality, traversing several intense moods and haughty displays.\textsuperscript{30}

The largest structural difference between these two concerti is the clarity in arrival points. Freely exploring a through-composed structure, Yoshimatsu builds up to several stunning arrival points in both movements. The most spectacular arrival point of this concerto is the climax of \textit{Sapphire}, which I will attempt to describe sans score. At 6:45\textsuperscript{31} the orchestra interrupts the saxophone’s cheerful singing with insistent chords (one of the few times the brass section is used in the work). At 7:00 the saxophone screams its frustration and at 7:42\textsuperscript{32} furiously displays its colors like a desperate bird of paradise to its spectators. This release of pent-up tension from the entire work creates a scintillating contrast with the placidity of the earlier material. To my ear, Vuori’s concerto contains no such obvious arrival points, instead relying on the transformation of the material itself to carry the work.

\textbf{Development of musical material.}

With these vast differences in overall structure and compositional inspiration, it is curious, then, to note that both pieces share interesting similarities in how they develop their musical material. Both composers utilize ever-evolving motivic lines for the soloist, and both treat their ensembles as avenues for coloration to great effect. Vuori’s concerto is entirely a journey of color and the minutiae, supported by the unusual inclusion of harpsichord and electric organ in the small orchestra, which also forgoes a brass section larger than two horns and a trumpet. The introductory cadenza develops in almost a stream-of-consciousness manner, letting the motives themselves dictate where and when the pitches move (Fig. 1.4.1).

\textsuperscript{29} See track 1 in the paired CD for the following excerpt: \textit{Topaz} 0:31-1:00.
\textsuperscript{30} See track 2 in the paired CD for the following excerpt: \textit{Sapphire} 0:00-0:22.
\textsuperscript{31} See track 3 in the paired CD for: \textit{Sapphire} 6:38-7:42.
\textsuperscript{32} See track 4 in the paired CD for: \textit{Sapphire} 7:42-8:30.
As if possessed, the saxophone line grows longer and longer, more and more florid until m27, where the orchestra comes to the forefront in a sudden conglomeration of pitches and oblique gestures from the previous measures (Fig. 1.4.2).
After the saxophone’s re-entry at m33, the cadenza develops at a more rapid rate, presumably because many of its pitches and ideas are already in the piece’s sonic atmosphere (Fig. 1.4.3).
Figure 1.4.3. Vuori, *Concerto for Saxophone and Orchestra*, movement 1, m46-57.
The piece’s somehow-followable unpredictability and perpetual evolution of its motives demand constant awareness from the listener, and it is difficult not to be entranced by the ever-swirling variations like watching a windy snowfall or a lava lamp.

Yoshimatsu’s continuous development of the solo line is similar to Vuori’s. As common in his own *Fuzzy Bird* sonata for alto saxophone and piano (1991), Yoshimatsu often makes use of static chords and “grooves” that repeat for extended periods of time. The composer utilizes the saxophone in a seemingly improvisatory way above these stable textures, often highlighting colors within the harmonic language with the saxophone or other solo members of the orchestra.

**Relationship between soloist and ensemble.**

Vuori and Yoshimatsu’s concerti differ fundamentally in how their soloists and ensembles interact. In Vuori’s work, the soloist has great precedence over the ensemble, often initiating new motives and gestures into the overall texture (Figs 1.4.4-5). Other times, the soloist’s gestures seem completely independent from the rest of the ensemble (Fig. 1.4.6). However, unlike more traditional concerti which use the dialogues between the soloist and ensemble as avenues for dramatic conflict, the ensemble never comes close to being an equal partner with the soloist in Vuori’s work.
Figure 1.4.4 Vuori, *Concerto for Saxophone and Orchestra*, movement 3, m10-12. Saxophone falling gesture instigates echoes in the woodwinds.
Figure 1.4.5 Vuori, *Concerto for Saxophone and Orchestra*, movement 3, m13-18. Saxophone glissando gesture in m14-15 is echoed in a solo violin at m17.
Figure 1.4.6 Vuori, *Concerto for Saxophone and Orchestra*, movement 2, m78-81.

Independent saxophone line.
In Yoshimatsu’s concerto, though the saxophone is undoubtably the star of the show, the ensemble has a more prominent role throughout the work, especially through the usage of solo and soli textures in Topaz. This allows for unusual color combinations, where instruments in the ensemble highlight pitches in the harmonic texture.

**Discussion/compositional choices.**

These two pieces show a great variety of techniques and textures possible in a saxophone concerto. Vuori’s writing alerted me to effective methods of using extended saxophone techniques alongside other instruments. *Oil, Steam, and Steel* has connections with Vuori’s concerto in this area. I initially utilized glissandi and multiphonic colorations between the saxophone and strings sporadically; I then discovered Vuori’s work and took these elements further after observing the success of his coloristic writing for the instrument.

Before discovering *Albireo Mode*, I was well-acquainted with Yoshimatsu’s previous works featuring solo saxophone, including the *Fuzzy Bird* sonata (1991) and *Cyber Bird* concerto for alto saxophone and orchestra (1994). His inventive writing for the saxophone is no doubt influenced by his longtime friendship with the immensely talented Nobuya Sugawa, for whom he composed *Cyber Bird* and *Albireo Mode*.33

Something about Yoshimatsu’s unhurried lyricism, swirling harmonic soundscapes, and freedom of (or even “from”) structure resonates with me as a composer. I look to Yoshimatsu as a role model in being true to one’s own style of composition and to remind myself to occasionally take chances in less-structured environments. The second movement of *Oil, Steam, and Steel* shows this influence from *Albireo Mode*, evolving from a strict passacaglia to a more fluid and naturally-progressing form over its writing.

I made choices as to the overall character of my concerto based on these observations. One aspect of Vuori’s concerto that did not coincide with my own compositional style was its lack of clear arrival points and minimal dramatic conflict. My own music tends to be less subtle in its moments of arrival (Fig I.4.7). In *Oil, Steam, and Steel*, I aimed to capitalize on the dramatic interactions between the soloist and the ensemble, one of the aspects which drew me to the concerto genre initially.

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33 Yoshimatsu, Liner Notes.
1.5 Thomas Adès *Violin Concerto “Concentric Paths”* (2005)\(^{34}\)

**Structure/proportion.**

Adès structures his 20-minute concerto for violin and orchestra in three movements: *I. Rings; II. Paths; and III. Rounds*. The outer movements are concise (four and five minutes each) while the middle movement is double the length, at eleven minutes. This creates an intelligible arch form for this work, where the most intense musical development occurs in the middle movement. The shorter outer movements are effective in framing the central movement without adding the unnecessary weight of a *sonata-allegro* first movement or a weighty finale *a la* Brahms or Mahler. Reflecting their brevity, the outer movements are correspondingly distilled in character, while the middle movement’s character evolves as the compositional quintessence of the work.

**Development of musical material.**

Adès re-imagines several “traditional” concerto aspects through his musical material. The second movement, *Paths*, begins with dramatic quadruple stops and pizzicato flourishes - hardly new violin concerto fare (Fig. 1.5.1). However, following the enigmatic perpetual motion of the first movement, *Rings* (Fig. 1.5.2), the opening of *Paths* exists in the previous movement’s musical world. This context changes what could easily be heard as a contrived gesture into something altogether unfamiliar and intriguing.

Also adding to the feeling of freshness present in *Paths* is how Adès develops those initial gestures from single statements to longer and more densely packed lines (Fig. 1.5.3). If this had been a “traditional” violin concerto, the introductory multiple stops might merely be virtuosic fodder between melodies instead of the basis for an entire movement.

This section continues into intense double stops which could be found in a 19th-century concerto (Fig. 1.5.4), but again the bizarre musical atmosphere of the ensemble’s intricate colors produces another intriguing context in this work. The subsequent passage between the piccolo, clarinet, and violins sounds like otherworldly echoing rather than merely canonical dialogue (Fig. 1.5.5).
Figure 1.5.4 Adès *Violin Concerto*, movement 2, 1 before rehearsal 18 to rehearsal 19.

Figure 1.5.5 Adès *Violin Concerto*, movement 2, 4 before rehearsal 21 to 1 before rehearsal 21.
Relationship between soloist and ensemble.

The clearest indicator of the relationship between the soloist and ensemble is that the solo part utilizes entirely different metric divisions (Fig. 1.5.6)! Adès’ metric innovations with broken tuplets and other rhythmic complexities\(^{35}\) show that the soloist and ensemble are indeed separate entities, revolving around and interacting with each other in “independent cycles”\(^{36}\).

There are a few moments of pronounced dialogue between the soloist and ensemble in the first and third movements where they pass material between each other; the canons in the second movement constitute more subliminal dialogue. However, much of the piece is spent with the violin in an independent reverie while the ensemble rumbles, groans, shrieks, and sings among itself. There are no cadenzas where the ensemble halts its own development for the violin to continue alone. The ensemble is always present in the texture, even during the violin’s deterioration into mania at the end of the second movement (Fig 1.5.7).

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\(^{36}\) Adès, *Violin Concerto*, program notes.
Figure 1.5.6 Adès *Violin Concerto*, movement 2, 3 before rehearsal 16 to 1 before rehearsal 16. Violin with alternate rhythmic notation.
Figure 1.5.7 Adès *Violin Concerto* movement 2, 3 after rehearsal 24 to 4 after rehearsal 24.
Discussion/compositional choices.

There are several ideas from Adès’ concerto which influenced *Oil, Steam, and Steel*. As *Concentric Circles* consists of two outer movements of distinct character and a central movement with a greater breadth of musical elements, so follows *Oil, Steam, and Steel*’s focus on specific aspects of a Great Machine in each movement, with the second movement acting as a bridge between the sonic worlds of the first and third movements. The first and third movements of *Oil, Steam, and Steel* are relatively targeted in their musical characters, while the second is expansive and inclusive of elements from the other movements. This makes the second movement the true crux of the work, functioning as the meeting-ground for all that makes up the Great Machine.

The first measures of *Concentric Circles* create a new musical world amid the frantically rising and falling lines in the violin and later the woodwinds (Fig. 1.5.8). The musical language initially seems alien; however, through repetition, Adès allows the listener to gradually learn his musical language in real time. Adès’ work is a sophisticated example of how musical “clarity” does not necessarily mean that everything must be immediately clear or overly simplistic and picked up on the first hearing. In fact, there is almost equal responsibility for the listener to “practice” as much as the performers - this is a work to be listened to and taken in several times (a practice wholly unnecessary for many 19th-century concerti, which are about as subtle as a slap in the face.) Similarly, in the first movement of my concerto, I aim to transport the listener to a new musical dimension where he or she would have to start anew. I believe that the organic introduction of pitches based on the overtones stemming from a G and F# dyad (see Chapter 2.6) helps detach *Oil, Steam, and Steel* from any traditional harmonic progression expected by the listener, and instead allows the work to narrate its own journey, free from preconceived notions of what a saxophone concerto should sound like.
Figure 1.5.8 Adès *Violin Concerto*, movement 1, m1-6.
1.6 Paul Stanhope *Piccolo Concerto (2012-2013)*\(^{37}\)

**Structure/proportion.**

Stanhope structures his 20-minute concerto for piccolo and orchestra in two movements: *I. Hymn* and *II. Wheels Within Wheels*. The first movement outlines an arch form and follows the curious development of a fragmented hymn tune to its statement in full, a technique to be explored in MacMillan’s *Veni, Veni, Emmanuel* as well. The arch form is quite literal, as indicated by the composer’s illustration of the general relationship between the two movements (Fig. 1.6.1).

Figure 1.6.1 Stanhope: structural concept for Piccolo Concerto.

Although this sketch seems the ideal concept around which to compose a piece, the structure of the concerto in fact changed drastically over the course of its composition before arriving at this point.\(^{38}\) Structure was stated by Stanhope to be the biggest challenge in writing this piece. This refined palindromic form was the final product of a compositional process of distillation. The second movement makes use of a “funky” dance divided into two halves, separated by an extended cadenza for the piccolo. The initial musical gestures in the first

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\(^{38}\) Stanhope, “Piccolo Concerto - Process Diary”.
movement expand organically and in heterophonic ways that, like Adès’ work, suggest a portal into a new musical world (Fig. 1.6.2). Indeed, this is a musical journey unlike any other, for how many piccolo concerti are there?

Figure 1.6.2 Stanhope *Piccolo Concerto*, movement 1, m17-27 (no woodwinds).39

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39 Because this score is so large, I have left out some sections of the orchestra when including score excerpts.
Concerto practices and the relationship between soloist and ensemble.

Unlike the previously discussed composers, Stanhope does not attempt to distance his piece from most established practices of the concerto genre. Although in an untraditional structure, the piece contains much of the expected concerto fare, like a cadenza, dramatic dialogue between soloist and ensemble/other soloists (Fig. 1.6.3-4), and built-in moments of unabashed virtuosity (Fig. 1.6.5).

Figure 1.6.3 Stanhope Piccolo Concerto, movement 1, m117-123. Piccolo integrated into dialogue texture (no brass).
Figure 1.6.4 Stanhope *Piccolo Concerto*, movement 1, m176-180. Dialogue between piccolo and violin solo (strings and piccolo only).

Figure 1.6.5 Stanhope *Piccolo Concerto*, movement 1, m74. Virtuosic piccolo interjection while the ensemble holds (strings and piccolo only).
In addition to covering typical concerto territories of virtuosic solo passages and soloist and ensemble dialogues, Stanhope capitalizes on a technique that may only be feasible in a piccolo concerto: having the soloist audible over the entire ensemble (Fig. 1.6.6).

Figure 1.6.6 Stanhope Piccolo Concerto, movement 2, m208-211. Piccolo alongside full orchestra (piccolo and brass only).
And, rather than abusing this privilege by filling all twenty minutes of the concerto with shrieking high notes, Stanhope generally uses the technique in a much more subtle way. In a manner similar to the works Hindemith, he often colors the ensemble’s timbre with the piccolo (Fig. 1.6.7), a rare example of a concerto soloist taking a supporting role to the expected self-centeredness of the medium.

Figure 1.6.7 Stanhope *Piccolo Concerto*, movement 1, m58-65. (Piccolo, woodwinds, and strings only).

Overall, however, the orchestration (and instrumentation) of this work is relatively light to compensate for the chosen solo instrument. When the soloist plays outside its highest register, Stanhope pares back the texture and dynamics so the delicate sound of the piccolo is not lost in a dense orchestration (Fig. 1.6.8).
Figure 1.6.8 Stanhope *Piccolo Concerto*, movement 2, m75-79. Pizzicato strings and soloists with piccolo in middle register (no woodwinds).
Stanhope utilizes certain techniques like color trills (Fig. 1.6.9) and the lowest register of the piccolo (Fig. 1.6.10) only during the long cadenza, as no orchestral texture would be thin enough to allow the piccolo to be heard otherwise.

Figure 1.6.9 Stanhope *Piccolo Concerto*, movement 2, m138. Color trill.

Figure 1.6.10 Stanhope *Piccolo Concerto*, movement 2, m154. End of cadenza pitch bend.

The long cadenza marks the turning point in the second movement where the intensity and motion pick back up in accordance with Stanhope’s palindromic form. Utilizing a cadenza as an important arrival point leading to the ending section is another conventional concerto tactic but in this case is implemented in a way that supports Stanhope’s unconventional structural intentions. The cadenza also functions as an opportunity to introduce the listener to the breadth of the piccolo’s expressive and technical capabilities.

**Discussion/compositional choices.**

Through this concerto, the piccolo is revealed to be a delightfully versatile instrument when given this chance to break out of its stereotype. Like the piccolo, the saxophone is an instrument which elicits more than its fair share of preconceived views as to its usage and playing style. The method in which Stanhope treats the piccolo in this work proved a valuable source of inspiration for me as to how I would go about writing a concerto featuring solo saxophone. It solidified my plan to explore a side of the instrument that I suspected most people had not experienced before - the mechanistic side.
I enhanced this plan with my chosen instrumentation. If the average listener might be distracted by jazz stereotypes suggested by saxophone in combination with clarinets and brass, then I would circumvent that from the beginning. After removing all other woodwinds and brass from the equation, the string ensemble remaining is rather homogenous in nature. This gave me the opportunity to create a work which focused on the interactions between saxophone and strings as a collective. By having a unified entity with which to pose the saxophone against or combine with, I was able to compose with the goal of creating a single Great Machine.

*Oil, Steam, and Steel* shows the theatrical influence of Stanhope’s soloist/ensemble relationship in dialogues between the saxophone and ensemble. There are many instances where the saxophone fits in virtuosic outbursts while the ensemble builds tension (Fig. 1.6.11 and previous fig. 1.4.7) or as flourishes at the ends of lines (Fig. 1.6.12).

Figure 1.6.11 *Oil, Steam, and Steel*, movement 2, m269.
Although there are no three-minute cadenzas in my concerto, there are several shorter ones that flow directly into ensemble statements (see later fig. 2.3.7), are harmonically grounded by the ensemble or soloists (see later figs. 2.10.5-6), or gradually built onto by the ensemble (see later fig. 2.10.7).

In another parallel with Stanhope, finding a workable structure that supported my compositional intent was the greatest challenge during the creation of *Oil, Steam, and Steel*. Similarly, my concerto’s overall form ended up substantially more distilled than its original, unnecessarily complicated plans. These structural changes came about gradually as the result of several revelations about hidden character interrelations between its musical elements (see Chapter 2.)

### 1.7 James MacMillan *Veni, Veni, Emmanuel* (1992)

**Structure/proportion.**

MacMillan’s 26-minute work for percussion and orchestra is in a single movement divided into five sections, plus a coda, which flow continuously: *I. Introit - Advent; II. Heartbeats; III. Dance - Hocket; IV. Gaude, Gaude; V. Dance - Chorale; and Coda - Easter.*

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The work follows an arch structure that also parallels the traditional concerto form of fast-slow-fast. There are two self-described “transition sequences” which separate Gaude, Gaude from its preceding and succeeding sections; this gives Gaude, Gaude a structural weight that centralizes the arch structure.

**Development of musical material.**

The work carries the extramusical premise of Advent as an ever-present character influence and guiding principle. However, despite programmatic aspects of the work, such as heartbeats suggesting “the human presence of Christ” and the clanging of bells at the ending celebrating Easter, the piece is intended to function dually as an abstract work. MacMillan does not let the extramusical influences supplant the practical need for a sound structure, natural dramatic pacing, and unforced motivic development. Fragmented elements of the namesake hymn (Fig. 1.7.1) are realized musically throughout the concerto (Figs. 1.7.2-1.7.4).

![Figure 1.7.1 Veni, Veni, Emmanuel, melody.](image)

(Source *James MacMillan: an analysis of selected works* by Timothy Rolls, 2000.)

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41 See Richard McGregor’s “‘Transubstantiated into the musical…’ : a critical exegesis on metaphor and actuality in James MacMillan’s Veni Veni Emmanuel,” for an excellent discussion of the piece as both a musical “transubstantiation” and a liturgical journey.

42 MacMillan, *Veni, Veni, Emmanuel*, program notes.

43 MacMillan, *Veni, Veni, Emmanuel*, program notes.
Figure 1.7.2 MacMillan *Veni, Veni, Emmanuel*, m50-54. Hymn fragment (percussion and strings only).

Figure 1.7.4 MacMillan *Veni, Veni, Emmanuel*, m358-361. Hymn fragment (woodwinds only).
Figure 1.7.3 MacMillan *Veni, Veni, Emmanuel*, m126-129. Hymn fragment.
After developing these and countless more fragments independently, MacMillan reveals the hymn tune in a chorale in the horns and clarinets, hidden “in plain sight” amid excerpts of previous sections (Fig. 1.7.5). It is not until the climax of the chorale at m542 where the presence of the hymn is truly apparent (Fig. 1.7.6).

Figure 1.7.5 MacMillan *Veni, Veni, Emmanuel*, m500-503. Hidden hymn tune.
To heighten the effects of dramatic progression, MacMillan utilizes two main methods of moving between sections: prolonged gradual transitions such as Transition: Sequence II (Fig.
1.7.7) and abrupt changes like the dramatic arrest in motion arriving at Transition: Sequence I following the Dance - Hocket (Fig. 1.7.8).

Figure 1.7.7 MacMillan Veni, Veni, Emmanuel, m431-442. Gradual timbral transition.
Figure 1.7.8 MacMillan *Veni, Veni, Emmanuel*, m282-293. Dramatic arrest of motion at m287.
Transition: Sequence I

Un poco meno mosso (largamente)

Take Piccolo.
Relationship between soloist and ensemble.

By virtue of instrument choice, MacMillan faces the same dilemma as Stanhope - how will a percussion concerto fit in a genre with few precedents? MacMillan’s answer to this question was to create a piece unfettered by the traditional concerto roles of soloist/ensemble, instead letting the extramusical influences guide his treatment of the two entities. There are no dramatic cadenzas for the soloist where everyone else stops playing. There are few back-and-forth dialogues between the soloist and ensemble, and many of the soloist’s virtuosic lines have no obvious connection to the orchestra’s texture (Fig. 1.7.9). Instead, the middle section is sustained by an introspective significance of the pair’s disjunct conversation.

The peculiar relationship between the soloist and orchestra is a conscious decision by the composer, justified in his program notes: “Soloist and orchestra converse throughout as equal partners…”44 This is fundamentally different from a concerto featuring soloist versus orchestra. Additionally, the sheer number of instruments of several families that the percussionist moves between and plays in this piece is enough to elevate her role from a “soloist” to an “ensemble” anyway, as she has a battalion of instruments equal to the orchestra. Evelyn Glennie, for whom Veni, Veni, Emmanuel was composed, describes her role as percussion soloist in this work: “You’ve got to really, really think about the balance between all the instruments. So I’m not just playing tom-toms, timbales, congas, wood blocks, or cymbals... I'm trying to bring all the instruments and make it as one. ...It’s almost as though I’m a conductor of percussion.”45

44 MacMillan, Veni, Veni, Emmanuel, program notes.
Figure 1.7.9 MacMillan *Veni, Veni, Emmanuel*, m406-408. Soloist disjunct from ensemble.
Discussion/compositional choices.

Of the concerti surveyed, Veni, Veni, Emmanuel possesses the most engaging structure and compelling dramatic progression to me as a listener. By its conclusion, I felt as though I had been carried along a journey through MacMillan’s work. Musical story-telling appeals to me as composer too; after hearing one of my works, I want listeners to feel they now know something they had not five or twenty-five minutes ago, and that the journey was worth the time. MacMillan’s piece almost influenced Oil, Steam, and Steel’s structure into a single continuous movement with fluidity of material between its sections. However, I discovered a preferable three-movement structure in which I could still share material in new contexts over the course of the piece, better fitting my compositional style.

Nevertheless, the convincing dramatic contour of Veni, Veni, Emmanuel stayed in my mind during the development of my concerto. The prolonged timbre change in Transition: Sequence II inspired a more condensed dramatic transition in Oil, Steam, and Steel (Fig. 1.7.10.) The decision to utilize an over-the-top crescendo to bridge the gap between the delicate character of the end of the second movement and the raucous character of the start of the third was a theatrical choice.

Figure 1.7.10 Oil, Steam, and Steel, transition between movement 2 and 3.
In other instances, I utilize no transition for dramatic effect. At a crucial turning point in the first movement, I bring back the opening oil motives in the highest register of the violins to simulate a violent screeching of the Great Machine’s engine (Fig. 1.7.11). This abrupt change is a common tactic to immediately escape from the patterns of rhythmically-insistent material, and MacMillan utilizes the same tactic in *Transition: Sequence I* (see previous fig. 1.7.8).

Figure 1.7.11 *Oil, Steam, and Steel*, movement 1, m202-210.
Interestingly, the similarities of register and the presence of glissandi in both MacMillan’s work and mine at these specific points seem glaring out of the context of their respective works. Unlike the intended dramatic effect, however, these similarities were unintentional! My intent was programmatic and structural in nature, to support the arch structure within the first movement balanced by two contrasting statements of the A material. However, the purpose of MacMillan’s material is greater than a single structural division or mere transition; it foreshadows the musical makeup of the central *Gaude, Gaude* in which the high violins sustain nearly the entire section (Fig. 1.7.12). This reveals intrinsic differences in purpose between these two moments in the concerti, despite surface similarities in material.

Figure 1.7.12 MacMillan *Veni, Veni, Emmanuel*, m353-357. (Percussion and strings only.)

*Oil, Steam, and Steel* has its basis in the extramusical premise of a Great Machine; however, like *Veni, Veni, Emmanuel*, it is intended to function dually as an abstract work. As MacMillan’s work is not a literal depiction of Advent, neither is mine the soundtrack to a documentary of a machine; it is a piece of music which progresses in a designed, artistic manner to form a greater sonic entity to be experienced in real time. I view the concept of the Great Machine primarily as a compositional tool to assist my focus and development of musical material, and secondarily as a programmatic influence. This is similar to both MacMillan and Stanhope’s compositional processes of utilizing existing hymns for their inherent musical elements and then working with those fragments to create a new work.
1.8 Elements from *Sonata for Alto Saxophone and Piano*\(^4^6\) - Background.

My *Sonata for Alto Saxophone and Piano* (2010) was a major stepping-stone in my growth as a composer during undergraduate studies at Old Dominion University in the United States. The sonata formed the launching point from which I developed key components of the concerto. In addition to logically inspiring a concerto as a future compositional goal, this piece also met all three tenets of my musical philosophy:

1. The work helped develop my understanding of harmonic development and taught me unconventional transformations of traditional structures and material.
2. The theatrical interactions between the saxophonist and pianist created an intense dramatic atmosphere, and the interplay between the two performers was a feature of the work.
3. It also elicited the strongest impact from listeners out of any of my previous compositions.

With deep impressions made on the composer, performers, and listeners, it was particularly important to evaluate what made this work so effective, even though it is from an early stage in my compositional output.

The work incorporates elements of neoclassicism, with precedence given to motivic and sequential development, balance and proportion in traditional structures, and clarity of musical gestures. These and other self-prescribed limitations allowed me to explore a traditional medium and its elements in a contemporary context, in a similar manner as Prokofiev’s “Classical” Symphony (1917), Stravinsky’s *Dumbarton Oaks* (1937-1938), and Britten’s *Serenade for Tenor, Horn and Strings* (1943).

As I composed the sonata, sonic images like bell tolls, gusts of wind, and screams, plus emotions like mania, malaise, and fury all showed up unbidden, matching different sections of the piece. I reflexively let these thoughts guide some of the development of ideas in the work, though I had never consciously composed like that before.\(^4^7\) Never before had the notes of my music so strongly suggested anything to me other than the notes themselves; it was as if parts of the piece had gained characters of their own. During the period between finishing the sonata in 2010 and starting work on the concerto in 2014, I explored this phenomenon in greater detail. I noted how the musical components of harmony and melody

\(^{46}\) See Appendix 1 for full score.

\(^{47}\) I did not expect listeners to envision or identify the same images or emotions that occurred in my mind, nor did I particularly want them to. If I restricted the music entirely to the depiction of certain words, I would impede on the listeners’ role to experience the music themselves. I would implement this same technique consciously in the concerto, once the image of the Great Machine was suggested by the existing musical material.
combined with form supported the creation of a movement’s character. In doing so, I also identified elements of the sonata which I felt were most successful and worth pursuing in a concerto.

1.9 Character through harmony.

The strongest element that contributed to the unique sound world of the sonata was harmonic language. The third movement shows this clearly. It is a scherzo-rondo in 11/8 based on the lydian dominant scale of a sharpened 4th and flattened 7th (Fig. 1.9.1). The scale’s half-step resolutions are in unexpected positions, which enable the scale to oscillate perpetually. The flattened seventh scale degree gives those melodies the character of being unresolved, and the raised fourth scale degree with the ostinati suggests a neurotic character.

Figure 1.9.1 Lydian dominant scale.

I created myriad ostinato layers and melodies from this scale to accentuate this “obsessive” character (Fig. 1.9.2). These ostinati undergo forceful transformations, truncations, and new layerings, which dictate the course and development of the movement (Fig. 1.9.3).

Figure 1.9.2 Sonata for Alto Saxophone and Piano, movement 3, m4-6. Lydian dominant scale makes up ostinato in RH, pedal point ostinato in LH, and additive melody in saxophone.
While the motives themselves change almost constantly, the harmonic language remains stable for longer periods of time. While this may seem counterproductive to the intended “obsessive” character, it actually facilitates development on a larger scale. Once the harmonic groundwork is established, I change the ostinati one aspect at a time, saving dramatic harmonic changes for key structural points. This creates a build up in expectation, rather than an unintelligible flood of sound which would not have supported the character I intended.

While the third movement’s character springs from a single scale personified by its motives and ostinati, the second movement’s character changes alongside its harmonic language. It begins as a slow, mournful dirge but soon becomes tainted by feelings of “malaise”, “bitterness,”, then “fury.” To make this characterization come to life, I chose a pure, white-key A minor scale to use as a clean slate. (Fig 1.9.4) Then I “infect” the pitches one-by-one to become more and more dissonant, beginning with the chords and then “poisoning” the very motives themselves (Fig. 1.9.5).
Figure 1.9.5 *Sonata*, movement 2, m1-4. The first harmonic intrusions, C# and F#, at m4.

In this context, the intrusions sound consonant, but following a G# infection, the chords become denser and more dissonant, and the melodies more fragmented as the character turns to that of “malaise” (Fig. 1.9.6).

Figure 1.9.6 *Sonata*, movement 2, m28-32.

After traversing several other dark harmonic mutations, the dirge theme (Fig. 1.9.7) returns at the end of the movement, this time personifying “fury” (Fig. 1.9.8). At this point, the harmonic language is now fully “corrupted” and the piano resurrects the dirge theme as an agonizingly macabre clanging of bells.

Figure 1.9.7 *Sonata*, movement 2, m5-7. Original dirge theme.
In addition to developing the harmonic language throughout the movement, I made use of register as a further catalyst for character change. This is most apparent in the second movement, which begins in a contained manner somewhat expected for what is traditionally the slow, lyrical movement. However, a jarring force interrupts and shatters this notion at the climax of the movement (Fig. 1.9.9).

In this moment, the piano and saxophone cover a great expanse of sonic space. This gives the piece an unexpected coloration at a crucial turning point. Juxtaposing the lowest pitches with the highest creates inherent conflict in the texture, which parallels the ominous change in the movement’s character to “bitterness”. Delaying the release of the sustain pedal leaves the overtones from the piano’s lowest pitches resonating in a nightmarish wash of sound. This is one of the most striking moments of the entire work; the sudden change of character from
something beautiful to something twisted proved a very compelling moment in the piece’s
dramatic contour.

1.10 Character through melody.

The various methods of melodic development in the sonata contributed to each
movement’s distinctive character as well. The first movement features melodies which can
easily be broken down into their motivic elements and developed in a Beethoven-like
manner. The primary theme is a bold melody that immediately builds upon its leaping note
pattern (Fig. 1.10.1). This melody contrasts with the secondary theme, whose motives are
more fluid and lyrical (Fig. 1.10.2). However, the secondary theme is based on similar
motives as the primary theme, particularly the upward-leaping motive. These contrasting
themes derived from similar material contribute to the movement’s initial sprightly and
cheerful character.

Figure 1.10.1 Sonata, movement 1, m6-8.

Figure 1.10.2 Sonata, movement 1, m28-30.

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48 It should be noted that this was my first sonata and, at that time, nearly all of my knowledge of the
genre came from Beethoven’s 32 piano sonatas. The first movement bears clear influence of this; however, the
second and third movements show a gradual break from those traditions, as I molded the genre to better suit my
own compositional style.
The flexibility of the motives in the first movement allow them to be used in multiple contexts and in different characters. One motive first occurs as an interjection in the first transitional section, layering upward and downward versions simultaneously (Fig. 1.10.3). Next, the motive finds itself as a restless, unsettled figuration in the RH at the start of the development section, layered between a hemiola pattern in the saxophone and LH (Fig. 1.10.4). Then, it is given dramatic prominence alongside the leaping motive from the primary theme in both the saxophone and LH of the piano (Fig. 1.10.5). Finally, it melts back into obscurity in a cascading texture that signifies the return of the primary theme in a false recapitulation (Fig. 1.10.6).

Figure 1.10.3 *Sonata*, movement 1, m17-18. Motive as interjection.

![Figure 1.10.3](image1)

Figure 1.10.4 *Sonata*, movement 1, m58-60. Motive as unsettled accompaniment.

![Figure 1.10.4](image2)
Figure 1.10.5 *Sonata*, movement 1, m64-69. Motive incorporated into melody.

The falling motive in the primary theme (Fig. 1.10.7) also undergoes similar transformations. First, it gains cheerful embellishment (Fig. 1.10.8). Next, it changes to something even more sprightly (Fig. 1.10.9). Then, it takes on a darker quality in both the saxophone melody and the piano accompaniment (Fig. 1.10.10). Finally, it resolutely expands to fill out all the beats, leading to a true recapitulation much more sinister than the original (Fig. 1.10.11).
Figure 1.10.7 *Sonata*, movement 1, m2. Original falling motive.

Figure 1.10.8 *Sonata*, movement 1, m13-14. Embellished falling motive.

Figure 1.10.9 *Sonata*, movement 1, m40-44. Expanded, sprightly falling motive.

Figure 1.10.10 *Sonata*, movement 1, m75-76. Augmented falling motive in multiple forms.
Figure 1.10.11 *Sonata*, movement 1, m89-91. Elongated, darker falling motive.

The melodies in the second movement are not as disjunct in nature. Instead, they build upon themselves organically to sustain a through-composed form. The melodies themselves dictate the development of the movement overtop of artificially-prescribed harmonies (Figs. 1.10.12-13. and previous fig. 1.9.7).\(^{49}\)

Figure 1.10.12 *Sonata*, movement 2, m18-21. Canon in saxophone and piano.

Figure 1.10.13 *Sonata*, movement 2, m41. Cascading theme in saxophone.

The melodies of the third movement build upon themselves too; however, the repetition present in those melodies serves an entirely different purpose. While the second movement’s melodies add onto themselves for the sake of structural progression, the third movement’s melodies do so to reflect the movement’s “unhinged” character (Figs. 1.10.14-15).

\(^{49}\)This makes the second movement intrinsically quite different from the first movement, which was based around motivic development within the prescribed sonata-allegro form.
1.10.14-16). By utilizing melodies that could be added onto continuously, I had the freedom to make the phrases longer and longer to sustain a growing mania.

Figure 1.10.14 *Sonata*, movement 3, m2-4. First statement of opening theme in saxophone.

Figure 1.10.15 *Sonata*, movement 3, m12-14. Expanded opening theme in saxophone.

Figure 1.10.16 *Sonata*, movement 3, m68-71. Expanded ostinato theme in saxophone.

1.11 Chapter Conclusion.

From these analyses of my compositional method, I reached several conclusions. First, utilizing self-building, self-referring material in my compositions proves an effective and efficient way to communicate a piece’s character. Second, a greater purpose to harmonic choices and progression such as an internal image or story helps focus compositional efforts and can result in a compelling dramatic contour. However, while these methods worked relatively well on a small scale in a 13-minute sonata, would they be strong enough to carry a larger work like a 25-minute concerto? Or might the whole concept of purposeful characterization prove too weak or even gimmicky if carelessly done?

With these thoughts in mind, I began work on the concerto, a project which would take more than a year to complete (December 2013 to May 2015). In the concerto, I consciously explored juxtapositions of opposing musical characters.
Chapter Two: 
The Creation of Oil, Steam, and Steel

2.1 Introduction.

In this chapter, I will reflect upon key parts of the compositional process of Oil, Steam, and Steel, beginning with my initial thoughts for the concerto and then moving to discussions of problems faced and compositional choices made throughout its creation. These include structure, clarity in musical gestures, inadvertent musical quotations, and the continual challenge of sustaining dramatic interest throughout a 25-minute work. When useful, I include various sketches and analyses of structural, motivic, and harmonic elements to facilitate commentary on the work’s development. I will also identify many of the mechanical elements present in the concerto which assisted its construction. The three movements gained their titles Awaken, Breathe, and Run at the very end of the compositional process (April 2015). They were so named to embody the living quality of the Great Machine that I felt, beyond that of a mere collection of mechanical parts.

As mentioned in Chapter 1, I continually engaged in analysis and exploration of other composers’ works throughout the writing process. My responses to these works and to my own experiments shaped the construction of this concerto; I will address their influences, beyond those covered in the previous chapter, as they impacted my compositional process.

2.2 Initial concerto thoughts.

One of the initial focuses for the concerto was to explore timbre combinations of saxophone and strings. I was first exposed to the pairing of saxophone and string orchestra in 2009 with Erland von Koch’s Saxophone Concerto (1958). To my ear, the saxophone fits quite naturally with a string orchestra, and this became the impetus for me to discover what I could do with the same instruments. I began by writing combinations of timbres and techniques between the two families that I could explore in my own concerto (Fig. 2.2.1).

Figure 2.2.1. Technique combination chart for concerto.

<table>
<thead>
<tr>
<th>Saxophone</th>
<th>Strings</th>
</tr>
</thead>
<tbody>
<tr>
<td>range: altissimo to extend range beyond fingered F#</td>
<td>wide range from double bass to violin</td>
</tr>
<tr>
<td></td>
<td>Saxophone</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td># of simultaneous pitches:</td>
<td>singing or multiphonics: 2-4</td>
</tr>
<tr>
<td>timbre changes:</td>
<td>flutter tonguing</td>
</tr>
<tr>
<td></td>
<td>growling, singing, humming</td>
</tr>
<tr>
<td></td>
<td>harmonics/overtones</td>
</tr>
<tr>
<td></td>
<td>timbre/color trills</td>
</tr>
<tr>
<td>other techniques:</td>
<td>slap tonguing</td>
</tr>
<tr>
<td></td>
<td>air through instrument</td>
</tr>
<tr>
<td></td>
<td>key clicks</td>
</tr>
</tbody>
</table>

I experimented with some of the string techniques in a piano quintet, *Winds of Eerie Change* (2013). This was my first piece written in collaboration with performers through the entire compositional process, beginning to end. We met once a week for twelve weeks, during which I gained experience with the practical implementation of these techniques; some efforts proved more successful than others (Figs. 2.2.2-2.2.6). Upbowed *sul ponticello* crescendi, obliquely-stacked chords, and transformation of regular notes to artificial harmonics would all make repeat appearances in the concerto. I also would try to use techniques like pizzicato and *col legno* more thoughtfully, having learned of limitations and nuance in their performance.
Figure 2.2.2. *Winds of Eerie Change*, m140-146. Attempting to convey a busy texture within the speed limits of pizzicato.

Figure 2.2.3. *Winds of Eerie Change*, m279-286. Building up an oblique tower of sound across disparate registers.
Figure 2.2.4. *Winds of Eerie Change*, m312-317. Timbre and dynamic changes on artificial harmonics in the violins above a col legno rhythmic pattern in the viola and cello.

Figure 2.2.5. *Winds of Eerie Change*, m322-328. Combination of pizzicato with “phasing” natural harmonics.
Next came the questions of length and structure. I aimed for the concerto to be about twenty minutes long; at that length, it would stretch the limits of my crafting ability far beyond my comfort level of short, encapsulated pieces. This would be the longest and most involved piece attempted to this date. It also seemed a malleable timeframe for the genre; the five very different concerti in the previous chapter covered a wide expanse of musical ground in their ~20-25 minutes. I was unsure how I would divide up the twenty minutes, though I knew that three-part constructions had been used to great dramatic effect. I decided to reserve making any strict structural choices until after I accumulated material around saxophone/string combinations and saw what the musical elements themselves suggested. This is not an unusual method of composition. Although many composers seem to plan not

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50 The concerto ended up 25 minutes in length.
51 The word choice of “attempted” is deliberate, as I did not know at this point whether my efforts would be successful, or if a concerto was still beyond my reach.
52 This choice had both positive and negative effects on the compositional process, as will be seen.
only the structure but nearly all aspects of their pieces in advance, others, like myself, see value in working in a less “prescribed” environment. Gyorgy Ligeti is one of them, stating, “With me, the [structural] plan and the piece develop at the same rate. I don’t believe in making plans.”53 I often wonder how those other composers can compose the way they do - if I knew what the structure/shape of the piece was going to be, then I would have already written it. To me, it is part of the compositional journey.

2.3 Creating rules: harmonic choices.

Unfortunately, after several weeks of undirected sketching, the material did not strongly suggest any particular structure over another to me. I had elements of a lyrical section making use of the saxophone and strings’ dual propensities for pitch bends, but this material did not resonate with me (Fig. 2.3.1). I needed to discover what to say with this piece beyond technique combinations.

Figure 2.3.1. December 2013 sketch of lyrical section.

hit the note, go 1/4 tone
sharp then flat,
then trill, then change to air and
decrescendo into nothing.
Among other sketches, I also had this short idea (Fig. 2.3.2).

Figure 2.3.2. January 2014 sketch of cello/double bass dissonance dialogue.

Overtones and dense oscillations between two low instruments seemed like a sophisticated yet simple way to develop many pitches from one - maybe this material could be the beginning of the work. Here my compositional process stalled for several weeks.

The initial stage of the compositional process is the most difficult for me to progress from. I often find there are too many options and too many precedents, which stifles, intimidates, and silences many of my attempts to create new yet compelling material. To circumvent this, I often create rules to follow, willfully break, and then outright ignore. This gives me a semblance of control and allows me to do what I do best: rework material, in an intuitive and reflective compositional process.54 Rules would be helpful in this new medium with so many unknown challenges ahead. However, as my rules tend to be small-scale and quite specific, it did not feel right to make an arbitrary rule about the entire piece’s structure just yet.55

Thus, noting that “free composing” had not resulted in much to work with, I began making some rules to apply to the existing material and future ideas. For one of the first rules, I created a collection of notes from which I would write a cadenza (Fig. 2.3.3).

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54 Termination from Pohjannoro, “Inspiration and Decision-making”.
55 The conscious postponement of a structural blueprint resulted in many drastic changes in the work’s form over the course of its composition, which would not settle into its final three-movement form for many months.
This collection consists of four notes in chromatic succession separated by whole steps. It can be used as a scale on its own and extend beyond these three groupings; however, I used it primarily to give the subsequent harmonic language of the work a foundation. By taking one note from each original group of four, I created two chords to cycle through in the cadenza (Fig. 2.3.4).

I expanded these triads to have their own affiliated scales to alternate between on adjacent chords (Fig. 2.3.5), using the missing note of A sparingly due to possible suggestion of a generic chromatic scale. An early sketch of the cadenza appears in a March 27, 2014 draft file (Fig. 2.3.6). This would develop into the two parallel cadenzas seen in the final draft (Fig. 2.3.7).

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56 This allows for many transpositions and extensions of range, similar to Stanhope’s non-octavating scales in his Piccolo Concerto and other works.
Figure 2.3.7. OSS (final), m89-95. Completed parallel cadenzas.

Working backwards from the cadenzas, I created an additive melody in the saxophone over a “chugging” figuration in the strings (Fig. 2.3.8). The final version of these measures reflect a greater build-up and conscious alternation of the two sets of harmonic figures in the strings (Fig. 2.3.9).
Figure 2.3.8. March 27, 2014 draft file: “chugging” sketch.

Alto Sax.  
Solo Vln.  
Vln. I  
Vln. II  
Solo Vla.  
Vla.  
Solo Vc.  
Vc.  
Db.  

\[ \text{Sax Cadenza} \]

\text{Here to let off steam now that the machine started}
Figure 2.3.9. OSS (final) m78-84. Completed “chugging” section.
2.4 The conception of Oil, Steam, and Steel.

Around the time of writing the cadenza (March 2014), the image of an abandoned junkyard piled many stories high with rusted industrial and automotive parts occurred to me. In this image, the pile of junk had sat rusting for centuries, probably following an industrial boom and successive planetary power struggle. Sitting. Waiting. Then - a giant piece moves. Testing, a great mound of metal stretches. Great globs of congealed oil ooze down the mountain of parts in gelatinous slurries, steam rising from joints where the oil touches the white-hot metal underneath. Broken technology left to rust becomes sentient in a post-humanity planet. A Great Machine of oil, steam, and steel.

This image immediately became a source of compositional focus and possible programmatic potential. As I had with Sonata for Alto Saxophone and Piano, from then on I consciously composed with some regard to extramusical ideas elicited by the material itself. Many motives in the existing sketches could match up with mechanical elements. The low glissandi most obviously aligned with the “oil” character, as did the premise of beginning the work with such gestures: to get something massive to move one piece at a time. Saxophone multiphonics could fit with the character of “steel”, creating cold, metallic screeches as the rusted parts of the machine twist against each other. Though the character of “steam” clearly matched the strings’ harmonic glissandi and saxophone’s audible air tones, it had an additional intriguing connection: those initial sketches for a waltz could now be seen as yet another facet of “steam” - a romantic one. With these ideas in mind, I rewrote the beginning utilizing the low glissandi material (see previous figure 2.3.2) and sul ponticello strings alongside saxophone multiphonics (Fig. 2.4.1).

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57 Though I composed Oil, Steam, and Steel around this image, every person will experience the concerto differently. Whether they visualize concrete images of mechanical parts, or follow the rise and fall in intensity with their ears or breathing, or absorb it as absolute music, with musical material transforming and developing within the macro and microstructures of the concerto, the listeners’ experiences are their own. I believe the piece possesses “universal” qualities which can be appreciated through many different listening interpretations.

58 The composer is relatively confident that this manifestation of the Great Machine image has greater significance to her than it will to any listener.
Figure 2.4.1. May 2014 draft file: original 45-second introduction.
2.5 Structural questions.

Because images of oil, steam, and steel and possible methods of their musical realizations all flooded in more or less at once, they overwhelmed the still-developing structural concept of the piece. By spending too much time on the atomic level, I ran the risk of creating a collection of parts rather than a unified composition. This would not match my intentions for the concerto medium - I wanted a compelling dramatic contour. Two related questions arose: “Should Oil, Steam, and Steel be structured in three movements?” and “What good is a piece that just mimics its inspiration with no deeper musical value?” I was not enthused with a literal depiction of the title, with one movement of oil, one of steam, and one
of steel. That could be potentially distracting, with listeners trying to hear and appraise exact personifications of those words, and moreover, I did not want to write a completely programmatic piece for a concerto.

My alternatives to a three-movement form presently included: a single, through-composed movement to allow utmost flexibility with material; a collection of four to five shorter, unconnected movements, perhaps like a suite for metal beast; or something in between the two, like a continuous movement divided into sections not necessarily exclusive in their material, like MacMillan’s *Veni, Veni, Emmanuel*. The premise behind this last structure (distinct sections but with fluidity of material) was to carry over into *Oil, Steam, and Steel*’s eventual three-movement form.

However, I again postponed making major structural choices and continued to compose thinking that nearly everything I was working with would (and should!) fit together. These sketches included the *oil*-y introduction (see previous fig. 2.4.1), an intensely motivic cadenza (see previous fig. 2.3.7), a chugging *steel* machine (see previous fig. 2.3.9), a *steam*-y waltz (Fig. 2.5.1), a dark scherzo arising from the waltz (Fig. 2.5.2), two fast, mechanistic dances (Figs. 2.5.3-4), and even more sketches with no greater relationship than being for saxophone and strings and springing from the same person’s head (Fig. 2.5.5).

Figure 2.5.1. May 2014 sketch of a “steamy” waltz.
Figure 2.5.2. May 2014 sketch of a dark scherzo.
Figure 2.5.3. May 2014 sketch of mechanistic dance #1.

Figure 2.5.4. May 2014 sketch of mechanistic dance #2.
In retrospect, I can easily delineate the sketches into distinct movements, as can probably the reader. At the time (May 2014), however, I was convinced I simply had not found the right transitions and order, supported by countless notes written on these sketches (Figs. 2.5.6-10).
Figure 2.5.7. May 2014 note to self about transitions (#2).

Figure 2.5.8. May 2014 note to self about transitions (#3).
Figure 2.5.9. May 2014 note to self about transitions (#4).

Figure 2.5.10. May 2014 note to self about transitions (#5).
Though I possessed an array of mechanistic material, I did not recognize or appreciate the vast differences in character inherent in them. Additionally, I believed was still in a “brainstorming” stage of the compositional process, wanting more material, rather than at the crossroads to a “development” stage, needing to delve deeper into what had already been created. This seems like a clear case of not seeing the forest for the trees, but hints at the difficulty of awareness in the creative process.  

2.6 Ligeti’s Requiem - an inadvertent quote leading to structural solutions

A solution to the concerto’s structural problems came disguised as a problem itself. In July 2014, I was informed that the beginning of Oil, Steam, and Steel quoted Ligeti’s Requiem, a work then unknown to me. Greater than a surface similarity, the opening pitches and register of my piece bore uncanny resemblance to Ligeti’s work (Fig. 2.6.1).

Figure 2.6.1 Ligeti “Introitus” from *Requiem*, m1-7.\textsuperscript{60}

\textsuperscript{60} Gyorgy Ligeti, *Requiem* vocal score (Frankfurt: Henry Litolf’s Verlag/C.F. Peters, 1975).
The history and ethics of musical quotation are not new topics\textsuperscript{61}; however, unintended quotations are more difficult to classify! Did this quotation matter? Isn’t most music appropriated from the same few tropes anyway?\textsuperscript{62} How did the existence of Ligeti’s piece affect my own work’s identity?

Eventually realizing I could not “unsee” the similarities between the pieces, I weighed several options: scrap the beginning and write a new oil-based opening, transpose to a different half-step pair and rewrite everything based on G-F#, or explore another mechanical aspect in the beginning. None of these options remotely appealed to me: the beginning imagery was already effective, the current register and overlaid harmonies fit well with the chosen saxophone multiphonics and open strings, and the half-step motif was the one element linking all the existing material for the concerto. I then reevaluated the purpose of the opening 45 seconds - is this a mere introduction, or does this warrant greater structural prominence? Has the material said all that it wants to say? Where I had believed the opening half-step motif only needed 45 seconds of initial development, Ligeti takes the same atomic particle and spends six whole minutes developing its various forms as his \textit{Introitus}. A new option arose: if I wanted to counter any initial similarities with that work, then \textit{my} opening section needed more time as well - time enough to develop into my concerto. This, at least, would be a conscious parallel with the \textit{Requiem}.

My method for expanding the introduction into a fully-fledged section focused on an organic development of the “oil” character and a gradual timbral transition of the saxophone (Fig. 2.6.2).


Figure 2.6.2. OSS (final), m1-23. Beginning of expanded introduction.
The progression of pitches into the harmonic language start with G-F# in the cellos and double bass, and the violin and viola soloists highlight upper harmonics off of these fundamentals. The addition of more instruments to the texture adds to the vertical density (Fig. 2.6.3). The length of the gestures expand along with the vertical harmonies (Fig. 2.6.4).
Figure 2.6.3. Vertical pitch map of OSS, m1-23.

Figure 2.6.4. Chart of beats and pitches within gestures for OSS, m1-23.

<table>
<thead>
<tr>
<th>Measure</th>
<th># of beats ((\n)) in gesture</th>
<th># of pitches in gesture (including octave doublings)</th>
</tr>
</thead>
<tbody>
<tr>
<td>m1-2</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>m3-7</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>m8-11</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>m11-14</td>
<td>16</td>
<td>7</td>
</tr>
<tr>
<td>m15-18</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>m18-23</td>
<td>18</td>
<td>8</td>
</tr>
</tbody>
</table>

Following this, saxophone moves from sparse, unconnected, and bizarre sounds to more and more sustained and traditional sounds. The natural ebb and flow of gestures in Lutoslawski’s Mi-Parti influenced the pacing in this opening section, a work closer to my own style than Ligeti’s Requiem. The full result of the expansion can be seen in m1-88 of the final score (see attached portfolio.)

Now armed with a substantial, four-minute introduction, there was no avoiding the fact that the first movement had morphed into a structure that could not hold all that I had written for it. In order to progress, I needed to decide which material best complemented the opening, and then allocate the rest to other movements. After moving the waltz/scherzo to a second movement and the two dances to a third, I was left with the expanded “oil” introduction, the cadenzas and related material, the beginnings of a chugging machine section
(Fig. 2.6.5), a ghostly version of the “oil” section (Fig. 2.6.6), and an acerbic coda to set up the second movement (Fig. 2.6.7).

Figure 2.6.5. August 20, 2014 sketch of early pizzicato/arco “chugging” machine section.

Figure 2.6.6. August 20, 2014 sketch of early “ghostly oil” section.
Figure 2.6.7. August 20, 2014 sketch of acerbic coda.
It was clear to me that the “oil” sections could act as the glue to hold all the elements together. Then the chugging material would be free to develop as the core of the movement, giving dramatic contrast to the slower “oil” sections. The acerbic coda was eventually replaced as its resurgence in rhythmic activity felt counterproductive to setting up a gentle second movement.

By mid-October 2014, I finally had a completed draft of the first movement. It had pleasantly developed into a variation of sonata form, a curious result from so much uncertainty. By sonata form, I am referring to an interpretation of the form as containing the exposition of two sets of contrasting thematic material, a middle development section, and a recapitulation of both themes with the second one affected in some way to reflect the first’s influence. This is a freer interpretation of the form than the Classical model, which puts the tonic-dominant tonal relationship paramount. The first movement of the concerto is in two concentric structures: first, a larger arch form (Fig. 2.6.8). Inside this is an atypical sonata form (Fig. 2.6.9).

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Figure 2.6.8. OSS, Movement I: chart of overall arch form.

<table>
<thead>
<tr>
<th>Sections</th>
<th>Measures</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>m1-95</td>
<td>“oil” section + cadenzas</td>
</tr>
<tr>
<td>B</td>
<td>m96-205</td>
<td>“chugging” section</td>
</tr>
<tr>
<td>A1</td>
<td>m206-232</td>
<td>condensed “oil” reprise</td>
</tr>
</tbody>
</table>

Figure 2.6.9. OSS, Movement I: chart of coincident sonata-allegro form.

<table>
<thead>
<tr>
<th>Sections</th>
<th>Measures</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (G/F#)</td>
<td>m1-95</td>
<td>primary theme</td>
</tr>
<tr>
<td>B</td>
<td>m96-133</td>
<td>secondary theme</td>
</tr>
<tr>
<td>C</td>
<td>m134-157</td>
<td>development</td>
</tr>
<tr>
<td>B1 (G/F#)</td>
<td>m158-205</td>
<td>recapitulation of A harmonic area, functioning as a second development of B</td>
</tr>
<tr>
<td>A1 (C# - Ab)</td>
<td>m206-232</td>
<td>recapitulation of A thematic material in a new harmonic area</td>
</tr>
</tbody>
</table>

2.7 Mechanical characterizations in Movement I.

The first movement, *Awaken*, is characterized by different incarnations of the G-F# dyad. The opening gestures suggest inner disquiet and suspense (see previous figure 2.6.2). The suspense intensifies over m43-56 in the *glissandi* in the solo violins, cellos, and double bass (Fig. 2.7.1) and leads to the terrifying awakening of the Great Machine at m67, which layers several half-step pairs at once: D-Eb, A#-B, B-C, F#-G, and C#-D (Fig. 2.7.2).
Figure 2.7.1. OSS (final), m43-57.
Following this outburst, the half-step motif turns mechanical and rhythmic in the strings, who change between groupings of two and three like interlocking teeth on adjacent gears (Fig. 2.7.3).

Figure 2.7.3. OSS (final), m71-77.
Immediately following, the saxophone takes this mechanical character further with an additive melody, perhaps signifying gears starting and stopping their rotation. Each subsequent gesture lengthens by two, five, then seven more quavers in duration (Fig. 2.7.4).

Figure 2.7.4. OSS (final), m78-84. Additive melody in saxophone.

Beneath this melody, the “chugging” chords in the strings now reflect the half-step relationships from the beginning of the work and set up the harmonies of the cadenza (Fig. 2.7.5).
The expanded “chugging” section following the cadenzas explores a lighter, more extroverted and forward-pushing version of the half-step dyad through grace notes and a recurring syncopated figure (Fig. 2.7.6).
Many of the earlier variations of the dyad return in thematic development at m135 (Fig. 2.7.7).
This leads to a metric modulation and re-imagining of the rising half-step line in the strings at m148-152 (Fig. 2.7.8).

Figure 2.7.8. OSS (final), m148-152.
The next variation widens to cover a whole step at m158, which gives a new flavor to the tension/resolution of the half-step distance via rearticulation and *glissandi*. The variation begins in the double bass (Fig. 2.7.9) and spreads to pervade the whole ensemble (Fig. 2.7.10).

Figure 2.7.9. OSS (final), m158-161.

Figure 2.7.10. OSS (final), m166-167.
The original “oil” motif returns transformed to a high, bitter register at rehearsal N, complete with a third pitch distending from it in the violins (Fig. 2.7.11). This section is characterized by prolonged half step suspensions in the strings over changing timbres (Fig. 2.7.12).

Figure 2.7.11. OSS (final), m206-210.

Figure 2.7.12. OSS (final), m212-215.
Finally, an inverted version of m24-27, with violins rising and low strings sinking back down, completes the journey of the movement from the opening G/F# dyad upwards to an Ab tonality (Fig. 2.7.13).

Figure 2.7.13. OSS (final), m220-226.
Polyrhythms in *Awaken* provide another channel for mechanical character, suggesting interconnected parts moving at different speeds (Figs. 2.7.14-16).

Figure 2.7.14. OSS (final), m188-194.
Figure 2.7.15. OSS (final), m169-170.

Figure 2.7.16. OSS (final), m153-155.
2.8 Compositional process for Movement II.

The second movement was intended to be the avenue in which to develop the original concerto sketches (see previous figure 2.3.1). The plan was to begin with a “steam-y” waltz and showcase the saxophone’s lyrical qualities. The musical language would get darker and more twisted over the course of the movement, which would gradually transform into a bitter scherzo characterized by short, punctuated string gestures. However, this plan changed drastically after several weeks of working with that material. The waltz/scherzo’s distinct, overpowering character detracted rather than contributed to the overall concept of the Great Machine - the material simply did not fit. I needed to try a different approach.

Next I tried to implement a passacaglia containing eight distinct pitches, with the thought of eventually layering a theme formed around those pitches in the saxophone against obliquely-offset variations of the same theme in the strings (Fig. 2.8.1). I believed this would allow me to freely explore variations in the character of steam while keeping a groundwork for this movement.\textsuperscript{64}

Figure 2.8.1. Mid-October 2014 sketch of original passacaglia, color-coded.

Before fully settling onto the passacaglia idea, I discovered Yoshimatsu’s \textit{Albireo Mode}, an atmospheric two-movement concerto for soprano saxophone (see Chapter 1.4). Both movements are through-composed and trade the typical forward momentum for gradual transformation within a freely-flowing structure. Noting Yoshimatsu’s success with this form in combination with a similar compositional concept to mine (exploring the character of an image musically, in his case a double star), I decided to try a through-composed structure and let the material lead where it wanted to go, instead of forcing the material to fit into strophic variations of a passacaglia.

However, I did like the idea of using a central theme as the groundwork for the movement, and the theme itself. I made a single rule to guide my composition of this movement: “Arrive at a full statement of the former “passacaglia” theme.” This meant the movement would be framed around a single important event, and however the piece arrived

\textsuperscript{64}This was intended to be an homage to the \textit{Dirge} in Britten’s \textit{Serenade for Tenor, Horn and Strings}.\n
there would be the musical journey. The movement developed rapidly after this choice. Having a prescribed goal but freedom in the method to achieve it greatly assisted my compositional focus, and by mid-February 2015 I had a full draft.

The completed second movement contains three statements of the former passacaglia theme. The clearest one appears in the saxophone at m277-283 (Fig. 2.8.2).

Figure 2.8.2. OSS (final), m277-283. Saxophone statement of theme.

However, the chords leading up to the saxophone’s statement disguise the first true statement of the theme (Fig. 2.8.3.). The string texture contains all eight designated pitches, some even in the same order as presented in the theme itself. (The other four available pitches, B, D, F, and G#, are present as well for a fully chromatic flavor.)

Embedding the theme into the harmonies prior to its direct statement was a conscious choice. I did not want the appearance of the saxophone melody to appear random, so I introduced the sonorities in the harmonic texture in advance. This was a crucial step, as the direct statement of an extended melody already posed a contrast to the previous melodic fragments characterizing the movement.
Figure 2.8.3. OSS (final), m273-277. Hidden theme, color-coded.
The third statement of the theme occurs in a dramatic, augmented fashion at the climax of the work, nearly identical to the original mid-October sketch (see previous figure 2.8.1). However, this statement is incomplete. It stops three notes from the end of the theme to allow for the work to continue without reaching a harmonic conclusion here (Fig. 2.8.4).

Figure 2.8.4. OSS (final), m308-321. Climax of Movement II, color-coded.
Following the climax of the second movement, I finally saw the opportunity to implement ideas from the original waltz sketches. I allowed myself to indulge in a “steamy” waltz as a re-imagining of the beginning of the movement, to defuse the tension of the previous measures. Additionally, the end of the second movement needed to complement a fast finale, and this proved an effective method to do so.
2.9 Mechanical characterizations in Movement II.

The string harmonics that begin the second movement are a musical element carried over from Movement I, *Awaken*. In Movement II, *Breathe*, they are developed as direct characterizations of steam, contrasting their more “liquid” combinations with *glissandi* in *Awaken*. The gentle opening harmonics (Fig. 2.9.1) foreshadow a “wall” effect, a technique used with greater and greater force as the movement progresses (Fig. 2.9.2). These disparate characterizations help express the conflicting nature of steam as something both insubstantial/peaceful and violent/burning. At other points, clusters of notes expand around the saxophone into great walls of sound like a dense cloud of steam, and contract again (see previous figure 2.8.3).

Figure 2.9.1. OSS (final), m233-236. Beginning of second movement.

**II. Breathe**
The intensification from m277-307 arises from the gradual combination and layering of existing elements of *Breathe* (the former “passacaglia” theme and steam walls) with new elements. The opening harmonics return overtop of the deepest idling motor possible, in the double bass and cello (Fig. 2.9.3). The motor picks up speed and intensity at m284 through the use of *fortepianos* and tremolos.
Figure 2.9.3. OSS (final), m278-288. Motoring in the low strings below “passacaglia” statement in saxophone.
The sound walls return in a tempestuous development section, now even more violent (Fig. 2.9.4). The saxophone is easily overpowered by some of these chords initially, but when the FFPs peel away, the chugging of the saxophone engine cuts through, a line later picked up by other instruments.

Figure 2.9.4. OSS (final), m294-298. Violent sound walls combined with chugging engine.

In m301-304, the erratic leaping and truncating of the saxophone line represents the bubbling, irrepressible power of steam about to be unleashed (Fig. 2.9.5).

Figure 2.9.5. OSS (final), m301-304. Steam about to be unleashed.
The chugging engine becomes frenzied when it transforms to a surging semiquaver line (Fig. 2.9.6) in the violins which the saxophone doubles in the lead-up to the climax of the movement.

Figure 2.9.6. OSS (final), m304-307. Undulating semiquaver engine line.

Finally, at the end of the movement, the steam has reduced to gentle bubbling in the violas (Fig. 2.9.7).
2.10 Compositional process for Movement III.

When I began working on the third movement, the concept of *Oil, Steam, and Steel* was fully developed in my mind. Whereas the compositional processes of the previous two movements centered around discovering the identity of *Oil, Steam, and Steel* and how each movement would support it, this movement’s intended character and connection to the Great Machine was completely clear. In the earliest stages of composing the concerto, I had earmarked material for two mechanistic dances to develop in a fast, rhythmically-intense movement (see previous figures 2.5.3 and 2.5.4). My plan now was to utilize them in a double rondo, in which each dance developed first alternately and then concurrently to support the
mania of an impending mechanical failure. I visualized a pair of differently-sized gears aligning at certain points, to which I planned to attach key structural points.

However, upon initial working with both dances, the raw, underdeveloped nature of the first dance became instantly apparent. I had nearly forgotten that I left this material alone immediately following its first creation, and it had not gone through any refining processes at all. With mounting time pressure of the concerto premiere just over a month away, I chose to put that material aside and focus on the second dance, which had common elements with both existing movements. I decided to capitalize on this by exploring new aspects of those common elements in the fast, driving context of this movement. For this, I was inspired by the cyclical relationships present in MacMillan’s *Veni, Veni, Emmanuel* and Mahler’s *Symphony #1*.

The alternating groups of three and two notes from the first movement’s cadenza matched the pair of minor chords in this dance and deserved a second chance at development. Oscillation between 2s and 3s along with perpetual harmonic ostinati fit with my idea of a running machine, so I crafted this movement around interlocking rhythmic relationships like 3/4 versus 6/8 and 4/4 versus 12/8. The first major resurgence in tension following the beginning punch utilizes many of these interlocking rhythms (Fig. 2.10.1).

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65 Though “refining” this dance now sounds like it would have fit most appropriately with *Oil, Steam, and Steel*. 
Figure 2.10.1. OSS (final), m483-494. Interlocking polyrhythms.
I also paid homage to Shostakovich’s fast writing with a recurring white-key scalar interjection (Figs. 2.10.2-3).

Figure 2.10.2. OSS (final), m420-426. White key scalar passage.
It would have been easy to continue at a frenetic pace for nearly the whole movement as suggested by this early structure map (Fig. 2.10.4).

Figure 2.10.4. October 6, 2014 early map of concerto structure.
However, there were several problems with this: 1. The pace would be difficult for both performer and listener to sustain. 2. It possessed minimal dramatic contour. 3. Most importantly, it did not take into account the new identities of the previous two movements. A piece of music is an ever-changing, self-referring journey through time; if this movement did not reflect any of the knowledge gained during previous minutes of music, what was its point? This boiled down to the question, “Would this finale truly follow that free-flowing second movement?”

To answer that question in the affirmative, I made some unusual compositional choices that somewhat contradicted the identity of this “fast, rhythmic” movement. I included a free-flowing cadenza that offsets some of the more measured passages (Fig. 2.10.5) and several unabashedly lyrical sections (Figs. 2.10.6-7), an element that often seems to be lacking in many “fast” pieces.

Figure 2.10.5. OSS (final), m458-469. Undulating sax cadenza.
Figure 2.10.6. OSS (final), m470-479. Lyrical version of “grandiose” theme.
These lyrical sections also allowed me to bring down the tension and set up greater heights to follow them. In particular, the raucous return of the opening motives at the very end of the movement at top speed packs a much greater punch now than if I had developed those ideas continuously throughout the movement (Fig. 2.10.8).
Figure 2.10.8. OSS (final), m582-597. Raucous coda from movement 3 opening material.
2.11 Mechanical characterizations in Movement III.

The finale, *Run*, contains variations of nearly all the mechanical characterizations presented in the other two movements. This is partially the result of having originally composed its key dance at the same time as working with those characterizations at the start of *OSS*'s compositional process. I consciously took these parallels further and integrated more
of them into this movement. I even allocated a final “summary” section (Fig. 2.11.1) to bring back the most important mechanical characterizations of the whole concerto: half-step glissandi (from movement 1); timbre changes like sound walls, tremolos, fluttersong, and multiphonics (from movements 1 and 2); and the alternating groups of two and three (from movement 1 cadenza but developed in movement 3).

Figure 2.11.1. OSS (final), m563-568. Culmination of the whole concerto: recap of mechanical characterizations.
The cadenza section in *Run* combines the idea of a rotating gear with the concerto tradition of the soloist being able to take liberties with pacing (see previous figure 2.10.5). The saxophone emulates a spinning gear that keeps running out of propulsion, allowing the saxophonist to artistically slow down the ends of lines, then reset for the next rotation at original speed.

This movement also traverses character changes. The opening gestures begin in a widely-spaced, commanding voicing but, along with the subsequent rhythmic pulsations, repeatedly sink down to a darker register (Fig. 2.11.2). This allows the saxophone to sit atop the rotating gears and project clearly (Fig. 2.11.3).

Figure 2.11.2. OSS (final), m383-397. Downward-angled melodic lines.
Figure 2.11.3. OSS (final), m411-415. Motoring texture with saxophone syncopations.

The coda highlights the conflict between the divisions of 2 and 3 one final time, bringing all the instruments to a wild uproar as the machine they ride collapses to pieces (see previous figure 2.10.8.)
Chapter Three:
Concluding Remarks

Though I undertook this project with the intention on streamlining parts of my compositional process, over its course I learned as much about myself as I did my music. While writing *Oil, Steam, and Steel*, I uncovered unexpected things about my musical style, influences, thought processes, work habits, and more. Chapters 1 and 2 detail these observations, which fall into two main categories: the strategies and techniques learned through deliberate practice of one’s compositional craft and external musical influences. When a piece or composer had tangible impact on my thought process, it has been noted in the previous chapters. Undoubtedly there are many more influences, musical and nonmusical, that have shaped the music contained in the attached portfolio, and other influences that might not make themselves known for years. I hope this project gives some insight to the many factors that make up a composer’s voice and the composer’s own understanding of them at this time.

At the start of this project, I had reservations about attempting to document parts of my creative process. I was wary of attempts to codify aspects of the creative process, concerned they might “take the magic and mystery” out of composing. Fortunately, my own results show quite the opposite. The reflection process facilitated inspiration and greater productivity. Other composers can take note: there were no downsides to becoming more self-aware in this project — only a greater understanding of my own strengths and weaknesses. Most composers can readily see the benefits of an expanding toolbox of composing techniques; I argue that one’s process is a tool that can be honed just like any other skill.

Supporting evidence for this claim is my 2013 piano quintet *Winds of Eerie Change*. From a musical standpoint, the through-composed piece is unsuccessful. It embodies the result of composing to musical “characters” without a unified vision. Yet it was invaluable in producing *Oil, Steam, and Steel* and *Quartet for December*. How? When the concerto was in its initial stages, I amassed a collection of mechanical ideas and started piecing them together to form the piece. As noted in Section 2.5, this threatened to derail the whole project. The first few months of sketches show this lack of direction. Had I continued in that way, the

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66 See Chapter 1, sections 1.2, 1.4, and 1.8-1.11 for initial discussions of musical character.
A similar problem threatened to consume *Quartet for December*. The quartet stalled after Movements I and II, lacking a compelling vision for the rest of the piece. I had drafts for two more movements, but how would those relate with the existing two movements? I had no answer, so I put the piece aside and wrote *Oil, Steam, and Steel*. After finishing the concerto, I looked at the quartet again. Solutions to the quartet’s roadblock arose in the form of a single-movement finale that synthesized the characters of the previous two movements; the finale became the focal point of the piece. I used methods gleaned from *Oil, Steam, and Steel* to move through challenges and to discover the extended through-composed structure, harmonic rules, and gestures. Though also through-composed and a similar length, the quartet finale’s musical direction is much more convincing than the piano quintet. I consider the finale a successful antithesis to *Winds of Eerie Change*.

This project changed my understanding of musical inspiration. Now I would describe inspiration as: discovering a compelling answer to the question, “What can I do with these resources in this situation?” As discussed in Chapters 1 and 2, making rules and deviating from them proved a successful method for me to produce creative solutions to musical questions. The most important of these “rules” was to set a defined vision for the piece. Then, to move past various roadblocks during the compositional process, I reevaluated the current situation with the stated vision (weighing the small elements against the big picture): “Do these contracting phrase lengths support a mechanical dialogue between saxophone and ensemble?” “Does this dense harmony promote a suggestion of a rumbling engine?” “Has there been enough time for the Great Machine to awaken, or does Ligeti’s shadow still obscure it?” If the item sufficiently matched the vision, I moved on. If it didn’t, I decided whether to continue working with it or to shelve it for more promising material. This method may seem deceptively obvious, yet can prove elusive to composers until pointed out.67

A key aspect of this method was to allow the rules to evolve with the piece. This helped the piece develop organically, without always being prescribed by limiting factors.

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67 In 1921, Swiss composer Arthur Honegger faced seemingly insurmountable roadblocks: a deadline of two months to write an oratorio for the available group of 17 instruments (only one string instrument) and one hundred singers. When Honegger’s progress stalled, Stravinsky gave him some simple advice: “Go ahead as if you had chosen this ensemble, and compose for a hundred singers and seventeen instrumentalists.” Honegger’s oratorio, *Le roi David*, is now known as a striking example of modernist orchestration. Harry Halbreich, *Arthur Honegger*, Roger Nichols, translator, (Amadeus Press, 1999) 74.
Some of the best moments of the concerto were “unscripted”; some musical sparks arose from ignoring the rules entirely and the rules were tailored to fit them. Narrating and evaluating the process myself and to others gave my work better focus. As a result of this project’s quantifiable improvements to my compositional process, I intend to keep a process journal for future pieces.
Bibliography & References


Scores


*Appendix 1 - Sonata for Alto Saxophone and Piano (2010): score attached.*
Program Notes

Sonata for Alto Saxophone and Piano is a three-movement concert work composed in fall/winter of 2010. It features extended altissimo range and modern techniques for the saxophone such as fluttertonguing, extreme vibrato, growling, and key clicks while utilizing traditional musical forms. The piano adds to the color of the piece through use of its full range, expressive techniques, pedaling, and dynamic variety. The two instruments work both together and against each other throughout the three movements, resulting in a piece that requires great concentration and collaboration between saxophonist and pianist.

The first movement is in sonata-allegro form and develops the opening motives in a Beethovenian way of repetition, fragmentation, sequential evolution, and rhythmic exploitation, though the tonal regions explored in the exposition are far from traditional. The piano and saxophone work in tandem in this movement, with the saxophone taking the dominant role. After the development boils to a close, the recap is tinged with a feeling of dread which fully surfaces at m. 104 when the light-hearted secondary theme returns in the piano in a frightening and forceful F# minor which then ends the movement.

The second movement is of a more somber character. Although the introduction in the piano begins straightforwardly, the movement slowly progresses into an ambiguous tonality which becomes distorted by altering pitches beyond their harmonic functions. The relative hush of the movement is shattered at m. 36 as the saxophone and piano break apart. The piano pounds violently and the saxophone reluctantly goes along, and while the piano continues to ring, the saxophone shudders its discomfort. The original theme finally comes back at m. 47, only this time as a discordant bell toll. The final low As in the piano at last give the listener a solid tonic ground, a short-lived respite.

The third and final movement is a rondo, albeit a scarcely-recognizable one. It has scherzo moments, but the joke is a morbid one; the saxophone taunts the listener while the piano cycles mindlessly through the perpetuum 11/8 meter. Then the roles are reversed, and the piano does the heckling. Frequent dynamic, character, and register changes add to the jarring nature of the movement. A nightmare of sound begins at m. 60 with the piano, devolving into a cacophony over which the saxophone rises and falls in an improvisatory manner. Finally the movement crashes to an end, and the feeble last notes in the saxophone and piano are perfunctory.
Sonata for Alto Saxophone and Piano

I.

Allegro
\( \frac{\text{\textdagger}}{\text{\textdagger}} = 124 \)

Alto Saxophone

Piano

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Adelaide Coles
No pitch, blow shivering air

32

36

41
Gradually produce a pitch

luberenmente

poco rit.

decrescendo into air
III.

With rhythmic drive

\( \text{\textit{\( \delta \)}=124} \)

\( \text{\textit{\( \delta \)}} \)
With wide vibrato throughout.