

Cope

for chamber ensemble and fixed electronics

A thesis

submitted by

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ABSTRACT

Cope (2012-2013) is a composition for a chamber ensemble of eight instrumentalists, a conductor, and stereo fixed electronics. Writing this piece allowed me to experiment with composing for a larger group than I had previously, and served as a vehicle for exploring the fusion of live and electronic sonic textures. Aesthetically, the piece represents a link between my diverse stylistic interests. As the first piece that I have written for an ensemble of this size, it was an incredible learning experience in terms of orchestration, instrumental writing, and the controlling of logistics surrounding the use of a computer with a live ensemble. In this paper, I examine the inception of the work and several elements of the composition that I feel are important to its identity. I discuss composers who have influenced my compositional voice, the compositional processes itself, the musical language I employed, the process of integrating live and electronic sounds, and the potential future life of *Cope* beyond its current instrumentation and form.

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Cope

INTRODUCTION

The pre-compositional phase of *Cope* provided an opportunity for me to survey, and, ultimately, to try to better understand my musical background. I did not intentionally use *Cope* as a way to comment on my musical influences and experiences, but I did revisit a good deal of my favorite music during the time leading up to the composition of the piece. I am sure that some of these elements found their way into the work.

I studied classical piano when I was a child, after my parents discovered that I was able to play by ear. The music that I played at the piano was the only classical music that I heard in my house while growing up. My parents listened to The Supremes, Stevie Wonder, Carole King, James Taylor, and other popular music artists, and this was the bulk of the music that I heard when I was young. I progressed quickly in piano lessons, and as my skills improved, I started to use material from my assigned piano homework as the sources for new pieces of my own. This was my first experience with composition.

During my early teenage years, I taught myself how to play the guitar. My friends and I listened to rock music and hip-hop, from Pearl Jam and Stone Temple Pilots, to Dr. Dre. We formed bands, wrote songs, and performed at our school's talent shows. The process of writing music was communal—an aspect

that I enjoyed immensely—and performing the songs that we wrote was satisfying. During the early part of high school I discovered jazz, and began taking lessons in jazz piano and improvisation. The process of starting with the basic outline of a song and creating a new, improvised work out of it resonated deeply with me. This experience was the catalyst for my decision to dedicate my professional life to music.

I studied all types of contemporary popular music during my undergraduate years at Berklee College of Music, focusing mostly on jazz and fusion. Much of my current approach to harmony, form, and rhythm was developed during this time. I analyzed compositions and transcribed solos of jazz composers and performers such as Chick Corea, Michael Brecker, Herbie Hancock, and Allan Holdsworth. My current tendency to compose using modes as foundational pitch material, as well as the prevalence of pulse and groove in my music, probably stems from my admiration for these artists and their music. While at Berklee, I also studied music recording and production, sound design, and electronic music composition. These experiences account for the prevalence of electronic elements in the music that I am writing today.

As my musical tastes have evolved, and as I have become a more skilled musician and composer, I have focused on developing my compositional voice into something that is unique. Since I began graduate studies at Tufts, I have actively tried to challenge my own compositional tendencies and improve my craft. I have also attempted to trace some of the influences that specific composers

and ideas have had on particular elements of my writing—for example, pitch, rhythm, texture, and form.

As for the rhythmic aspects of my writing, Conlon Nancarrow, Tom Johnson, David Lang, Steve Reich, and the metal band Meshuggah have been significant inspirations. Their works, especially Nancarrow's *Studies for Player Piano* (1948-1992), Meshuggah's *Chaosphere* (1998), *Nothing* (2002), and *obZen* (2008), and Johnson's text, *Self-Similar Melodies* (1996), introduced me to rhythmic concepts such as temporal dissonance, large-scale polyrhythm, and melodic and rhythmic fractal composition. These discoveries helped me to infuse my music with more interesting and purposeful rhythmic content. Ravel and Debussy, whom I have long admired, have enriched my harmonic writing, as have the works of György Ligeti, Iannis Xenakis, and the jazz and fusion artists that I mentioned above. My interest in popular electronic music stems from artists such as Radiohead, Aphex Twin, Autechre, Squarepusher, and BT. The drum programming and digital editing techniques of Squarepusher and BT have been particularly influential: I integrated glitch editing as prominent sonic texture into the second movement of *Cope*. (This editing technique involves using short fragments of audio clips and other sonic artifacts that are manipulated, repeated, and/or distorted to create rhythmic and textural interest.) Lastly, my studies of Arabic music systems and my experience composing "The Disincorporation of Four Towns" (2011) for the Boston Microtonal Society have opened my ears to the possibilities of pitch selection outside of the twelve-tone equal temperament system.

It is difficult, however, for me to determine the precise degree of influence that these composers, musical concepts, and experiences had on *Cope*, or on my evolving compositional voice. Instead of trying to deconstruct and explain my individual writing style, it may be more accurate for me just to say that I try earnestly to take *something* from everything I hear. I believe that there is probably at least one compelling aspect evident in every piece of music, and, as a composer, I feel that it is my job to find that element, and to try to learn something from it.

MUSICAL LANGUAGE AND THE COMPOSITIONAL PROCESS

In its current form, *Cope* is presented as a two-movement work with an order of movements that is flexible. The most characteristic section of the first movement, “I,” (beginning at m. 80) is its focus on using the ensemble as a large, consolidated force, articulating powerful tutti chords that are superimposed over a continuous tremolo in the fixed electronics part. The second movement, “II,” leans toward my rock and fusion influences, utilizing a distorted Fender Rhodes electric piano and a percussion battery consisting of a kick drum and various found metal objects. The inclusion of the Fender Rhodes is a nod to the fusion and jazz/rock of the 1970s, but the movement as a whole is not intended to be an imitation of that genre. In a later section of this paper, I will discuss the order, potential interchangeability, and possible future expansion of the piece, but for now it should be noted that the current ordering of the movements is not set; *Cope* in its current form does not necessarily represent a complete and unchangeable work.

I selected the title of the work from a notebook that I started keeping in 2011. This is a place where I occasionally write down musical ideas, personal thoughts, words, and phrases that inspire me. I do not recall when, over the last two years, I wrote the word “cope” in this notebook, or for what reason, but as the piece began to take shape I felt increasingly drawn to this word as a way to describe how the music was affecting me. The piece itself began to become about

coping: how it feels to have effectively dealt with something difficult, or how listening to this piece may help someone to cope with a loss. It also took the form of an inspirational command: urging the listener to cope. More personally, it could have to do with my own attempt to cope with the struggles that I faced in composing this piece. Admittedly, the reason for selecting this title is somewhat mysterious, and was led entirely by my intuition, but I believe that it is integral to the disposition of the work.

The composition of *Cope* was a non-linear process of trial and error using every type of technology available to me. My primary methods of creating the music were free improvisation, pencil and paper sketching, recording and MIDI sequencing, and digital audio editing. I jumped around between these phases as my needs dictated. To illustrate this process, I will provide overviews of my approaches to composing certain sections from each of the two movements of *Cope*.

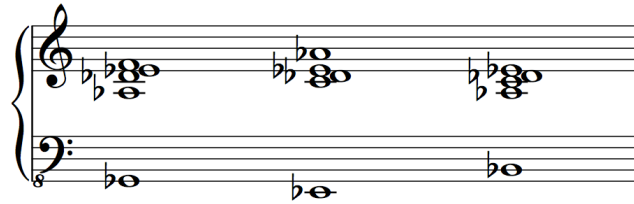
I think of the main themes of “I” (mm. 17-46, developed at mm. 80-146) as a series of chord riffs, which I wrote at the piano after several weeks of improvisation. EXAMPLE 1 shows the first few measures of this theme. If we isolate

EXAMPLE 1 *Cope*, “I,” mm. 17-21, piano part

The image shows a musical score for the piano part of 'Cope, I', measures 17-21. The score is written for a grand piano and consists of two staves: a treble clef staff and a bass clef staff. The key signature is one flat (B-flat major or D minor). The time signature is 3/4. The music features a series of chord riffs. The first measure (m. 17) has a dynamic marking of *f* and performance instructions: *marcato and crisply, not too heavy*. The second measure (m. 18) has a dynamic marking of *f* and performance instructions: *articulation and pedaling sim.*. The third measure (m. 19) has a dynamic marking of *f* and performance instructions: *articulation and pedaling sim.*. The fourth measure (m. 20) has a dynamic marking of *f* and performance instructions: *articulation and pedaling sim.*. The fifth measure (m. 21) has a dynamic marking of *f* and performance instructions: *articulation and pedaling sim.*. The score includes various musical notations such as chords, stems, and beams.

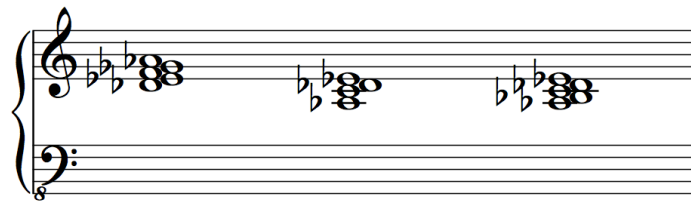
the three distinct chords that comprise the chord riff (EXAMPLE 2), we can see that there are a few different possibilities in characterizing the harmonic content. For instance, we could say that the first chord is basically a G^b-major 9 with an added

EXAMPLE 2 *Cope, "I,"* mm. 17-21, piano chords



6 and a missing 3rd, the second chord is an A^b-major triad in second inversion with an added 11, and the third chord is a B^b-minor 7 with an added 9 and 11. While I was writing this movement, however, I viewed each harmonic event as a collection of pitch clusters. EXAMPLE 3 shows these clusters in closed position. By taking each cluster and experimenting with the voicing, I eventually arrived at the chords that I wanted. In jazz terminology, the resulting chords for mm. 17-21

EXAMPLE 3 *Cope, "I,"* mm. 17-21, piano chords in cluster voicing



could be labeled D^badd2/G^b, A^badd2/E^b, and A^badd4/B^b. In this case, the pitch name to the right of the diagonal slash indicates the lowest voice, while the chord label on the left side of the slash indicates which chord to play over the bass. I

conceived much of the harmonic material of the first movement in this way, exploring the implications of pitch clusters in a variety of voicings. I did not exclusively use this approach, but it provided a starting point for improvising and sketching.

Moving to the rhythmic elements of “I,” the two-against-three (2:3) motive (beginning at m. 17, but present throughout the movement) that serves as a primary feature was conceived over the summer of 2012 while I was studying composition in France. (In this context, “2:3” refers to a rhythmic situation where two rhythmic events of equal duration occur simultaneously in the space of three rhythmic events of equal duration.) At that time, I had sketched some ideas for a piece that used this rhythmic gesture as a main organizational feature. Once I had a sense of the pitch material that I was going to use, completing the main theme of *Cope* was a matter of pouring the newly conceived harmonic material into this basic rhythmic mold.

With the basic pitch and rhythmic material determined, I moved to my digital audio workstation (DAW), Logic Pro, and began improvising. I set up a metronome click track at quarter note = 108 BPM and began MIDI-sequencing several different improvised versions of the piano part against the click, using the 2:3 relationship as the main rhythmic motive, and using the harmonic approach described above. After improvising for a while, I listened back to the recording and digitally edited together a composite of the most interesting moments. It was this composite track that, after some further development, would become the primary theme of “I” (mm. 17-46, and beginning again at the tutti in m. 80).

I composed the remainder of the movement by going back and forth between the piano and the computer, writing out some sections by hand, and improvising others. Soon I began to get a sense of the form of the entire movement: the first statement of the main theme articulated by the piano would serve as the A section (mm. 17-48), followed by a respite in the form of an extended viola solo (mm. 49-79), followed by the development of the main theme orchestrated for the full ensemble (mm. 80-146), and ending with new material (mm. 147-190) that could be considered a sort of transition into the next movement. After I completed the sketches, I transcribed to paper the audio portions that had been recorded into Logic, and began engraving in Sibelius.

“II” was composed using many of the same tools and methods, although most of the writing took place at the Fender Rhodes and the computer. I decided early in the pre-compositional phase of *Cope* that “I” would feature the acoustic piano and “II” would feature the Fender Rhodes. (The Fender Rhodes is used sporadically in “I” as a supporting element.) I also knew going into the writing process that, in “II,” I wanted to process the Fender Rhodes with distortion.

Through improvisation, I composed the characteristic rhythm of the movement, which gives a feeling of metric shift every other measure or so. **EXAMPLE 4** shows the Fender Rhodes part at mm. 191-194 (the first four measures of “II”). This section begins with a measure of 4/4, where the pulse is clearly on the quarter note. The next bar is a measure of 6/16, which asserts the pulse on the dotted eighth note. The following bar, m. 193, is back to 4/4, with a quarter note pulse, and the final bar of **EXAMPLE 4** is 12/16, which, again, places the pulse on the

dotted eighth note. This focus on the 2:3 rhythmic relationship unifies the two movements of *Cope*, but the divergent instrumental textures, and other contrasting rhythmic features, sufficiently distinguish one from the other.

EXAMPLE 4 *Cope*, “II,” mm. 191-194, distorted Fender Rhodes part

As with “I,” I composed the A (mm. 191-244) and A’ (mm. 322-end) sections of “II” by improvising and recording the Fender Rhodes part, and then editing, developing, orchestrating, and finally transcribing it. I treated the B section (mm. 245-321) as a development section, which more prominently features the fixed electronics. The composition of the B section of “II,” particularly with respect to the integration of fixed electronics, will be described in more detail in the next section.

FUSING LIVE AND ELECTRONIC SOUNDS

My past experience with amplified and electronic music significantly shaped the way that I composed *Cope*. From the outset of the process, I made it a primary goal to integrate live sounds with electronic and electronically altered materials, although, initially, I did not know what I wanted the final outcome to sound like. As the piece evolved, after experimenting with different possibilities, I decided to combine pre-recorded or sampled acoustic instrument sounds, synthesized electronic sounds, and some live distortion on the Fender Rhodes to constitute the sound world. The fixed electronics became a means to extend the ensemble. Overall, though, I wanted the gestalt to be cohesive; I did not want to unnecessarily draw attention to the electronic elements, but rather, have them coexist with the live ensemble. The homogeneity of the sound world was a primary concern of *Cope*, and there are two areas that I believe achieved this goal particularly well.

The first area is the glitch editing in the string trio section in “II” (mm. 292-321). Beginning abruptly at m. 292, the bass clarinet and percussion drop out, and the string trio, with support from the distorted Fender Rhodes and fixed electronics, comes to the fore. There are three electronically generated elements featured here. The first is a synthesized bell-like sound that is primarily marking the downbeats of each measure. Dynamically, it is submerged. This sound is actually a composite of two synthesized sounds, from the software synthesizers

Reaktor and Absynth (both by Native Instruments). The second electronically generated element is the glitch editing of the string parts, which is essentially a distorted mimicking of the material that the trio is playing. It is intended to bring to mind the image of one's reflection from a broken mirror. A well-balanced dynamic mix between the electronically generated and live sounds is crucial to ensuring that this new sound does not jut too far out of the texture. This section underscores the importance of having a skilled mixing engineer controlling the sound reinforcement in the hall during performance or recording.

The glitch editing was achieved in the following way. First, I MIDI-sequenced the individual violin, viola, and cello parts from the string trio section (mm. 292-321) using samples from the *Vienna Symphonic Library Horizon Series, Opus 2* (Vienna Symphonic Library GmbH) as the sound sources. This sample library is widely regarded as one of the most accurate in the industry for orchestral instruments. Each sample instrument is built from the recordings of individual pitches that are performed on real instruments. Each pitch is recorded at multiple velocity levels, and with many different articulations. This yields a highly realistic sound, and produces virtual orchestral instruments that are performable with a MIDI keyboard controller. Next, I ran each string part twice through the software plugin *Livecut*, by Smartelectronix. This plugin produces time-based distortion, beat slicing, and other “glitch” effects. Each time I ran a string sound through the plugin, I changed the parameters of *Livecut* so it produced a slightly different glitch pattern. I produced two affected versions of each instrument—violin, viola, and cello—creating a total of six layers of glitched

sounds. I then panned each of the six layers to different places in the stereo image, and adjusted the volumes of each so that some were more prominent than others. When the piece is performed, the intended effect is that, after the live string section articulates chords, they are echoed by digitized and distorted—glitched—versions of themselves.

The second area that illustrates a successful extension of the sound world through the integration of electronically altered sounds is the processing of the Fender Rhodes with distortion in “II.” Starting on the downbeat of m. 191 (the beginning of “II”), the Fender Rhodes, which is unprocessed throughout “I,” is processed with overdrive distortion. I chose to distort the Fender Rhodes for a few reasons. The sound of distortion is prominent in the sonic texture, and sharply distinguishes the movements. It is a rough-hewn sound that takes up a significant amount of space in the frequency spectrum. It has the effect of making the ensemble sound larger than it really is. Due to the complex timbre of the distorted Fender Rhodes, it combines in interesting ways with the other instruments in the ensemble. For example, at mm. 227-232 and 357-379, the soli between the Fender Rhodes and the cello create a composite sound that blends to such an extent that it is difficult to tell one instrument apart from the other.

This distortion effect can be achieved in a number of ways, depending on the preference of the ensemble. In the first readings of the piece, I routed the output of the Fender Rhodes into the computer, processed it using a simple overdrive distortion plugin in Logic, and diffused it into the hall. As an alternative

to processing the signal with the computer, the signal could be processed using an overdrive pedal controlled by the pianist.

DIFFUSION, SYNCHRONIZATION, NOTATION, AND MIXING

The fixed electronics in *Cope* are diffused into the hall using two speakers that are set up stage left and stage right. The exact position of the speakers is dependent on the specific performance situation. If there is no amplification of the live instruments (based on the preference of the ensemble), the speakers can be located downstage, which will allow them to act as both a public address system (for the audience to hear) and a monitoring system (for the musicians to hear). If amplification is required, however, the speakers should be positioned upstage to avoid feedback, and separate monitor speakers should be used to allow the musicians to hear the computer's output.

As "I" begins, the conductor hears the synchronization track in his or her headphones. This track consists of the combination of a metronome and pre-recorded verbal cues, and the person running the computer triggers it offstage. Four quarter-notes are heard in the conductor's headphones to allow him or her to conduct the anacrusis in time with the backing track, and to cue the entrance of the xylophone on the downbeat of m. 1. The metronome track embedded in the synchronization track consists of two tones: the first is a higher pitched percussion sound, which marks the downbeats of every measure, and the second is a lower-pitched percussion sound which marks the other beats in a measure. The synchronization track also includes pre-recorded verbal cues to signal the rehearsal marks. This is intended to assist the conductor in cueing sectional

changes. Before, and on, each rehearsal mark, the conductor hears a voice in the headphones counting, "...one, two, three, four, 'B'." Since this synchronization track is sent to the conductor's headphones, it is only audible to him or her and not to the musicians or the audience.

After the initial reading and recording sessions, it became apparent to me that the percussionist may have also benefitted from hearing the synchronization track through an additional set of headphones. Since the role of the percussionist in *Cope* is more or less as a drummer, that is, as a timekeeper for the ensemble, hearing the metronome track may have helped him to play more steadily with the backing track, therefore providing a more stable rhythmic foundation for the rest of the ensemble. It also occurred to me that, with a headphone splitter and enough headphones, the piece could conceivably be performed without a conductor. This perhaps would not be ideal, as the ensemble would not be able to balance dynamically with each other as effectively (the headphones obviously hinder the ability to hear what is going on in the hall), but if the piece were to be performed amplified by an self-conducted ensemble using a mixing engineer to carefully control the dynamic balance between instruments, it could be a viable alternative.

I felt that it was necessary to notate, in some form, the fixed electronics in the score. Since much of the electronics part involves the layering of additional virtual instruments into the ensemble texture, I decided that it would be appropriate to notate it as if it were a collection of actual instruments being performed by additional live musicians. In the score, different sounds and instruments are split between multiple staves, braced under the heading

“Electronics,” abbreviated “Elec.” (EXAMPLE 5). This notation serves two purposes. It allows the conductor to see what is going on in sections where it is necessary to cue musicians and to stay synchronized with the electronics. (This is not vital,

EXAMPLE 5 *Cope*, “I,” mm. 80-81, fixed electronics part

The image shows a musical score for the fixed electronics part of Cope's "I," measures 80-81. The score is written on three staves. The top staff is labeled "PRE-RECORDED XYLOPHONE (sounds 8va), with quarter-note panning delay effect:" and contains a melodic line starting with a forte (*f*) dynamic. The middle staff is labeled "Elec." and contains a rhythmic pattern of eighth notes starting with a mezzo-forte (*mf*) dynamic. The bottom staff is labeled "SYNTH BASS:" and contains a bass line starting with a mezzo-piano (*mp*) dynamic. The score is in 4/4 time and features a key signature of one flat.

however, because the synchronization track that the conductor hears in the headphones does the job of keeping him or her in the right spot in the score.) The more important reason for notating the electronic parts in the score, from my perspective, is that it may allow for a performance in the future where musicians could be added to the ensemble to perform the fixed electronics parts live, either on acoustic instruments or synthesizers. Taking this idea a step further, *Cope* could conceivably be adapted for *fewer* performers by simply pre-recording any desired number of the instrumental tracks that were originally intended for live players, and adding them to the fixed electronics. I will discuss proposals for the future life of the piece in the next section.

A problem that I ran into with this type of literal notation for the electronics was what to do with the glitched passage in “II” (mm. 292-321). The resulting rhythms would have been complex to transcribe, and would have been unhelpful in further aiding synchronization. Ultimately, I decided to use abstract graphic notation, shown below. This type of notation provided the conductor with enough basic information to understand, sonically, what the fixed electronics were doing.

EXAMPLE 6 Cope, “II,” mm. 291-294, graphic representation of fixed electronics (glitched sounds) in score; piano part included to show approximate rhythmic relationship between ensemble and electronics

The image displays a musical score for Example 6, consisting of two systems of staves. The upper system is for the electronics, labeled "Elec." on the left. It features three staves: a grand staff (treble and bass clefs) and a single treble clef staff. The grand staff contains a graphic representation of "GLITCHED SOUNDS" in the second measure, indicated by a dense cluster of black dots and a vertical line. The piano part, labeled "Pno./EP" on the left, is shown in the lower system with a grand staff. The piano part includes a treble clef staff with a melodic line and a bass clef staff with a rhythmic accompaniment. The score is divided into four measures. The first measure shows the piano part with a few notes. The second measure is where the glitched sounds occur in the electronics. The third and fourth measures show the piano part continuing with its rhythmic pattern. The score includes dynamic markings such as *mf* and *f*.

CONCLUSION: REFLECTIONS, AND THE FUTURE OF *COPE*

Reflecting on the piece, I identified several areas that are particularly successful in conveying my artistic intentions. In “II,” the predominant character is one of intensity, emphasizing forward motion. I have tried to capture this type of energy in previous compositions, but I feel that I was finally able to achieve it with this movement. I also believe that, overall, the fusion of electronic and acoustic textures is quite effective, as was the choice to use a distorted Fender Rhodes as the backbone of “II.” “I” also has its high points: the extended viola solo is an unexpected formal element (mm. 49-79) that I think works well; the emergence of the tutti beginning at m. 80 is visceral and exciting. In the end, *Cope* has strengthened my resolve to continue writing music that is direct, forceful, and rhythmically vital, but it has also created a desire to write gentler, subtler works. Additionally, I am now more comfortable writing for larger ensembles, and I feel prepared to tackle more ambitious works.

From a critical standpoint, there are some elements that could have been better. The instrumental writing, as a whole, is slightly underdeveloped. The piece may have benefited from more adventurous sonic textures and instrumental techniques at certain points, as well as a more gritty harmonic language. In view, retrospectively, of the virtuosity of the players in *Sound Icon*, I could have integrated more intellectually and physically demanding elements. My reticence was due, in part, to some apprehension about working with a larger group.

Mostly, though, I think it had to do with the fact that the ideas I chose to use in *Cope* were simply the ones that won out in my creative process. During the time that I was composing the work, I kept returning to a few basic ideas (which ended up in the piece), and I was simply not inclined to write anything else. The piece was formed through a sort of controlled intuition, and the result was this music. I think, however, that there is room for a bit more self-intervention in my creative process, and with *Cope*, I could have stretched myself further, especially with the live players.

Cope, as it stands today, is in a state of flux. During the evolution of the work, I realized that it was shaping up to be more of a flexible arrangement of two pieces for chamber ensemble, rather than a more traditional multi-movement composition with a fixed progression of movements. The two movements are interchangeable if both are programmed on a single concert, but also can stand on their own as complete, separate pieces. This flexibility was not an intentional aim of the piece from the outset, but I embraced it as the form started to come into focus. I find this formal mobility intriguing: the movements could be programmed in sequence (“I” followed by “II,” or vice versa), separately (just one movement), or apart from one other on the same concert. An explanation of this flexibility is included in the notes at the beginning of the score to inform the conductor and ensemble of these programming possibilities.

Having distanced myself from the writing process, which I completed in February of 2013, I can now see other possible alternative manifestations of the piece. To expand the large-scale form, I have been considering writing an

additional slow movement, which would provide some connective tissue between the two fast movements. This could impart a more distinctive formal contour to the work, but it may also prompt me to set the order, which would give it a more conventional three-movement shape (fast, slow, faster). I have also considered re-orchestrating the piece for smaller, amplified forces. Conceivably, with only a small amount of rearranging, the piece could be performed with synthesizers, an electric bass, and a mixed quartet or quintet, or maybe an even smaller group. As long as the ensemble is amplified in this scenario, it will be just as powerful as the current instrumentation. This would help to increase the feasibility of performance, as the current ensemble size could make future performances more logistically prohibitive.

I could go in the other direction, instrumentally, by increasing the size of the ensemble. With the addition of a second percussionist, a second pianist playing the Fender Rhodes and doubling on synthesizer (manually triggering some fixed electronics samples), and some modest rearranging, the piece could be performed without the need for a synchronized fixed electronics part, and thus, without the need for a click track. This would free the conductor to take more liberties with the tempo and add more dynamic and temporal variety to the work. There are many possibilities for future versions of the piece. I will need to live with it for a while longer to decide whether or not I want to revise it, let it remain in its current form, or even strip it for parts, so to speak.

Writing *Cope* also brought forth several questions surrounding the role of electronics in a work: Should the person who is running the computer be

considered a performer in the ensemble? Where should he or she be located during the performance? Is it reasonable to ask this person also to handle the mixing duties, i.e., balancing the volume level of the electronics in the hall? Can I trust someone (who is not me) to adequately mix the performance? Is a subtitle necessary for this work, and, if so, what is the best description for the instrumentation? Is “for chamber ensemble” not specific enough? I have developed opinions about some of these questions (see below), but others remain unresolved. I expect that as I continue to work with diverse instrumental forces, including electronic elements, my positions on these questions will evolve.

As for logistical and technical issues surrounding the execution of works with electronics, I have addressed these in other pieces by being present during performances and recordings. This allows me to control many of the variables, but it is obviously not a feasible situation in the long term. The portability of a piece is a concern for me; I want to be able to have numerous performances of my pieces (including works with electronics), but I cannot be expected to attend all of my performances throughout my career. Probably the best approach, for me, is to make these logistical elements as simple as possible (even compromising slightly on artistic ideas, if necessary), and to provide enough written and graphic instruction in the score for someone to be able to realize the work without my intervention. Also, by working with relatively simple elements such as digital audio files that can be played back in any DAW, and by using standard tools such as mixing consoles, audio interfaces, and effects pedals, I can mitigate problems

surrounding technological obsolescence that can become challenging with more extensive electronics setups.

Artistic issues surrounding the role of the person running the electronics did not turn out to be core problems in this piece. Since the primary responsibilities of the person running the computer for *Cope* is starting the sequence and adjusting volume levels on the fly, I decided that it made the most sense for him or her to be situated in the audience, or alternatively, in a sound booth. I felt that it would have been odd to have that person on stage, just sitting there. Also, it is necessary to have them in a position in the hall where they can make judgments about the sound quality, and adjust audio levels, if necessary. The best place to do this is from the audience. There does seem to be a tipping point of physical activity, where it would make sense for someone performing on a computer to be located on stage, alongside live performers (live-triggering loops, twisting knobs, etc.), but this piece does not approach that level of involvement.

Lastly, questions about labeling a work “for fixed electronics,” “for laptop,” or “for chamber ensemble” need to be dealt with, for me, on a piece-by-piece basis. I am not particularly concerned with signaling to an audience through the title of a work that there is an electronic element involved. In general, as music technology becomes ubiquitous, it often seems irrelevant to distinguish one sound-making device from another. (A violin and a computer are equally capable of producing sound.) But subtling a work according to its precise instrumental components can allow an ensemble, conductor, or other composer to better

understand the nature of the piece. With *Cope*, I feel that the subtitle, “for chamber ensemble and fixed electronics,” is a helpful descriptor for the purposes of this thesis. If I decide to develop the piece further, however, I will likely remove the subtitle and let the main title stand on its own.

Cope is the most ambitious composition that I have written so far. It is an attempt to unify elements from some of the many musical styles with which I identify as a musician and composer, and it represents an aesthetic direction that I plan to pursue over the next several years. The piece has laid the foundation for composing longer, more substantial works for larger ensembles. I feel prepared to take the lessons that I have learned from this work and apply them toward writing music that is even more unique, and profoundly personal.

Cope

for chamber ensemble and fixed electronics

full score in C

*Written for Sound Icon
Jeffrey Means, conductor*

Michael Laurello

ENSEMBLE

Flute

Bass Clarinet in Bb

Horn

Violin

Viola

Cello

Piano (doubling Fender Rhodes electric piano)

Percussion (see note below)

Xylophone, sounds 1 octave higher than notated

Marimba, sounds as notated

Riveted (sizzle) cymbal

Metal gasoline can (medium)

Metal oil can (medium)

Kick drum

Conductor

Percussion Battery Notation: 5-line percussion staff, beginning at Rehearsal Mark “N”

One ledger line above staff: riveted (sizzle) cymbal, designated with an “x” notehead

Line 5 (top line): handle of metal gasoline can

Line 4: top of gasoline can

Line 3: top of metal oil can

Line 2: side of oil can

Line 1: kick drum

Note about the Percussion Battery: A variety of found objects of different materials can be used. If deviating from the specific metal canisters listed here, the substitute objects should not have a definite—that is, easily distinguishable—fundamental pitch. However, the timbre of each sound should be distinct, should primarily occupy the mid/high end of the frequency spectrum, and should have a crisp transient. Think of the percussion battery as a “junk” drum kit.

Note about the Fender Rhodes: Whenever possible, a real Fender Rhodes should be used. When that is not available, it is acceptable to use a synthesized or sampled Fender Rhodes sound. The Fender Rhodes signal should be processed with heavy overdrive distortion. Pitch should still be distinguishable, but the distortion should be very fuzzy. It is up to the ensemble whether to process the Fender Rhodes with the computer, or to use a distortion pedal. If a pedal is used, the signal should first go to the monitor/amp, then to the audio interface, then to the house speakers.

Duration: 12'

ORDER OF MOVEMENTS

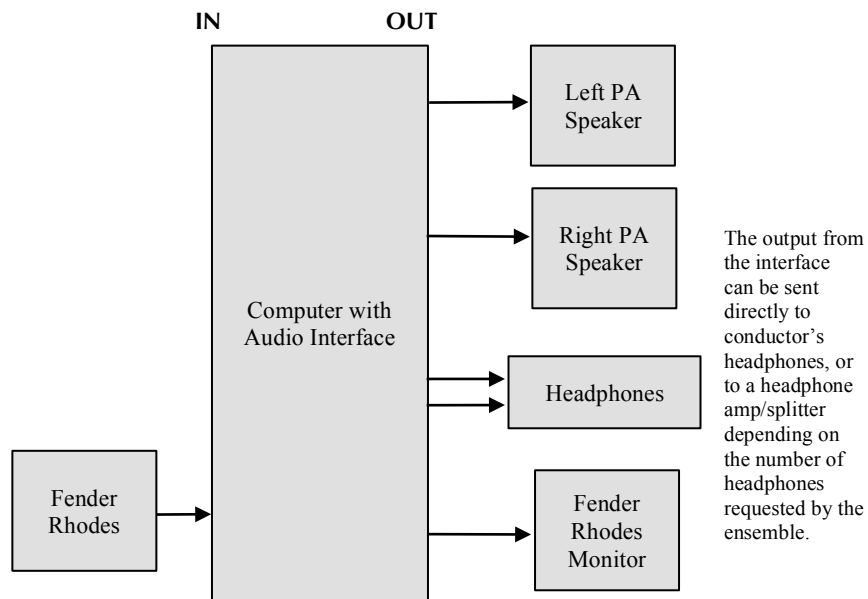
The order of the movements in *Cope* is not fixed. The work should be thought of as a flexible arrangement of two pieces for chamber ensemble rather than a more traditional multi-movement composition with a predetermined progression of movements. The two movements are interchangeable if both are programmed on a single concert, but also can stand on their own as complete, separate pieces. For instance, the movements could be programmed in sequence (“I” followed by “II,” or vice versa), separately (just one movement), or apart from one other on the same concert.

ELECTRONIC EQUIPMENT AND SIGNAL FLOW

Equipment Needed

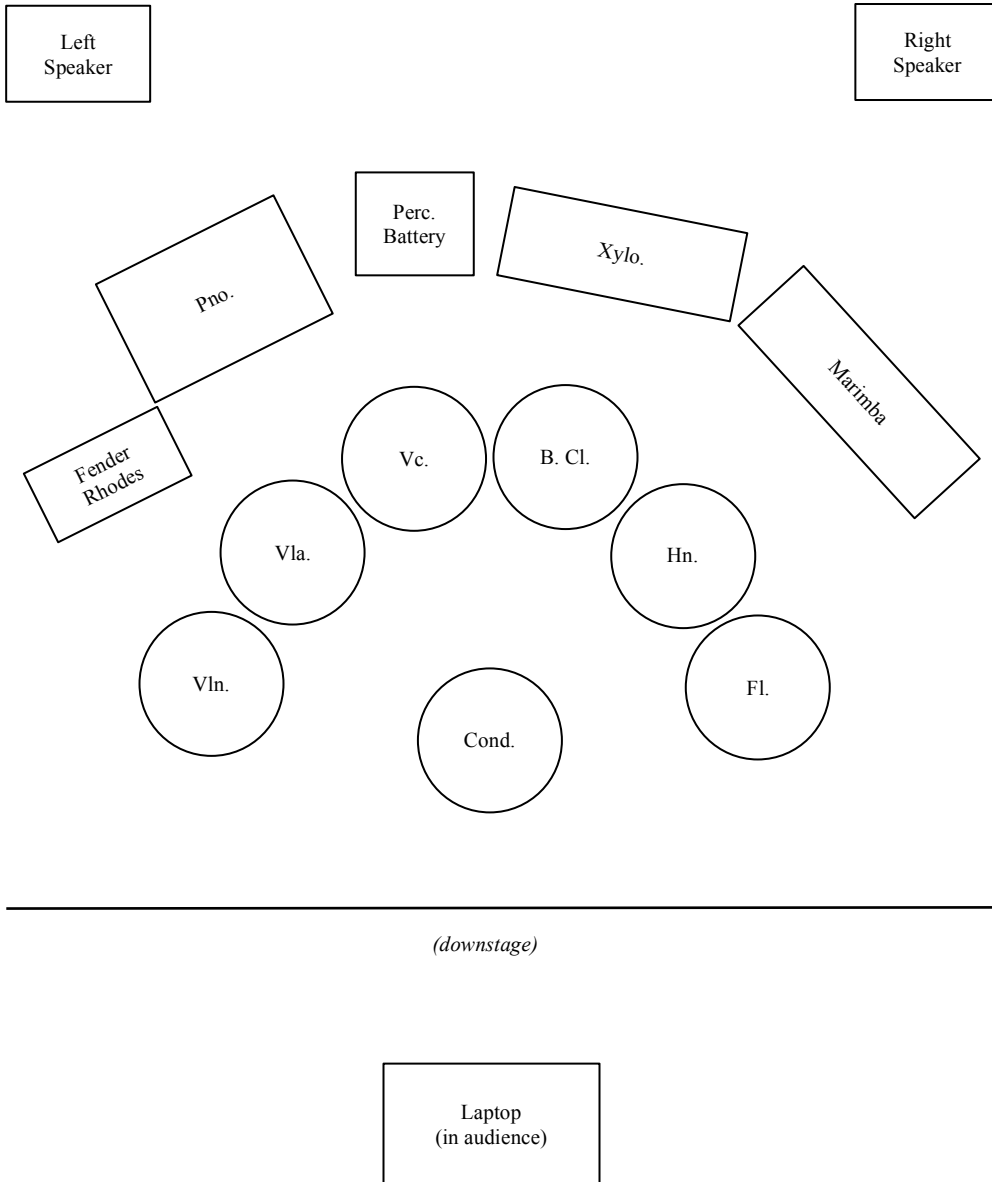
- Computer running DAW software (Logic, Pro Tools, etc.)
- Audio interface (with at least 5 mono outputs)
- Digital audio files for playback from computer (contact composer for these)
- Two full-range speakers, preferably with subwoofers
- Monitor speaker for the Fender Rhodes
- Headphones. The exact number is dependent on the preference of the ensemble. The conductor alone may prefer to wear headphones. In other instances, it may be beneficial for the percussionist to also wear headphones. In situations where the ensemble is self-conducted, several headphones may be required.
- If amplifying the ensemble, microphones (and possibly monitors) for the ensemble will be required. In this case, a separate mixing console to handle the live mix would also be beneficial.
- Cables and connectors

Signal Flow



If using the computer to process the distortion for the Fender Rhodes, the output should be sent to the audio interface, where it will be processed with overdrive distortion and sent back out to the Fender Rhodes monitor on stage. The processed signal should also be sent to the house PA speakers, and panned toward the stage position of the Fender Rhodes. Alternatively, if a distortion pedal is used, the Fender Rhodes does not need to be sent through the computer first for processing.

APPROXIMATE STAGE ARRANGEMENT



Cope

I.

A BUOYANTLY; WITH A STRONG GROOVE ♩ = 108

Michael Laurello

4/4

Flute

Bass Clarinet in B \flat

Horn in F

Violin

Viola

Violoncello

Percussion

Electronics

Piano/Elec. Piano

To XYLOPHONE, medium rubber mallets (sounds 1 octave higher than notated)

f very evenly

Note: All pitches on this staff sound 8vb

To ELECTRIC PIANO

Note: All bass clef pitches in the piano/electric piano part should be played 8vb until Part 2

5 3
4

Fl.
B. Cl.
Hn.
Vln.
Vla.
Vc.
Perc.
Elec.
Pno./EP

REVERSE ELECTRIC PIANO:

Detailed description: This page of a musical score contains eight staves. The top two staves are for Flute (Fl.) and Bass Clarinet (B. Cl.), with a measure number '5' above the Flute staff. The next three staves are for Horn (Hn.), Violin (Vln.), and Viola (Vla.). The fifth staff is for Violoncello (Vc.). The sixth staff is for Percussion (Perc.), showing a rhythmic pattern of eighth notes with accents. The seventh staff is for Electric Piano (Elec.), with a section labeled 'REVERSE ELECTRIC PIANO:' starting in the third measure. The eighth staff is for Piano/Electric Piano (Pno./EP). A time signature of 3/4 is indicated at the top right of the page.

B

9 $\frac{4}{4}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

f

PRE-RECORDED ELECTRIC PIANO:

mp

ELECTRIC PIANO:

f

12

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

To PIANO

Detailed description of the musical score: The score is arranged in a vertical stack of staves. The top five staves (Fl., B. Cl., Hn., Vln., Vla.) and the bottom staff (Pno./EP) are mostly empty, indicating rests for these instruments. The Percussion staff (Perc.) features a rhythmic pattern of eighth and sixteenth notes with accents, spanning measures 12, 13, and 14. The Electric guitar staff (Elec.) plays a similar rhythmic pattern with a consistent bass line. The Piano/EP staff (Pno./EP) has a few notes in measure 12, followed by a 'To PIANO' instruction in measure 13, and then rests for the remainder of the page. The page number '4' is at the top left, and '12' is at the top of the first staff. The page number '33' is at the bottom center.

C

15

3/4

4/4

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

f marcato and crispy, not too heavy

Red

Detailed description of the musical score: The score is for a 3/4 to 4/4 transition. It includes staves for Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric Piano (Elec.), and Piano/EP. The Percussion part has a rhythmic pattern of eighth notes. The Electric Piano part has a dense texture of sixteenth notes. The Piano/EP part has a marcato texture with some red markings under the notes.

18 $\frac{4}{4}$ $\frac{3}{4}$ $\frac{4}{4}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno/EP

articulation and pedaling sim.

21 $\frac{4}{4}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

The musical score for page 7, measures 21-23, is presented in a 4/4 time signature. The instruments listed are Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric guitar (Elec.), and Piano/EP (Pno./EP). Measures 21 and 22 are mostly empty for the woodwinds and strings. The Percussion part features a rhythmic pattern of eighth notes with accents. The Electric guitar part has a complex, fast-moving line with many beamed notes. The Piano/EP part has a melodic line with some chords and rests.

24

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno/EP

5/4

3/4

Detailed description: This page of a musical score covers measures 24, 25, and 26. The score is arranged in a system with eight staves. The top two staves are for Flute (Fl.) and Bass Clarinet (B. Cl.). The next three staves are for Horn (Hn.), Violin (Vln.), and Viola (Vla.). The bottom three staves are for Cello (Vc.), Percussion (Perc.), and Electric Piano (Elec.). The bottom-most staff is for Piano/EP (Pno/EP). Measures 24 and 25 are in 5/4 time, and measure 26 is in 3/4 time. The Percussion part features a complex rhythmic pattern with accents. The Electric Piano part has a dense, repetitive texture. The Piano/EP part has a melodic line with some grace notes. The other instruments (Fl., B. Cl., Hn., Vln., Vla., Vc.) have rests throughout the measures.

$\frac{4}{4}$

27

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

mf

D

Fl.

B. Cl.

Hn.

Vln. *solì with Vc.*
f *broadly* *p* *f* *gliss.*

Vla.

Vc. *solì with Vln.*
f *broadly* *p* *f* *gliss.*

Perc.

Elec.

Pno./EP *f* (5)

34 $\frac{5}{4}$ $\frac{4}{4}$ $\frac{3}{4}$

Fl.

B. Cl.

Hn.

Vln. *p* *f* *gliss.* *p* *f*

Vla.

Vc. *p* *f* *gliss.* *p* *f*

Perc.

Elec.

Pno./EP

Detailed description: This page of a musical score covers measures 34, 35, and 36. The score is arranged in a system with eight staves. The top two staves are for Flute (Fl.) and Bass Clarinet (B. Cl.), both of which are silent throughout. The third staff is for Horn (Hn.), also silent. The fourth and fifth staves are for Violin (Vln.) and Viola (Vla.), both silent. The sixth and seventh staves are for Cello (Vc.) and Percussion (Perc.). The Cello part features a melodic line with dynamics *p* and *f*, and a glissando (*gliss.*) in measure 35. The Percussion part has a rhythmic pattern of eighth notes. The eighth and ninth staves are for Electric Guitar (Elec.) and Piano/EP (Pno./EP). The Electric Guitar part has a complex, fast-moving line with many notes. The Piano/EP part has a simple accompaniment of chords and single notes.

37 $\frac{4}{4}$ $\frac{2}{4}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

p *mf* *mf* *mf*

Detailed description: This page of a musical score covers measures 37, 38, and 39. The score is arranged in a system with eight staves. The top two staves are for Flute (Fl.) and Bass Clarinet (B. Cl.), both of which are silent throughout. The third staff is for Horn (Hn.), also silent. The fourth staff is for Violin (Vln.), which plays a melodic line starting in measure 37 with a *p* dynamic, moving to *mf* in measure 38. The fifth staff is for Viola (Vla.), which is silent. The sixth staff is for Cello (Vc.), which plays a melodic line starting in measure 37 with a *p* dynamic, moving to *mf* in measure 38. The seventh staff is for Percussion (Perc.), which plays a rhythmic pattern of eighth notes with accents, starting in measure 37 and continuing through measure 39. The eighth staff is for Electric Guitar (Elec.), which plays a rhythmic pattern of eighth notes with accents, starting in measure 37 and continuing through measure 39. The ninth staff is for Piano/EP (Pno./EP), which plays a melodic line starting in measure 37 with a *mf* dynamic, moving to *mf* in measure 38. The time signature changes from 4/4 in measure 37 to 2/4 in measure 39. The key signature is B-flat major.

40 $\frac{2}{4}$ $\frac{4}{4}$ $\frac{3}{4}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

mp

mp

Detailed description: This page of a musical score covers measures 40, 41, and 42. The score is arranged in a system with eight staves. The first two staves are for Flute (Fl.) and Bass Clarinet (B. Cl.), both of which are silent throughout. The third staff is for Horn (Hn.), also silent. The fourth staff is for Violin (Vln.), which plays a melodic line starting in measure 40 and continuing through measure 42. The fifth staff is for Viola (Vla.), which is silent. The sixth staff is for Cello (Vc.), which plays a bass line with a melodic contour, starting in measure 40 and continuing through measure 42. The seventh staff is for Percussion (Perc.), which plays a rhythmic pattern in measure 40 and 42, and a sustained chord in measure 41. The eighth staff is for Electric Guitar (Elec.), which plays a rhythmic pattern in measure 40 and 42, and a sustained chord in measure 41. The ninth staff is for Piano/EP (Pno./EP), which plays a bass line with a melodic contour, starting in measure 40 and continuing through measure 42. The score is divided into three measures: measure 40 is in 2/4 time, measure 41 is in 4/4 time, and measure 42 is in 3/4 time. The key signature is one flat (B-flat). The dynamic marking *mp* (mezzo-piano) is used in measures 41 and 42.

43 $\frac{4}{4}$ $\frac{3}{4}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

*delayed signal
slides out*

Detailed description: This page of a musical score covers measures 43, 44, and 45. The score is arranged in a system with eight staves. The top two staves are for Flute (Fl.) and Bass Clarinet (B. Cl.), both in treble clef. The next three staves are for Horn (Hn.), Violin (Vln.), and Viola (Vla.), all in treble clef. The fifth staff is for Violoncello (Vc.) in bass clef. The sixth staff is for Percussion (Perc.) in treble clef. The seventh staff is for Electric Guitar (Elec.) in treble clef. The eighth staff is for Piano/EP (Pno./EP) in bass clef. Measure 43 is in 4/4 time, and measure 44 is in 3/4 time. The Flute and Bass Clarinet parts are mostly rests. The Violin and Viola parts have long, sweeping lines with a 'b)' marking. The Violoncello part has a similar line with a 'b)' marking. The Percussion part has a rhythmic pattern of eighth notes. The Electric Guitar part has a complex, fast-moving line with a 'b)' marking and a note marked 'delayed signal slides out'. The Piano/EP part has a complex, fast-moving line with a 'b)' marking.

46 $\frac{4}{4}$

Fl.

B. Cl.

Hn.

Vln. *pp*

Vla.

Vc. *pp*

Perc. *pp*
To MARIMBA, medium yarn mallets
(marimba sounds as notated)

Elec.

Pno./EP *pp*
To ELECTRIC PIANO

E VIOLA SOLO

49

Fl.

B. Cl.

Hn.

Vln.

Vla. *Viola solo*
mf
full, and legato
mf

Vc.

Perc.

Elec.
z^p

Pno./EP

Detailed description: This page contains a musical score for measures 49 through 52. The score is for a Viola solo. The Viola part (Vla.) is the only instrument with notes, starting with a *mf* dynamic and the instruction *full, and legato*. It features a melodic line with a triplet in measure 51. The other instruments (Fl., B. Cl., Hn., Vln., Vc., Perc., Elec., Pno./EP) are marked with rests, indicating they are silent during this passage. The Viola part is written in a treble clef with a key signature of one flat (B-flat). The dynamic *mf* (mezzo-forte) is used throughout the solo. The instruction *full, and legato* suggests a sustained and connected playing style. The triplet in measure 51 consists of three eighth notes. The score is presented in a standard orchestral layout with staves for each instrument.

53

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

$\frac{3}{4}$ $\frac{4}{4}$

p

harm.
mf

pizz.
mf *l.v.*

57 (poking out of the texture a bit)

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

mf

p

p

mf

Lv.

61 3/4

Fl. *mp*

B. Cl.

Hn.

Vln. *harm.* *mf*

Vla. *mf*

Vc. *mf* *lv.*

Perc.

Elec.

Pno./EP *mp*

ELECTRIC PIANO:

65 $\frac{3}{4}$ $\frac{4}{4}$

Fl. pp

B. Cl.

Hn.

Vln. p

Vla. p mf

Vc.

Perc.

Elec.

Pno./EP

Detailed description: This page of a musical score covers measures 65 through 68. The score is arranged in a system with multiple staves. At the top left, measure 65 is marked with a $\frac{3}{4}$ time signature, which changes to $\frac{4}{4}$ at the beginning of measure 66. The Flute (Fl.) part starts in measure 65 with a pp dynamic. The Bass Clarinet (B. Cl.) and Horn (Hn.) parts are silent throughout. The Violin (Vln.) part starts in measure 65 with a p dynamic. The Viola (Vla.) part starts in measure 65 with a p dynamic and has a mf dynamic marking in measure 66. The Violoncello (Vc.) part is silent. The Percussion (Perc.) part is silent. The Electric Piano (Elec.) part has a complex rhythmic accompaniment of chords in the right hand and a simple bass line in the left hand. The Piano/EP (Pno./EP) part has a simple bass line in the left hand and is silent in the right hand.

69

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

>pp

3

5

73

Fl.

B. Cl.

Hn.

Vln. *(ord.)*

Vla.

Vc.

Perc.

Elec.

Pno./EP

The musical score for page 22, measures 73-76, is arranged in a standard orchestral layout. The instruments and their parts are as follows:

- Flute (Fl.):** Four measures of whole rests.
- Bass Clarinet (B. Cl.):** Four measures of whole rests.
- Horn (Hn.):** Four measures of whole rests.
- Violin (Vln.):** Four measures of whole rests. An *(ord.)* marking appears above the staff in measure 75.
- Viola (Vla.):** Measures 73-74 contain a melodic line with a slur and a fermata. Measures 75-76 contain a sustained chord with a slur and a fermata. Dynamics are marked *mp*.
- Violoncello (Vc.):** Measures 73-74 contain a sustained chord. Measures 75-76 contain a sustained chord with an *arco* marking and a slur. Dynamics are marked *mp*.
- Percussion (Perc.):** Four measures of whole rests.
- Electric Piano (Elec.):** Four measures of a complex rhythmic pattern consisting of chords in the right hand. The pattern is consistent across all measures.
- Piano/EP (Pno./EP):** Four measures of whole rests.

77

Fl.

B. Cl.

Hn.

Vln. *pp*

Vla. *pp*

Vc. *pp*

Perc.

Elec.

Pno./EP

REVERSE ACOUSTIC PIANO (8vb):

Detailed description: This page of a musical score covers measures 77, 78, and 79. The score is for a 3/4 time signature. The instruments listed are Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Cello (Vc.), Percussion (Perc.), Electric Piano (Elec.), and Piano/EP (Pno./EP). Measures 77 and 78 show the Violin, Viola, and Cello parts with a *pp* (pianissimo) dynamic. The Electric Piano part features a complex texture with many beamed notes, and a section in measure 78 is marked 'REVERSE ACOUSTIC PIANO (8vb)'. The Percussion part is mostly silent, with some faint markings. The Flute, Bass Clarinet, and Horn parts are also mostly silent. The Piano/EP part is silent throughout.

F TUTTI: FIERY, BUT IN CONTROL

80 $\frac{3}{4}$ $\frac{4}{4}$ $\frac{3}{4}$

Fl. *f marcato, crisply*

B. Cl. *f marcato, crisply*

Hn. *mf marcato, crisply*

Vln. *f marcato, crisply*

Vla. *f marcato, crisply*

Vc. *f marcato, crisply*

Perc. **MARIMBA:**
f marcato, crisply *p sub.*

Elec. **PRE-RECORDED XYLOPHONE (sounds 8va), with quarter-note panning delay effect:**
f
mf

SYNTH BASS:
mp

Pno./EP *f marcato, crisply*
ped

83 $\frac{3}{4}$ $\frac{4}{4}$

Fl. *articulation sim.*

B. Cl. *articulation sim.*

Hn. *articulation sim.*

Vln. *articulation sim.*

Vla. *articulation sim.*

Vc. *articulation sim.*

Perc. *f articulation sim.* *p sub.*

Elec. *articulation sim.*

Pno./EP *articulation and pedaling sim.*

Detailed description: This page of a musical score covers measures 83, 84, and 85. The score is for a full orchestra and includes parts for Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Cello (Vc.), Percussion (Perc.), Electric Guitar (Elec.), and Piano/EP. The key signature has two flats (B-flat and E-flat). Measure 83 begins with a 3/4 time signature, which changes to 4/4 at the start of measure 84. The Flute, Bass Clarinet, Horn, Violin, Viola, and Cello parts all feature the instruction 'articulation sim.' and play a rhythmic pattern of eighth and sixteenth notes. The Percussion part starts with a forte (*f*) dynamic and 'articulation sim.' in measure 83, then switches to a piano (*p*) dynamic and 'sub.' (substituted) in measure 84. The Electric Guitar part has a complex, fast-moving line with 'articulation sim.' written below. The Piano/EP part features a dense texture with 'articulation and pedaling sim.' written below. The score is presented in a standard orchestral layout with staves grouped by instrument family.

86

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

5/4

3/4

f

p sub.

Detailed description: This page of a musical score covers measures 86, 87, and 88. The score is arranged in a system with ten staves. The instruments are: Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Cello (Vc.), Percussion (Perc.), Electric Guitar (Elec.), and Piano/EP (Pno./EP). Measures 86 and 87 are in a 5/4 time signature, while measure 88 is in a 3/4 time signature. The Flute part has a melodic line with slurs and accents. The Bass Clarinet, Horn, Violin, Viola, and Cello parts have rhythmic patterns. The Percussion part features a strong dynamic contrast, starting with a fortissimo (*f*) drum pattern in measures 86 and 87, and a piano (*p sub.*) pattern in measure 88. The Electric Guitar part has a complex, fast-moving texture with many notes. The Piano/EP part has a steady accompaniment. The page number 26 is in the top left, and the number 55 is at the bottom center.

89 $\frac{3}{4}$ $\frac{2}{4}$

Fl. *mf*

B. Cl. *mf*

Hn. *mp*

Vln. *mf*

Vla. *mf*

Vc. *mf*

Perc. *f* *mf* *p sub.*

Elec.

Pno./EP *mf*

Detailed description: This page of a musical score covers measures 89 to 92. The score is arranged in a system with eight staves. The top two staves are for Flute (Fl.) and Bass Clarinet (B. Cl.), both playing in a 3/4 time signature. The next three staves are for Horn (Hn.), Violin (Vln.), and Viola (Vla.), all in 3/4 time. The bottom two staves are for Cello (Vc.) and Percussion (Perc.), both in 3/4 time. The Percussion part features a dynamic shift from *f* to *mf* and then *p sub.* in measure 92. The Electric Piano (Elec.) part consists of a dense, rhythmic accompaniment. The Piano/EP (Pno./EP) part features a melodic line with a *mf* dynamic. The time signature changes from 3/4 to 2/4 at the beginning of measure 92. The key signature has one flat (B-flat).

93 **G**

soli with Vln.

Fl. *f broadly* 2/4 3/4 4/4 3/4

B. Cl. *f*

Hn. *mf*

soli with Fl.

Vln. *f broadly*

Vla. *f*

Vc. *f*

Perc. *f* *p sub.*

Elec.

Pno/EP *f*

97 $\frac{3}{4}$ $\frac{4}{4}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc. *f* *p sub.*

Elec.

Pno./EP

Detailed description: This page of a musical score covers measures 97 to 100. The score is arranged in a system with eight staves. The top staff is for Flute (Fl.), the second for Bass Clarinet (B. Cl.), the third for Horn (Hn.), the fourth for Violin (Vln.), the fifth for Viola (Vla.), the sixth for Cello (Vc.), the seventh for Percussion (Perc.), and the eighth for Piano/Electric Piano (Pno./EP). The key signature has one flat (B-flat). The time signature changes from 3/4 to 4/4 at measure 98. The Percussion part includes dynamic markings of *f* (forte) and *p sub.* (pianissimo). The Electric Guitar part features a complex, rhythmic pattern in the right hand. The Piano/EP part has a melodic line in the right hand and a bass line in the left hand.

100

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno/EP

5/4

3/4

f

p sub.

Detailed description: This page of a musical score covers measures 100, 101, and 102. The score is arranged in a system with eight staves. The instruments are Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Cello (Vc.), Percussion (Perc.), Electric Guitar (Elec.), and Piano/EP (Pno/EP). Measure 100 begins with a tempo marking of 100. The Flute part has a melodic line with a slur over measures 100 and 101, and a fermata over measure 102. The Bass Clarinet, Horn, Violin, Viola, and Cello parts have similar melodic lines. The Percussion part has a rhythmic pattern with a dynamic marking of *f* in measure 100 and *p sub.* in measure 102. The Electric Guitar part has a complex rhythmic pattern with many sixteenth notes. The Piano/EP part has a complex rhythmic pattern with many sixteenth notes. The time signature changes from 5/4 to 3/4 between measures 101 and 102.

103 $\frac{3}{4}$ $\frac{4}{4}$

Fl. *mf*

B. Cl. *mf*

Hn. *mp*

Vln. *mf*

Vla. *mf*

Vc. *mf*

Perc. *f* *mf*

Elec.

Pno./EP *mf*

H

107 $\frac{4}{4}$ *mf*

B. Cl.

Hn. *(with Vc.)* *mp*

Vln. *mf*

Vla. *mf*

Vc. *(with Hn.)* *mf*

Perc. *p*

Elec. *delayed signal fades away*

Pno./EP *f* *8va loco*

Ped. Ped.

I

112

Fl. *p sub.*

B. Cl. *p sub.*

Hn. *p sub.*

Vln. *p sub.*

Vla. *p sub.*

Vc. *p sub.*

Perc. *p*

Elec.

Pno./EP *p sub.*

3/4 4/4 3/4

116 **J**
4/4

Fl.

B. Cl.

Hn.

Vln. *mf* — (not too rough) — *f*

Vla. *mf* — (not too rough) — *f*

Vc. *mf* — (not too rough) — *f*

Perc. *ff* not accented, dashed slurs indicate phrasing

Elec. *f*

Pno./EP

120 5/4

Fl. *ff*

B. Cl. *ff*

Hn. *f*

Vln. *ff*

Vla. *ff*

Vc. *ff*

Perc.

Elec. *mf*

Pno./EP *ff*

Detailed description: This page of a musical score covers measures 120, 121, and 122. The time signature is 5/4. The score is arranged for a large ensemble. The Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), and Voice (Vc.) parts are marked with fortissimo (ff) dynamics. The Percussion (Perc.) part features a complex rhythmic pattern with dotted lines above the notes. The Electric Guitar (Elec.) part is marked mezzo-forte (mf) and features a dense, rhythmic texture. The Piano/EP (Pno./EP) part is marked fortissimo (ff) and features a complex, rhythmic texture. The score is divided into three measures, with a repeat sign at the end of measure 122.

123 $\frac{5}{4}$ $\frac{4}{4}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

Detailed description: This page of a musical score covers measures 123, 124, and 125. The score is arranged in a system with nine staves. The first two staves are for Flute (Fl.) and Bass Clarinet (B. Cl.). The next three staves are for Horn (Hn.), Violin (Vln.), and Viola (Vla.). The fifth staff is for Cello (Vc.). The sixth staff is for Percussion (Perc.), showing a complex rhythmic pattern with many sixteenth notes and rests. The seventh staff is for Electric Piano (Elec.), featuring a dense texture of chords and arpeggios. The eighth and ninth staves are for Piano/EP (Pno./EP), with the right hand playing chords and the left hand playing a bass line. The time signature changes from 5/4 in measure 123 to 4/4 in measure 124. The key signature has one flat (B-flat).

126 **3**
4

Fl.
B. Cl.
Hn.
Vln.
Vla.
Vc.
Perc.
Elec.
Pno./EP

Detailed description: This page of a musical score covers measures 126, 127, and 128. The music is in 3/4 time, as indicated by the '3' over a '4' at the top. The score is arranged in a grand staff format with the following parts: Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Cello (Vc.), Percussion (Perc.), Electric Piano (Elec.), and Piano/EP (Pno./EP). Measures 126 and 127 are marked with a large '3' over a '4', indicating a 3/4 time signature. The Flute and Bass Clarinet parts have rests in measures 126 and 127, with notes in measure 128. The Horn, Violin, Viola, and Cello parts have notes in measures 126 and 128. The Percussion part features a complex rhythmic pattern of eighth notes with accents and slurs. The Electric Piano part has a dense texture of chords and eighth notes. The Piano/EP part has chords in measures 126 and 128.

K

129

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

4/4

3/4

f

mf

f

f

f

f

mf

ap

f

etc.

Detailed description: This page of a musical score covers measures 129 to 131. It features nine staves: Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Cello (Vc.), Percussion (Perc.), Electric Bass (Elec.), and Piano/EP (Pno./EP). The key signature has one flat (B-flat). Measure 129 is in 4/4 time. Measure 130 is in 4/4 time. Measure 131 is in 3/4 time. Dynamics include *f* (forte), *mf* (mezzo-forte), and *ap* (pianissimo). The Percussion part has a rhythmic pattern of eighth notes with accents, marked with a dashed line and 'etc.'. The Electric Bass part has a steady eighth-note accompaniment. The Piano/EP part features chords and arpeggios. A box labeled 'K' is positioned above the Flute staff at the start of measure 130.

132

Fl. *articulation sim.*

B. Cl. *articulation sim.*

Hn. *articulation sim.*

Vln. *articulation sim.*

Vla. *articulation sim.*

Vc. *articulation sim.*

Perc.

Elec. *articulation sim.*

Pno./EP *articulation sim.*

Musical score for measures 135-137. The score is divided into three measures with time signatures 2/4, 4/4, and 3/4. The instruments and their parts are:

- Fl.:** Measures 135-137. Dynamics: *mf*.
- B. Cl.:** Measures 135-137. Dynamics: *mf*.
- Hn.:** Measures 135-137. Dynamics: *mp*.
- Vln.:** Measures 135-137. Dynamics: *mf*.
- Vla.:** Measures 135-137. Dynamics: *mf*.
- Vc.:** Measures 135-137. Dynamics: *mf*.
- Perc.:** Measures 135-137. Dynamics: *mp*.
- Elec.:** Measures 135-137. Dynamics: *mp*.
- Pno./EP:** Measures 135-137. Dynamics: *mf*.

138

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

4/4

2/4

4/4

141 $\frac{4}{4}$ $\frac{3}{4}$ $\frac{4}{4}$

Fl. *mp*

B. Cl.

Hn.

Vln. *mp*

Vla. *mp* *pizz.*

Vc. *pizz.*

To PERCUSSION BATTERY

Perc.

Elec. *pp*

Pno./EP *mp*

Detailed description: This page of a musical score covers measures 141, 142, and 143. The time signature changes from 4/4 in measure 141 to 3/4 in measure 142, and back to 4/4 in measure 143. The Flute (Fl.) part begins in measure 141 with a melodic line marked *mp*. The Violin (Vln.) and Viola (Vla.) parts also start in measure 141 with *mp* dynamics. The Viola part includes a *pizz.* (pizzicato) instruction in measure 143. The Violoncello (Vc.) part has a *pizz.* instruction in measure 142. The Percussion (Perc.) part is marked 'To PERCUSSION BATTERY' and is silent. The Electric Piano (Elec.) part plays a steady accompaniment in the right hand, marked *pp*. The Piano/EP (Pno./EP) part provides harmonic support, with the right hand playing chords and the left hand playing a simple bass line, marked *mp*.

144 $\frac{4}{4}$ $\frac{2}{4}$ $\frac{3}{4}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

Detailed description: This page of a musical score contains measures 144, 145, and 146. The score is for a full orchestra and piano. The instruments listed are Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Cello (Vc.), Percussion (Perc.), Electric Piano (Elec.), and Piano/EP (Pno./EP). The time signature starts as 4/4 in measure 144, changes to 2/4 in measure 145, and changes to 3/4 in measure 146. The Flute and Violin parts have a melodic line starting in measure 144. The Viola and Cello parts have a similar melodic line. The Electric Piano part has a complex rhythmic pattern of chords. The Piano/EP part has a bass line with a few notes. The Percussion part is mostly silent. The Bass Clarinet and Horn parts are also mostly silent.

L ABRUPTLY CALM AND PEACEFUL

Musical score for measures 147-150. The score is in 3/4 time and includes parts for Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric Piano (Elec.), and Piano/Electric Piano (Pno./EP). The Flute part begins at measure 147 with a *mp* dynamic and a melodic line. The Violin part starts at measure 148 with a *pizz.* and *mp* dynamic. The Viola part has a *mp* dynamic. The Electric Piano part features a *pp* dynamic with a complex, rhythmic accompaniment. The Percussion and Pno./EP parts are silent throughout the measures.

151

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

ELECTRIC PIANO:

mf *pp* *mf*

hold pedal to end

Detailed description of the musical score: The score is for measures 151-154. The Flute (Fl.) part starts at measure 151 with a melodic line: G4 (accented), A4, B4, C5, B4, A4, G4, F4, E4, D4, C4. The Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), and Violoncello (Vc.) parts are mostly silent, with some notes in the Viola and Vc. parts. The Percussion (Perc.) part is silent. The Electric Piano (Elec.) part has a complex rhythmic pattern of chords. The Piano/Electric Piano (Pno./EP) part has a melodic line with dynamics markings: *mf* (measures 151-152), *pp* (measure 153), and *mf* (measure 154). A 'hold pedal to end' instruction is written below the Pno./EP part.

155

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

pp *mf* *pp*

M

159

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

mf longingly, molto vibrato

mf *pp* *mf*

Detailed description: This page of a musical score covers measures 159 to 162. The instruments are Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Cello (Vc.), Percussion (Perc.), Electric Piano (Elec.), and Piano/EP. The Flute part features a melodic line with slurs and accents, starting on a G4 and moving through various intervals. The Bass Clarinet, Horn, and Percussion parts are mostly silent. The Violin and Viola parts have sparse notes. The Cello part has a few notes in the final measure. The Electric Piano part consists of a dense, rhythmic accompaniment of chords. The Piano/EP part has a melodic line with slurs and accents, starting on a G4 and moving through various intervals. The score includes dynamic markings such as *mf* and *pp*, and performance instructions like *mf* longingly, molto vibrato.

163

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

pp mf pp

167

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

Musical score for measures 167-170. The score includes parts for Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric Piano (Elec.), and Piano/Extended Piano (Pno./EP). The Flute part has a melodic line with slurs and accents. The Electric Piano part has a dense, rhythmic accompaniment. The Piano part has a melodic line with slurs and dynamic markings (mf, pp, mf).

171

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

pp *mf* *pp* *mf*

(6)

Detailed description: This page of a musical score covers measures 171 to 174. The instruments are Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Cello (Vc.), Percussion (Perc.), Electric Piano (Elec.), and Piano/EP (Pno./EP). The Flute part features a melodic line with eighth and sixteenth notes, including slurs and accents. The Bass Clarinet, Horn, and Percussion parts are mostly silent, indicated by rests. The Violin part has a melodic line with slurs. The Viola part has a melodic line with slurs and a dotted line above it. The Cello part has a melodic line with slurs. The Electric Piano part has a rhythmic accompaniment with chords and eighth notes. The Piano/EP part has a melodic line with slurs and dynamic markings of *pp* and *mf*. A circled number 6 is written above the first measure of the Piano/EP part.

175

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno/EP

pp *mf* *pp*

Detailed description: This page of a musical score covers measures 175 to 178. The Flute part (Fl.) has a melodic line with slurs and accents. The Bass Clarinet (B. Cl.) and Horn (Hn.) parts are silent. The Violin (Vln.) part has a rhythmic pattern with slurs. The Viola (Vla.) part has a melodic line with slurs. The Cello (Vc.) part has a bass line with slurs. The Percussion (Perc.) part is silent. The Electric Piano (Elec.) part has a complex rhythmic pattern. The Piano/EP (Pno/EP) part has a melodic line with slurs and dynamic markings: *pp* (pianissimo) in measures 175 and 178, and *mf* (mezzo-forte) in measure 176. A circled '6' is above the first measure.

183

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

pp

mf

187

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

4/4

pp

delayed signal fades away

(6) ----- 1

Detailed description: This page of a musical score covers measures 187 through 190. The score is written for a large ensemble including Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Cello (Vc.), Percussion (Perc.), Electric Guitar (Elec.), and Piano/Electric Piano (Pno./EP). The time signature is 4/4. Measures 187, 188, and 189 are mostly rests for most instruments, with the Cello (Vc.) playing a melodic line in measure 187. The Electric Guitar (Elec.) part features a complex, rhythmic pattern of chords in the right hand, while the left hand remains mostly silent. The Piano/EP part begins in measure 187 with a piano (*pp*) dynamic, playing a chord with a grace note. A first ending bracket is shown above the first measure of the Pno./EP part, with a circled '6' and a '1' indicating the number of measures. The score concludes in measure 190 with a double bar line and a 4/4 time signature.

Cope

II.

N WITH AMBITION ♩ = 120

191 $\frac{4}{4}$ $\frac{6}{16}$ $\frac{4}{4}$ $\frac{12}{16}$ $\frac{4}{4}$

Fl.

B. Cl.

Hn.

Vln. *arco* *f*

Vla. *arco* *f*

Vc. *(arco)* *f pesante* *snap pizz.* *arco* *snap pizz.*

PERCUSSION BATTERY:

f

Line 5: handle of gasoline can
Line 4: top of gasoline can
Line 3: top of oil can
Line 2: side of oil can
Line 1: kick drum

Elec.

SYNTH BASS:

mf Note: All pitches on this staff continue to sound 8vb

ELECTRIC PIANO, with distortion:

f

Pno./EP

Note: All bass clef pitches sound at their normal octave (not 8vb as in Part I)

195 $\frac{4}{4}$ $\frac{6}{16}$ $\frac{4}{4}$ $\frac{12}{16}$ $\frac{6}{16}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

arco *snap pizz.* *arco* *snap pizz.*

Molto *Molto*

Detailed description: This page of a musical score covers measures 195 to 200. The score is arranged in a system with ten staves. The top staff is for Flute (Fl.), followed by Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric guitar (Elec.), and Piano/EP (Pno./EP). The time signature starts at 4/4 in measure 195, changes to 6/16 in measure 196, returns to 4/4 in measure 197, changes to 12/16 in measure 198, and returns to 6/16 in measure 199. The Flute part has a melodic line with some grace notes. The Bass Clarinet and Horn parts have rhythmic accompaniment. The Violin part features a rhythmic pattern of eighth notes with accents and dynamic markings of *f*. The Viola part has a similar rhythmic pattern with accents and dynamic markings of *f*. The Violoncello part has a simple bass line with dynamic markings of *arco* and *snap pizz.*. The Percussion part has a simple rhythmic pattern. The Electric guitar and Piano/EP parts have simple accompaniment. The Piano/EP part has dynamic markings of *Molto*.

203 $\frac{3}{4}$ $\frac{6}{16}$ $\frac{2}{4}$ $\frac{6}{16}$ $\frac{4}{4}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

arco

snap pizz.

f

f

f

f

207 $\frac{4}{4}$ $\frac{6}{16}$ $\frac{2}{4}$ $\frac{6}{16}$ $\frac{16}{16}$

Fl. *solì with Vla. and EP*

B. Cl.

Hn.

Vln. *f*

Vla. *f* *solì with Fl. and Pno.*

Vc. *arco* *snap pizz.*

Perc.

Elec.

Pno./EP *solì with Fl. and Vla.*

Musical score for page 60, measures 16-19. The score is arranged for the following instruments: Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric Piano (Elec.), and Piano/EP (Pno./EP). The time signature changes from 16/16 to 3/4, 6/8, 3/4, and 12/16. Dynamics include *ff* and *P*. The Flute part has a *2/11* marking above measure 16. The Violoncello part has an *arco* marking above measure 17. The Electric Piano part has a *ff* marking below measure 18. The Piano/EP part has *ff* markings below measures 17 and 18.

Musical score for measures 215-220. The score is divided into four measures with the following time signatures: 12/16, 2/4, 12/16, 6/16, and 3/4. The instruments and their parts are:

- Fl. (Flute):** Measures 215-216: quarter notes G4, A4, B4, C5. Measure 217: quarter rest, then quarter notes G4, A4, B4, C5. Measure 218: quarter notes G4, A4, B4, C5. Measure 219: quarter notes G4, A4, B4, C5.
- B. Cl. (Bass Clarinet):** Measures 215-216: quarter notes G3, A3, B3, C4. Measure 217: quarter rest, then quarter notes G3, A3, B3, C4. Measure 218: quarter notes G3, A3, B3, C4. Measure 219: quarter notes G3, A3, B3, C4.
- Hn. (Horn):** Measures 215-216: quarter notes G4, A4, B4, C5. Measure 217: quarter rest, then quarter notes G4, A4, B4, C5. Measure 218: quarter notes G4, A4, B4, C5. Measure 219: quarter notes G4, A4, B4, C5.
- Vln. (Violin):** Measures 215-216: quarter notes G4, A4, B4, C5. Measure 217: quarter notes G4, A4, B4, C5. Measure 218: quarter notes G4, A4, B4, C5. Measure 219: quarter notes G4, A4, B4, C5.
- Vla. (Viola):** Measures 215-216: quarter notes G4, A4, B4, C5. Measure 217: quarter notes G4, A4, B4, C5. Measure 218: quarter notes G4, A4, B4, C5. Measure 219: quarter notes G4, A4, B4, C5.
- Vc. (Cello):** Measures 215-216: quarter notes G3, A3, B3, C4. Measure 217: quarter notes G3, A3, B3, C4. Measure 218: quarter notes G3, A3, B3, C4. Measure 219: quarter notes G3, A3, B3, C4.
- Perc. (Percussion):** Measures 215-216: quarter notes G4, A4, B4, C5. Measure 217: quarter notes G4, A4, B4, C5. Measure 218: quarter notes G4, A4, B4, C5. Measure 219: quarter notes G4, A4, B4, C5.
- Elec. (Electric Guitar):** Measures 215-216: quarter notes G4, A4, B4, C5. Measure 217: quarter notes G4, A4, B4, C5. Measure 218: quarter notes G4, A4, B4, C5. Measure 219: quarter notes G4, A4, B4, C5.
- Pno./EP (Piano/Electric Piano):** Measures 215-216: quarter notes G4, A4, B4, C5. Measure 217: quarter notes G4, A4, B4, C5. Measure 218: quarter notes G4, A4, B4, C5. Measure 219: quarter notes G4, A4, B4, C5.

223 **3** **6** **4** **Q** **12** **16**

Fl. *ff*

B. Cl. *p*

Hn.

Vln. *p*

Vla.

Vc. *ff* *p*

Perc. *mf*

Elec.

Pno./EP *mf*

227

12/16 3/4 16/16 3/4 12/16

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.
dolce, legato
mf

Perc.

Elec.

Pno./EP

237

12/16 4/4 12/16 3/4 12/16

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

Musical score for measures 235-240. The score is divided into measures by vertical bar lines. Above the first measure, the time signature is $\frac{12}{16}$. Above the second measure, the time signature is $\frac{6}{16}$. Above the third measure, the time signature is $\frac{3}{4}$. Above the fourth measure, the time signature is $\frac{12}{16}$. Above the fifth measure, the time signature is $\frac{6}{16}$. The instruments and their parts are:

- Fl.**: Flute part, starting with a measure rest in the third measure.
- B. Cl.**: Bass Clarinet part, starting with a measure rest in the third measure.
- Hn.**: Horn part, starting with a measure rest in the third measure.
- Vln.**: Violin part, marked *snap pizz.* and *f*. It features a rhythmic pattern of eighth notes.
- Vla.**: Viola part, marked *snap pizz.* and *f*. It features a rhythmic pattern of eighth notes.
- Vc.**: Violoncello part, starting with a measure rest in the third measure.
- Perc.**: Percussion part, featuring a rhythmic pattern of eighth notes.
- Elec.**: Electric Guitar part, starting with a measure rest in the third measure.
- Pno./EP**: Piano/Electric Piano part, featuring a rhythmic pattern of eighth notes.

239 **6** **4** **R** **5** **12** **4**
16 **4** **4** **16** **4**

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

247

Fl.

B. Cl.

Hn.

Vln.

Vla. *pizz.*
mf

Vc.

Perc.

"BELL-LIKE" ELECTRONIC SOUND:
ppp

Elec.

Pno./EP

3/4

4/4

Musical score for measures 25-28. The score is arranged in a system with the following parts from top to bottom: Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric guitar (Elec.), and Piano/EP (Pno./EP). The time signature changes from 4/4 in measure 25 to 3/4 in measure 26. The Flute and Bass Clarinet parts are mostly rests. The Viola part has some rhythmic activity in measures 25 and 28. The Electric guitar part has a melodic line in measure 25. The Piano/EP part has a melodic line in measure 25. The Percussion part has a simple rhythmic pattern.

255

4/**4** **3**/**4**

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

mf

n

PRE-RECORDED PITCH-SHIFTING 8TH-NOTE DELAY
(FROM VIOLA SIGNAL):

Musical score for measures 259-262. The score includes parts for Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric guitar (Elec.), and Piano/Electric Piano (Pno./EP). The time signature changes from 3/4 to 4/4 at measure 260 and back to 3/4 at measure 262. The Flute part is mostly rests. The Bass Clarinet, Viola, and Piano/Electric Piano parts have rhythmic patterns. The Electric guitar part has a melodic line. The Percussion part is mostly rests.

263 $\frac{3}{4}$ T $\frac{4}{4}$

Fl.

B. Cl.

Hn.

Vln. *arco, sul pont.*
pp
echoed by high-frequency electronic sound

Vla.

Vc.

Perc.

Elec. *p*

Pno./EP

267

3/4 4/4

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

pp blend into texture

Elec.

Pno./EP

271

3
4

U
4
4

Fl. *balance with Hn.*
mf

B. Cl.

Hn. *balance with Fl.*
mf

Vln.

Vla.

Vc. *pizz.*
mf

Perc.

Elec.

Pno./EP

Musical score for measures 275-278. The score includes parts for Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric guitar (Elec.), and Piano/EP (Pno./EP). The key signature has one flat (B-flat). The time signature changes from 3/4 to 4/4 between measures 276 and 277. The Flute part features a melodic line with slurs and accents. The Bass Clarinet and Horn parts provide harmonic support. The Violin part has a sustained melodic line with slurs. The Viola part has a rhythmic pattern. The Violoncello part has a rhythmic pattern. The Percussion part has a rhythmic pattern. The Electric guitar part has a rhythmic pattern. The Piano/EP part has a rhythmic pattern.

Musical score for measures 279-282. The score includes parts for Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Cello (Vc.), Percussion (Perc.), Electric guitar (Elec.), and Piano/EP (Pno./EP). The key signature has one flat (B-flat). The time signature changes from 3/4 to 4/4 between measures 280 and 281. The Flute part has rests in measures 279 and 280, followed by notes in measures 281 and 282. The Bass Clarinet part has a rhythmic pattern of eighth notes throughout. The Horn part has rests in measures 279 and 280, followed by notes in measures 281 and 282. The Violin part has a melodic line with slurs and accents. The Viola part has a rhythmic pattern of eighth notes. The Cello part has a rhythmic pattern of eighth notes. The Percussion part has a rhythmic pattern of eighth notes. The Electric guitar part has a rhythmic pattern of eighth notes. The Piano/EP part has a rhythmic pattern of eighth notes.

Musical score for measures 283-286. The score is written for the following instruments: Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric Guitar (Elec.), and Piano/EP (Pno./EP). The time signature changes from 4/4 to 3/4 and back to 4/4. The Flute part has a fermata over measures 283 and 284. The Violin part has a *ppp* dynamic marking and a fermata over measures 283 and 284. The Percussion part has a rhythmic pattern of eighth notes. The Electric Guitar part has a rhythmic pattern of eighth notes. The Piano/EP part has a complex rhythmic pattern.

Musical score for measures 287-290. The score is written for the following instruments: Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric Guitar (Elec.), and Piano/EP (Pno./EP). The time signature changes from 4/4 to 3/4 between measures 288 and 289. The Flute part is mostly silent, with rests in all measures. The Bass Clarinet and Piano/EP parts play a rhythmic pattern of eighth notes. The Viola part has a melodic line with some rests. The Percussion part has a consistent rhythmic pattern. The Electric Guitar part has a melodic line with some rests. The Violoncello part is mostly silent, with rests in all measures. The Horn part is mostly silent, with rests in all measures. The Violin part is mostly silent, with rests in all measures.

V

291

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

ord.

f pesante

arco

f pesante

arco

f pesante

mf

GRAPHIC REPRESENTATION OF GLITCHED SOUNDS.

f

4/4

3/4

299

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

2/4

3/4

3/4

4/4

3/4

W

f

303

3/4 4/4 2/4

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

Detailed description: This page of a musical score contains eight staves. The Flute (Fl.) staff begins with a treble clef, a key signature of one sharp (F#), and a 3/4 time signature. It contains a melodic line with a fermata over the first measure. The Bass Clarinet (B. Cl.) staff is in bass clef and contains rests. The Horn (Hn.) staff is in treble clef and contains rests. The Violin (Vln.) staff is in treble clef and contains a melodic line with a fermata. The Viola (Vla.) staff is in alto clef and contains a melodic line with a fermata. The Violoncello (Vc.) staff is in bass clef and contains a rhythmic accompaniment. The Percussion (Perc.) staff is in common time and contains rests. The Electric guitar (Elec.) staff is in treble clef and contains a distorted, noisy texture. The Piano/EP (Pno./EP) staff is in grand staff (treble and bass clefs) and contains a rhythmic accompaniment.

Musical score for measures 307-310. The score includes parts for Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric guitar (Elec.), and Piano/Electric Piano (Pno./EP). The time signatures are 2/4, 3/4, 4/4, and 3/4. The Flute part starts with a treble clef and a key signature of one sharp (F#). The Bass Clarinet part is in bass clef. The Horn part is in treble clef. The Violin and Viola parts are in treble clef, and the Violoncello part is in bass clef. The Percussion part is in a standard percussion clef. The Electric guitar part is in treble clef and features a dense, textured sound. The Piano/Electric Piano part is in bass clef. The score is marked with a dynamic of *mp* (mezzo-piano) in the Violin and Viola parts.

X

Musical score for a multi-instrument ensemble. The score is divided into systems for Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric Guitar (Elec.), and Piano/EP (Pno./EP). The Flute part features a 3/4 time signature, a key signature of one sharp (F#), and a dynamic marking of *3/11*. The Bass Clarinet, Horn, Percussion, and Electric Guitar parts are mostly silent. The Violin, Viola, and Violoncello parts feature rhythmic patterns with accents and dynamic markings. The Electric Guitar part features a complex, textured sound with many notes and a wavy line. The Piano/EP part features a rhythmic pattern with accents and dynamic markings. The score is marked with a large 'X' at the top.

Musical score for measures 315-318. The score is arranged in a system with the following parts from top to bottom: Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric guitar (Elec.), and Piano/EP (Pno./EP). The time signature changes from 2/4 to 4/4 at measure 316 and back to 2/4 at measure 318. The Flute part has a melodic line with a sharp sign. The Bass Clarinet part has a low register line. The Horn part is mostly rests. The Violin and Viola parts have rhythmic patterns. The Violoncello part has a low register line. The Percussion part is mostly rests. The Electric guitar part has a distorted, rhythmic line. The Piano/EP part has a rhythmic pattern.

Y BACK TO ORIGINAL FEEL FROM "N"

319 **2/4** **4/4** **2/4** **4/4** **6/16**

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec. **REVERSE ACOUSTIC PIANO (8vb):** **(SYNTH BASS)** *f*

Pno./EP *f*

323 **6** **16** **4** **12** **16** **4** **6** **16**

Fl. *f*

B. Cl.

Hn.

Vln. *f*

Vla. *f*

Vc. *snap pizz.* *arco* *snap pizz.* *arco*

Perc.

Elec.

Pno./EP

Allegro

Detailed description: This page of a musical score covers measures 323 to 326. The score is for a large ensemble including Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric Guitar (Elec.), and Piano/EP (Pno./EP). The music is in a key with one sharp (F#) and features a complex, multi-measure rest structure. The measures are grouped into four systems, each with a multi-measure rest of 16 measures. The first system (measures 323-324) has a 6/16 time signature, followed by a 4/4 time signature. The second system (measures 325-326) has a 12/16 time signature, followed by a 4/4 time signature. The third system (measures 327-328) has a 6/16 time signature. The Flute part starts with a forte (*f*) dynamic. The Violin and Viola parts also start with a forte (*f*) dynamic. The Violoncello part alternates between *snap pizz.* and *arco* playing. The Percussion part has a rhythmic pattern. The Electric Guitar and Piano/EP parts are mostly silent, with some chords in the Piano/EP part. The tempo is marked *Allegro*.

Musical score for measures 327-330. The score is arranged in a system with the following parts from top to bottom: Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric Piano (Elec.), and Piano/EP (Pno./EP).

Measure 327: Flute (Fl.) has a treble clef, a key signature of one sharp (F#), and a 6/16 time signature. The note is a quarter note G4. Bass Clarinet (B. Cl.) has a bass clef and a 4/4 time signature. The note is a quarter note G2. Horn (Hn.) has a treble clef and a 4/4 time signature. The note is a quarter note G4. Violin (Vln.) has a treble clef and a 4/4 time signature. The note is a quarter note G4, marked *f*. Viola (Vla.) has an alto clef and a 4/4 time signature. The note is a quarter note G3, marked *f*. Violoncello (Vc.) has a bass clef and a 4/4 time signature. The note is a quarter note G2, marked *snap pizz.*

Measure 328: Flute (Fl.) has a treble clef, a key signature of one sharp (F#), and a 4/4 time signature. The note is a quarter rest. Bass Clarinet (B. Cl.) has a bass clef and a 4/4 time signature. The note is a quarter rest. Horn (Hn.) has a treble clef and a 4/4 time signature. The note is a quarter rest. Violin (Vln.) has a treble clef and a 4/4 time signature. The note is a quarter note G4, marked *f*. Viola (Vla.) has an alto clef and a 4/4 time signature. The note is a quarter note G3, marked *f*. Violoncello (Vc.) has a bass clef and a 4/4 time signature. The note is a quarter note G2, marked *arco*.

Measure 329: Flute (Fl.) has a treble clef, a key signature of one sharp (F#), and a 12/16 time signature. The note is a quarter note G4. Bass Clarinet (B. Cl.) has a bass clef and a 4/4 time signature. The note is a quarter note G2. Horn (Hn.) has a treble clef and a 4/4 time signature. The note is a quarter note G4. Violin (Vln.) has a treble clef and a 4/4 time signature. The note is a quarter note G4, marked *f*. Viola (Vla.) has an alto clef and a 4/4 time signature. The note is a quarter note G3, marked *f*. Violoncello (Vc.) has a bass clef and a 4/4 time signature. The note is a quarter note G2, marked *snap pizz.*

Measure 330: Flute (Fl.) has a treble clef, a key signature of one sharp (F#), and a 4/4 time signature. The note is a quarter note G4. Bass Clarinet (B. Cl.) has a bass clef and a 4/4 time signature. The note is a quarter note G2. Horn (Hn.) has a treble clef and a 4/4 time signature. The note is a quarter note G4. Violin (Vln.) has a treble clef and a 4/4 time signature. The note is a quarter note G4, marked *f*. Viola (Vla.) has an alto clef and a 4/4 time signature. The note is a quarter note G3, marked *f*. Violoncello (Vc.) has a bass clef and a 4/4 time signature. The note is a quarter note G2, marked *snap pizz.*

33 $\frac{4}{4}$ $\frac{16}{16}$ $\frac{6}{16}$ $\frac{3}{4}$ $\frac{6}{16}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

arco *snap pizz.* *arco*

Molto *Molto*

Detailed description: This page of a musical score covers measures 33 through 36. The score is arranged in a standard orchestral layout with multiple staves. The top staff is for Flute (Fl.), which begins in 4/4 time at measure 33 and then changes to 16/16, 6/16, 3/4, and 6/16 time signatures. The Bass Clarinet (B. Cl.) and Horn (Hn.) parts are mostly silent, with some rhythmic markings. The Violin (Vln.) and Viola (Vla.) parts feature a rhythmic pattern of eighth notes, with dynamic markings of *f* (forte) and accents. The Violoncello (Vc.) part includes markings for *arco* (arco) and *snap pizz.* (snap pizzicato). The Percussion (Perc.) part has a simple rhythmic pattern. The Electric Piano (Elec.) and Piano/EP (Pno./EP) parts are also present, with the Piano/EP part featuring *Molto* markings. The page number 90 is in the top left, and 119 is at the bottom center.

Z *solì with Vla. and EP*

339 **6** **2** **6** **16** **3**
16 **4** **16** **16** **4**

Fl.

B. Cl.

Hn.

Vln. *f*

Vla. *solì with Fl. and EP*
f

Vc. *snap pizz.*

Perc.

Elec.

Pno./EP *solì with Fl. and Vla.*

343

AA

Fl. $\frac{3}{4}$ $\frac{4}{4}$ $\frac{3}{4}$ $\frac{12}{16}$ $\frac{2}{4}$

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

Musical score for measures 347-350. The score includes parts for Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric guitar (Elec.), and Piano/Electric Piano (Pno./EP). The time signatures for measures 347, 348, 349, and 350 are 2/4, 12/16, 6/16, 3/4, and 12/16 respectively. The score features various musical notations including notes, rests, and dynamic markings such as *f* and *mf*.

Musical score for measures 357-360. The score includes parts for Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric Piano (Elec.), and Piano/EP (Pno./EP). The time signature changes from 12/16 to 3/4, then to 6/8, and finally to 4/4. Dynamics include *ff* and *f*. The score features various musical notations such as slurs, accents, and dynamic markings.

BB

355 $\frac{4}{4}$ $\frac{12}{16}$ $\frac{3}{4}$ $\frac{16}{16}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

p

mf

dolce, legato

Musical score for measures 363-366. The score includes parts for Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Cello (Vc.), Percussion (Perc.), Electric Piano (Elec.), and Piano/EP (Pno./EP). The time signatures are 12/16, 3/4, 12/16, 6/16, and 3/4. The Flute part starts with a forte (*f*) dynamic. The Violin and Viola parts include *snap pizz.* markings. The Percussion part features a rhythmic pattern. The Electric Piano and Piano/EP parts provide harmonic support.

367 $\frac{3}{4}$ $\frac{12}{16}$ $\frac{6}{16}$ $\frac{4}{4}$ $\frac{5}{4}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

CC

37/ $\frac{5}{4}$ $\frac{12}{16}$ $\frac{4}{4}$ $\frac{12}{16}$ $\frac{3}{4}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc. *dolce, legato*
mf

Perc. *mf*

Elec.

Pno./EP *mf*

375 $\frac{3}{4}$ $\frac{16}{16}$ $\frac{3}{4}$ $\frac{12}{16}$ $\frac{4}{4}$

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

Musical score for measures 379-382. The score is written for the following instruments: Flute (Fl.), Bass Clarinet (B. Cl.), Horn (Hn.), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), Percussion (Perc.), Electric Piano (Elec.), and Piano/EP (Pno./EP). The time signature changes are indicated above the Flute staff: 4/4 (measures 379-380), 12/16 (measures 381-382), 3/4 (measure 383), 12/16 (measures 384-385), and 6/16 (measures 386-387). The Flute part features a melodic line with a sharp sign in the second measure of the 12/16 section. The Percussion part has a rhythmic pattern of eighth notes. The Piano/EP part provides harmonic support with chords and bass lines.

383

6/16 3/4 12/16 6/16 4/4

Fl.

B. Cl.

Hn.

Vln.

Vla.

Vc.

Perc.

Elec.

Pno./EP

DD

387 $\frac{4}{4}$ $\frac{5}{4}$ $\frac{12}{16}$ $\frac{4}{4}$

Fl. *ff*

B. Cl. *ff*

Hn. *ff*

Vln. *arco* *ff*

Vla. *arco* *ff*

Vc. *ff*

Perc. *ff*

Elec.

Pno./EP *ff*

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