

**Cosmonaut Analysis**

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## **Introduction**

Throughout this year, my primary focus has been discovering my sound. Particularly this semester, my search for outward expression began with self-evaluation. To begin this process, I first had to ask myself what elements I value in my music. I concluded that a fundamental building block to my sound is the incorporation of complex harmonic language. My goal was to bring this into any genre that I composed for, utilizing it in synthetic, orchestral, and hybrid scores. To incorporate this, I focused on integrating elements of my jazz writing, such as melodically weaving through the harmony. I combined the harmonic language with my orchestration and compositional process, to best showcase the various jazz elements. A challenge I had to overcome in this process was how to better integrate the writing process into the DAW. I felt that my orchestration was better when I composed in music notation software; this is problematic as it increases composition time and goes against most industry standards. Thus, my biggest challenge to overcome was to become more comfortable with the music notation software and the programming capabilities that other DAWs provide.

Over the course of this year, I feel that I have made significant progress in not only my composition process but also how I view my compositions and the idiomatic language I call upon when composing. A key factor in this was the internalization of language from this musical genre. During this internalization process, I employed my jazz composition techniques, and in this paper, I will analyze how I incorporated these various techniques into my writing as well as discuss my journey to find my sound.

## **Overcoming the DAW**

Becoming more comfortable with composition and orchestration in the DAW has been a pivotal concept in improving my composition skills, a challenge I tackled this last semester.

After continually grappling with the feeling that my compositional process was more attuned to the visual nature of music notation software, such as Sibelius, I decided to examine my process to identify my limitations, analyze why I felt I had restrictions in DAWs such as Digital Performer, and determine how I could overcome these issues.

This led to an extremely important question: was my **compositional process being diminished by the DAW**, or was **I not conveying my musical thoughts and emotions with conviction and the DAW was emphasizing this shortcoming**? The answer to this question was critical to my analysis and has influenced my process moving forward.

Through self-reflection, I concluded that my compositional ability was being diminished by DAW, because a number of my other well-respected compositions were created outside of the DAW. Now to tackle the critical component of the initial question: how was the DAW limiting me? Why was it limiting my workflow and how could I overcome this? I felt that the most limiting factor was the visual limitations of the DAW. Instead of seeing music as I typically have for the past 15 years, I was forcing myself to alter my perspective. I challenged myself to experiment and see how this process could be improved.

One extremely important aspect that I felt I wasn't conveying adequately was the effort I had invested into the internalization of my own musical approach. I was letting the visual weakness of the DAW limit my musical expression. This problem should never happen and once again, it opened an existential exploration into the internalization of music. I began by revisiting my roots in jazz and considering how I had internalized this language from my past performances and experiences, and how I later incorporated it into my orchestral compositions.

The first step in this journey was to digest copious amounts of music. I began by thinking about modern day composers such as Silvestri, Williams, Newton Howard and Desplat. Similar to the way I explored jazz lineage, exploring who was influential to these composers was fundamental to understanding their music. So, I began listening to earlier composers, exploring how great composers like Dvorak, Fauré, Holst, and Dukas would elicit such compelling emotional responses in their music. During this analysis, I paid special attention to their orchestration techniques, as well as harmonic content.

A key point here, is not just listening to enjoy the music (passive listening) but instead listening to understand it (active listening). This is a key concept that must be understood before moving forward. Listening to internalize music is a concept that I will revisit quite often in this paper. It is an idea that is present in all musical cultures across the world. In African tribal music, internalization is done through body movement as well as group communication while singing. In Irish music, it is through dance and improvisation that music is created and collectively internalized. These themes can be found throughout history and across the globe. The internalization process is pivotal to the creation and understanding of music, without which, composition would not be possible.

After lots of active listening, my task shifted to analyzing what was obstructing me from being able to implement the elements I had internalized. I began by changing my compositional approach to one with which I was more familiar. I explored complex harmonies, in a manner that I was more accustomed to, by placing markers in the tracking window to see the harmonic approach I wanted to take. This felt extremely liberating, as it resembled a “lead sheet” approach, one that I was more familiar with and have used extensively in jazz music. By doing this, I could now focus on melodic language, and explore more complex melodic figures while adapting them

to harmonic changes. This discovery was enlightening as it provided me with a harmonic bed from which to develop my ideas. Previous to this, I felt that I was simply floating, with no concrete harmonic language to anchor my piece.

Another approach that I used in my piece, which I often utilize in my jazz playing, was the recontextualization of melodic material. I would play the melody of another song, but in a new, more interesting way and over different changes from which the melody was written. Likewise, I would slightly alter the melody of the song that I was currently playing, most often a “standard”, to make it more interesting. I realized I could apply this on the spot improvisational/compositional method to my orchestral compositions, to alter my melody to a new set of harmonic changes. This effectively enabled me to play something new to keep interest in the piece and provide forward motion. With this revelation, I was able to apply voice leading techniques and compositional approaches that I would normally utilize in jazz music.

### **Utilizing my Jazz Background**

A core concept of this year, through each course, has been the search for “our sound”. This entailed utilizing our past experiences in combination with our personal orchestration and compositional techniques to not only aid the story line behind the picture, but also develop our own unique musical identity. I have grappled with this concept multiple times throughout this year, with particular emphasis during this semester.

This process began with an exploration into my own harmonic language. Where does this harmonic content come from, and what story do I want it to tell? Harmony in my opinion, is what gives the melody context to enlist an emotional response from the viewer. One often views

the melody as “beautiful”, but personally I feel that harmonic structure is the foundation for the intended emotional response, with melody expanding upon this.

To begin this exploration into my harmonic language, I first examined my roots in music. Having come from a background of studying jazz intensely for the past eight years, I decided this would be the base from which I would develop. What does jazz provide as a fundamental building block? Firstly, strong harmonic content with complex chordal structures. You rarely see a simplistic triadic approach in jazz. The most fundamental building block of jazz music is the 7<sup>th</sup> chord. Altered to your liking, but never changing, this chord plays a pivotal role in jazz music. It pulls you to the tonic and brings you home. In film music, this chord can be quite restricting however, due to the inherent nature of the pull towards the tonic. Lacking, there are manipulations one can make to this chord to pull your ear in the same direction, and still maintain harmonically interesting cadences. The tritone substitution for instance pulls you in the same direction but not as overtly as a simple V-I cadence. With this, I felt the harmonic nature of jazz music was something that I should actively attempt to incorporate.

Communication in music is another part of jazz that is fundamental to its performance. Without communication, jazz music wouldn't exist. The conversation during the performance brings interesting and new nuances to the music, seeking a euphoria where players are so interlocked, communication becomes effortless. I try to emulate this conversation in my music, having the exchange of ideas between players and sections. Breaking away from the standard melody/counter melody concept, thus creating an interwoven pattern of both the rhythmic and melodic structures that creates a unique sound identity.

Likewise, I try to incorporate my love of Be-Bop's angular lines into my voice leading approach. This genre of music pushed boundaries and moved jazz forward. It sought to challenge the way we viewed the music of jazz, breaking away from strictly listening music and moving into a deeper, more harmonically complex genre. I try to incorporate some of these angular ideas into my music, bringing in more interesting parts in conjunction with inner communication within the orchestra, as I discussed earlier.

Compositionally, I often employ orchestration ideas that I would employ in my jazz big band writing. I utilize the trumpets in a triadic manner, with the fourth voice doubling the top line for support. Likewise, my French horns sometimes substitute for my trombone voicings, providing harmonic stability in my lower voices while the upper voices play harmonic extensions. Woodwinds often mimic compositional techniques of my saxophone section, providing both extensions and harmonic foundation simultaneously. Through establishing this process, and relating my jazz background to my orchestral approach, I was able to advance closer to what I felt my sound should be, finding my voice through my past musical experiences.

### **Finding Video and Visual Cues**

After emailing and contacting multiple production companies and independent film makers, I finally heard about Blender, an open source 3D creation software. Volunteer teams create open source animation short videos that are free for use. After emailing them, I found a video that had the audio files available. This way, I could remove the music from the video and only use the dialogue and sound effects.

An important part of this process was to find a video to which I could apply my learnings and experiment using interesting orchestration techniques. In regards to my journey of finding a



video that would be suitable for me to grow as an artist and showcase my skills, I must recognize the contributions of Alfons Conde. He encouraged me to explore textures within the orchestra and utilize the harmonic language that I bring from jazz. He also urged me to continue listening and exploring the language of great composers and incorporating this language into my own writing. Alfons has insight into the path each student should pursue to advance their writing, and understands how best to utilize the experience of the London recording with such an amazing orchestra. This is exemplified in his unrelenting pursuance of the optimal image that he believed would allow each student to explore their unique harmonic voice and to employ idiomatic language, both through composition and orchestration.

Composing to this unique and interesting animation was an important part of this thesis project for me. Over the course of this year, we have been giving lots of focus to narrative analysis, which played a key role in my compositional process. Incorporating this into my composition was an interesting task, especially when limiting myself to using strictly orchestral timbres. As such, my spotting for the video used a more holistic approach. It emphasized orchestral timbres that I had selected during my internalization phase.

There were 3 main points in the film that I sought to emphasize. The first being the descent of the cyclone. This phase allowed me to utilize interesting woodwind textures as well as experiment with different techniques from the strings section, such as pizzicato, col legno, and harmonics. Narratively, I sought to emphasize the uneasy nature of the sheep character and juxtapose the dark, satiric nature of his quest to kill himself. Musically I began with high woodwind textures, light and playful, playing off of the dark humor in the scene. To meld the transition to the next section, I use a low bass drone with a high flute line, and a horn melody coming in to weave between the 3 parts.

The second was the “chase” of the cyclone taking the sheep character away. Here, I felt the main mood and goal of this section was to keep the emotion and high energy moving forward. As such, I used techniques from composers such Williams and Holst to keep the momentum and not waiver in the pace of the scene. The main compositional foundation of this section is the ostinato that is introduced in the violas, providing pace and intensity to the scene. It constantly moves the composition forward and moves with the narrative points of this section.

My last narrative change is when the character is picked up into the cyclone. This created a perfect context for me to take a more chaotic compositional approach, and use lots of melodic cells as well as interlocking rhythmic parts between sections to create forward motion and chaos for the character. It also reflects the hectic nature of the cyclone with all the bright colours and fast cut changes, which also reflect the inner nature of the character. To begin this section, I transitioned with a triple figure in the violins. This gives a light and floating feeling as the character is picked up. Once in the cyclone, I use chaos to showcase the wild nature of the sequence. A key example of how I contextualize this in my musical approach is in the violin line that is moving frantically and is being exchanged between violins one and two at bar 106. It creates a randomness in the melodic approach, yet consistency in the harmonic nature, to emphasize the chaotic journey this character is undertaking.

### **Compositional/Orchestration Approach**

My compositional approach with this piece was to encapsulate what I considered “my sound”, with particular regard to orchestration techniques. I started by studying scores and listening to an extensive amount of music, constantly trying to showcase the language I had internalized over many years while also musically challenging myself. One compositional approach that I attempted to accent this semester through self-exploration, was the amalgamation

of themes and textures from the orchestra, in conjunction with rhythmic based concepts. A core concept that I discovered while studying the various scores was that in this idiom, compositions have less “sections” in their music and more fluidity throughout the cues. This became a fundamental part of my studies: attempting to employ this concept in my own compositions while trying to facilitate and emphasize an exchange of ideas between orchestral sections and narrative themes.

Another concept I experimented with was the idea of rhythmic displacement. Famous saxophonist Jerry Bergonzi discusses this in his book “*Vol. 4 Melodic Rhythms*”<sup>1</sup>. This book first exposed me to the idea of melodic displacement. This concept can be seen in my composition through the interconnection between the orchestral sections, specific instrument families, as well as individual parts all attempting to alter various rhythmic cells, creating constant interest. A rhythmic cell that I manipulate in this piece is a five eighth note pattern. The intervallic relation between the notes changes as we progress, but the rhythmic cell, and specifically the duration of this cell, remains consistent.

The image shows a musical score for five woodwind instruments: Flute 1, Flute 2, Oboe 1, English Horn, and Clarinet in Bb 1. The score is written in 4/4 time and features a consistent five-eighth note rhythmic cell across all parts. The notes in the cell vary in pitch and intervallic relationship between parts, but the rhythmic pattern remains constant. The dynamic marking *mp* (mezzo-piano) is indicated for each part. The score is divided into four measures, with the first measure starting with a 4/4 time signature.

Figure 1

<sup>1</sup> Bergonzi, J, *Inside Improvisation Vol. 4 Melodic Rhythms*, (Advance Music, 1998)

In figure 1, you can see the application of rhythmic displacement within textural groupings. The rhythmic cell is displaced by a quarter note, creating a more intriguing and interesting rhythmic part that is less predictable. Additionally, you can see the triadic approach I incorporated from my big band writing. Here I utilize the upper woodwinds in a similar manner to that of the trumpet section in a jazz big band piece; a triadic approach playing the extensions on the chords.

The image displays a musical score for Figure 2, featuring a string section and woodwinds. The score is written in 4/4 time and includes parts for Xylophone (Xy), Chords, Violin I (Vln. I), Violin II (Vln. II), Viola (Via), and Cello/Double Bass (Vcl.). The string section (Vln. I, Vln. II, Via, Vcl.) plays a rhythmic motif that is displaced by a quarter note in each subsequent phrase. The motif consists of a series of eighth notes. The woodwinds (Vln. I and Vln. II) play a triadic approach to the chords, with the first phrase displaced by a quarter note. The score includes dynamic markings such as *pizz*, *mp*, *p*, and *mf*, as well as performance instructions like *col legno*, *uni arco*, and *div. a2 arco*. A box labeled 'A' is present in the first measure of the string section. Handwritten numbers '3' and '4' are visible in the right margin, indicating measure numbers.

Figure 2

In figure. 2, you can see the application again of the rhythmic displacement in the string section. The first phrase is displaced by a quarter note with every subsequent phrase arriving on the downbeat. One interesting thing to note is the textural changes being applied in the motif.

Figure 3

In figure 3, I employ another textural development, but in this instance, using a combination of col legno and pizzicato. This not only is an intriguing texture but also prefaces the changes in the motif that are about to follow. Please note the intersectional passing of the five-note figure between the woodwinds and brass, again being displaced from the reset of the strings.

Also, in figure 3, there is another direct correlation with my past jazz language. In the clarinets, you can see dovetailing between each player's part, passing a more angular line back and forward. The angular and more virtuosic line is a direct relation to that of Be-Bop, a phase of jazz originating from the mid-40's. For easier playability, I dovetail the line into two clarinets. Yet if you analyze the phrase as a whole, you can see the chromaticism, fast runs, and complex technique that is often associated with Be-Bop language. Additionally, in the woodwinds, note

the rhythmic cell displacement, again, the same duration of five eighth notes with a slight variation on the rhythm of the phrase. The cell is put into a quarter note triplet, using only four notes but still maintaining the duration of two and a half beats. This is done to add intrigue to the line, but by keeping it the same duration, it creates continuity and fluidity to the piece – a core idiomatic concept of orchestral writing.

The same rhythmic cell used in the beginning is now passed to different instrument families: the horns, oboes, and then trumpets. You can see the rhythmic displacement present in each of these figures, while simultaneously communicating with the string family. Likewise, the exchange of similar orchestral textures with slight variances is quite intriguing. I utilized similar textural flavours through the use of stopped horns, the oboe family, and muted trumpets. While as a whole, they have similar sound qualities, each has a unique timbre to them which keeps interest in the piece.

The theme of rhythmic displacement is present throughout this piece with specific regard to the five-note figure we discussed earlier. By utilizing this concept, it allows for new and interesting variations on material we previously heard, simply by displacing the phrase and exchanging the idea between different orchestral sections. This is a direct translation from my jazz experience and utilizes a concept that I digested in a very personal manner.

### **Harmonic Language**

Another concept that I sought to employ, as I discussed earlier, is complex harmonic language, commonly found in jazz. There are a few instances in my composition that are prime examples of how I employ this style of writing, with specific regard to voicing and the similarities it draws with jazz big band writing.

A sub-category of this that I find quite intriguing is the semitone clash and utilizing it in a musical way. One chord that plays an interesting role in my mind is that of the minorb6 chord. The consistency of the minor triad juxtaposed to the dissonant nature of the b6 creates a dichotomy of both movement and stability. This is exemplified in figure 4 where I utilize a C minb6 chord, purposely placing the semitone clash in the middle of the chord. In this context, the dichotomy of movement and stability as I previously discussed plays into the character's uneasiness: his want to leave the island but weariness of not trusting the strange traveller he just met.

Furthermore, figure 4 both shows the harmonic maturity in the voicing, as well as showcases the voicing techniques that I bring from my past jazz experiences as I discussed earlier. In this section, note the voicings between the trumpets and flutes. The flutes are playing a triad with the trumpets. However, the woodwinds are playing the top two voices and the trumpets playing the bottom two voices. This voices a minor triad with the fourth voice playing the same notes as the top voice but down an octave. This is directly correlated to my own style of writing from jazz music as I would employ this same technique when writing trumpet phrases. The only difference from jazz would be that the trumpets would most likely play an upper structure triad on the chord in jazz. Here, because of the natural dissonance in the chord, I chose to enforce the main triad in the top voices.

The image displays three systems of musical notation for a string quartet. The first system consists of four staves, the second of two, and the third of four. The notation includes various rhythmic values, slurs, and dynamic markings such as 'f' and 'ff'. A section marked with a 'D' in a box begins in the third system. The overall structure shows staggered entrances and cascading notes across the staves, creating a sense of forward motion.

*Figure 4*

I later add some colour tones with the b7 on the chord, in octaves with a staggered entrance. This way, the note stands a better chance of being heard. However, its intended use is to contribute to the overall feeling of the sound rather than hearing the individual notes themselves. Additionally, the cascading entrances contribute not only to the harmonic language being fully felt, but to the forward motion as well, with the semitone I discussed earlier being



enforced in the first bar in the upper register and similarly it also being enforced again on the second bar in the lower octave.

Another example of the utilization of my jazz harmonic language is shown in figure 5. This figure shows horizontal planning with successive major 9 chords over the third in the bass. This density in the harmonic language is a direct derivation from my jazz harmony. Horizontal planning is a technique that is quite often used in jazz big band writing, a specific example would be in a group such as *Super Sax*, who use horizontal planning when playing Be-Bop language but in a big band saxophone section style. Not only am I more comfortable with this harmonic language, which aids in my compositional process, but I believe it also provides more harmonic options to achieve an appropriate emotional response from the audience as well as providing context for further expansion of the harmonic language.

The image displays a musical score for a jazz big band, illustrating horizontal planning with successive major 9 chords over the third in the bass. The score is organized into several systems of staves. The top system includes three Horn staves (Hn. 1, Hn. 2, Hn. 3) and three Trumpet staves (Tpt. 1, Tpt. 2). The second system includes three Trombone staves (Tbn. 1, Tbn. 2, B. Tbn.), a Tenor staff (Ten.), a Bass Drum staff (B. D.), and a Snare staff (Sn.). The bottom system includes a Chords staff. The score is marked with 'poco' and 'f' dynamics. A box labeled 'E' is present in the first measure of the Trombone 1 staff. The Chords staff shows the harmonic progression: Cm7/E, Bm7/D#, and Dm7/bb7.

Figure 5

One key concept that I firmly believe in, is the necessity for the contextualizing the expansion of harmonic language. To clarify this statement, if one is to play “outside the changes” or plays intentional harmonic clashes, one has to preface as well as precede this harmonic density with expanded harmonic language. By limiting your harmonic choices, you limit the possibilities for emotional changes as well as your ability to respond to appropriate narrative changes without allowing your music to have intentional dissonances in the harmonic vocabulary. Therefore, by using more mature harmonic language, I am able to pivot quickly and create more of an experience to the music, both advancing the musical content and reacting to the narrative shifts in relation to the picture.

Thematically, there is a re-capitulation of the harmonic language in figure 6. At the end of the piece, I re-use the thematic material from figure 5, but create a much denser harmonic bed. The upper voices move upward chromatically, and the lower voices move downward chromatically. This has a direct narrative relation as it exemplifies the stretching of the sheep character in the cyclone. Musically, it creates a much denser harmonic bed as it is starting to go “outside” the harmony as it is being pulled apart. This would not be possible had I not prefaced this with “harmonic foreshadowing” as I spoke about earlier in regard to figure 5. Previous to this, there are a multitude of individual parts interlocking, creating interesting individual melodies and rhythmic cells that communicate with each other. Since this part is extremely intricate, it also allows for what I call “harmonic stretching” or moving harmony in an extremely dissonant and complex way, that almost makes it unrecognizable, but maintains its identity through the use of rhythmic content. I however, still maintain harmonic consistency with the fast violin phrase being passed from one section to another, as well as maintaining the repeated ostinato pattern in the violas.

Figure 6

The complex violin phrase at the end of the piece closely resembles a concept from John Coltrane. One of his revolutionary improvisational ideas is coined his “sheets of sound”, most famously from his early days with the Miles Davis Quintet. Coltrane would practice stringing together lots of long melodic ideas and fast phrases that he would seamlessly connect over a piece of music while improvising. This concept was inspirational in my development as I sought to investigate how Coltrane achieved this sound. I utilize this concept, which can be seen in figure 7, where I take inspiration from Coltrane to provide motion to the piece as well as harmonic clarity.

Figure 7

## **Conclusion**

This year I have grown and expanded in more ways than I can even fathom. Not only did I musically advance my knowledge, but I found something that I was missing. I captured a part of my compositional process that was just out of reach and I could never quite grasp. I brought new elements into my writing, both through the practice of composition and through the people I met and the ideas we have exchanged.

I found new methods to incorporate my past experiences into my writing, as I tried to explore what my “sound” would entail. As I grow as an artist, I hope to expand on these ideas, not only internalizing new flavours and colours and showcasing these in my writing, but also exploring the idiomatic nature of film music, and how great composers use not only their experiences, but also the narrative of the film and how that plays into their compositional style. I am teeming with excitement for what the future holds. I will bring my experiences from Berklee Valencia and all that this amazing experience entailed with me.