

**Timepiece**

for amplified chamber ensemble and electronics

by

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Department of Music  
Duke University

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Scott Lindroth

Dissertation submitted in partial fulfillment of  
the requirements for the degree of Doctor of  
Philosophy in the Department of  
Music in the Graduate School  
of Duke University  
2010

ABSTRACT

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## ABSTRACT

Music reminds us that time is not a static entity of existence. It is a pervasive concept across eras, cultures and disciplines, yet it eludes simple definition. Time as an idea can mean many things.

The overall goal of *Timepiece* is to create a musical whole that addresses various aspects of time as experienced both musically and cognitively; in art and in life. The composition aims to highlight the multiple ways in which we understand and think about time as an abstract concept and as a part of human experience. Each of the four movements considers a specific approach to time while emphasizing the ways in which music is a temporal art.

*Timepiece* is scored for an amplified chamber ensemble consisting of nine players: oboe/english horn, bassoon/alto saxophone, electric guitar, electric bass/electric guitar, piano/midi keyboard, percussion (vibraphone, crotales, marimba and drumset), violin, viola and cello. The composition also features live electronics and digital processing.

Movement I, *history becoming memory*, explores time as it relates to change; the movement from past through present to future as represented by the changing states of ending, being and becoming as well as the role of history and memory as informing musical language. Movement II, *circadian cycles* maps an infant's sleep and feeding cycle on to musical parameters. Movement III, *relative and noisy* uses digitally processed sound samples of modeled cosmic events that would cause ripples in the fabric of space-time as the background to which the instrumentalists musically react. The final movement, *second fastest land animal for short distances*, explores ideas of speed and rapidity using elements, both

composed and sequenced, of common “breakbeats” found in certain genres of electronic dance music.

As each instrument is amplified, musical temporalities distinguish themselves, highlighted by the distinct sounds produced both acoustically and electronically. Beyond the basic acoustical variance between the sound of the individual instruments locally and their sound projected through speakers, the amplified sound is manipulated through both sound mixing and digital processing. In many ways, as technology has given rise to musical ideas surrounding the complexity of time itself, so it serves to aid in the expression of the temporal multiplicity in this composition.

## DEDICATION

For my Dad. His time was too short.

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## INSTRUMENTATION

Oboe/English Horn

Bassoon/Alto Saxophone

Percussion

Vibraphone, Crotales, Marimba, Drums Set (crash cymbal, splash cymbal, ride cymbal, hi-hat, high snare drum, low snare drum, high tom, medium tom, low tom, kick drum)

Piano/Midi Keyboard

Electric Guitar

Electric Bass/Electric Guitar

Violin

Viola

Violoncello

The use of a conductor and sound technician is recommended, either of which can operate the computer running Max/MSP.

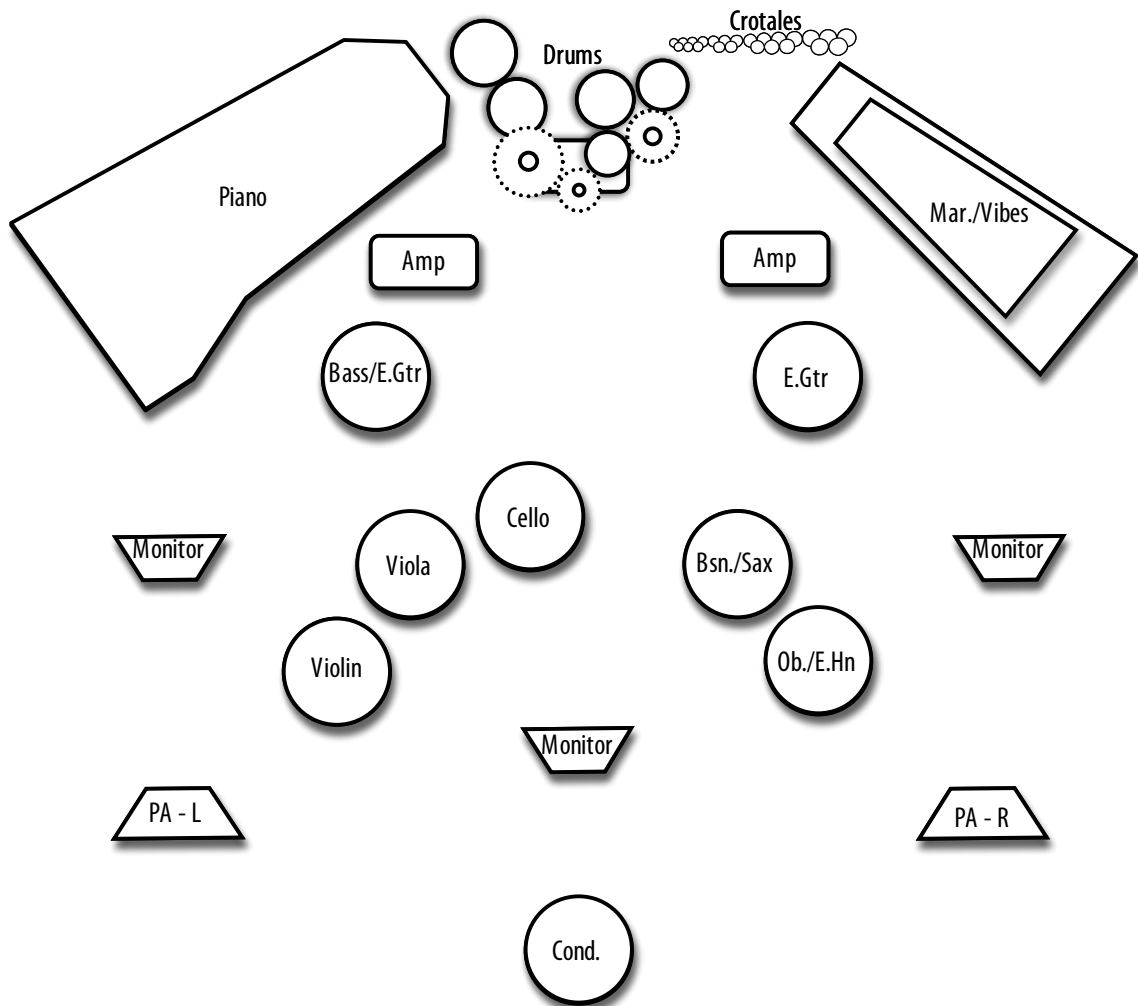
**Duration:** c. 25 minutes

Performance materials (including scores, parts, Max/MSP patches, recordings) can be obtained from the composer. For more information, contact [thom@pulsoptional.org](mailto:thom@pulsoptional.org).

## PERFORMANCE NOTES

1. The score is in C with the exception of the electric bass and electric guitars which sound an octave lower than written and the crotales which sound two octaves higher than written.
2. Accidentals carry through the measure in the octave in which first occur.
3. Unless specifically notated, pedaling on the piano and vibraphone is left to the discretion of the performer.
4. The piece requires the use of a PA and all instruments should be amplified.
5. The violin, viola, cello and piano need to be fed into the computer running Max/MSP in addition to being directly amplified. The composer recommends the use of small clip-on condenser microphones on the strings rather than pick-ups.
6. The Max/MSP patch should be started to begin movement III. In the first performance this was operated by the conductor who followed the progression of the electronic accompaniment in order to cue the musicians at the start of each new section throughout movement III and at the beginning of movement IV. N.B. The patch is left running as movement IV begins attacca.

Suggested ensemble stage configuration:

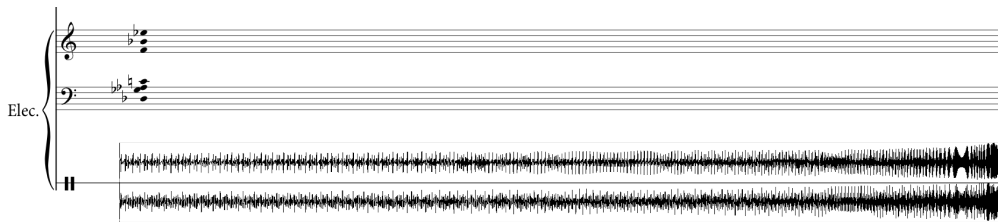


## GUIDE TO NOTATION FOR MOVEMENT III

### *relative and noisy*

In the third movement, the instrumentalists accompany electronic sound comprised of a series of modeled cosmic events that are digitally processed. The movement contains fourteen sections that are lettered A through N. The start of each section is indicated by boxed text containing a letter followed by the approximate duration, in seconds, of that section. **G - 12"**

The electronics are notated in three staves, the bottom of which consists of a waveform graphic representing the processed sound and its overall shape. Above the waveform staff is a grand staff that indicates the harmonic material for that section.



The instrumentalists should use the notated electronic part as a guide to how each section progresses and as an indication of when each new section starts.

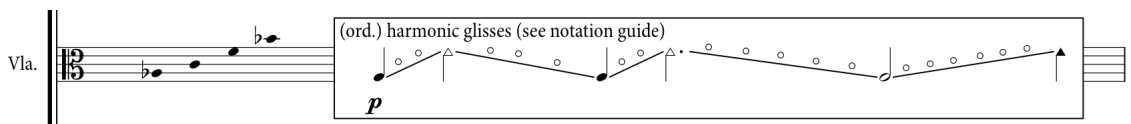
The instrumental part in each section first lists the pitches or sounds from which the player may freely choose during the entirety of that section. In the case of traditionally notated pitch material (plain, stemless noteheads) the player may transpose the pitches up one octave. To the right of the pitches/sound indications in the staff are boxed rhythmic figures that indicate the rhythm in which the pitches should be played. The performer should repeat the rhythms in the box as many times they would like until the section ends.

Within each section, the rhythms should be played at a consistent tempo at the players choosing, between  $\text{♩} = 44$  and 72. The musicians should not make any attempt to metrically coordinate their chosen tempo with other players or the electronic sound. The instrumentalists should generally play very soft while attempting to follow the dynamic contour of the electronics, however, unless otherwise indicated the dynamic should never exceed *mp*.

For those places where the boxed notation does not occur (guitars in section I, winds and strings in section L, piano from section K until the end) the player should freely interpret the pitches and/or text instructions and continue throughout the section.

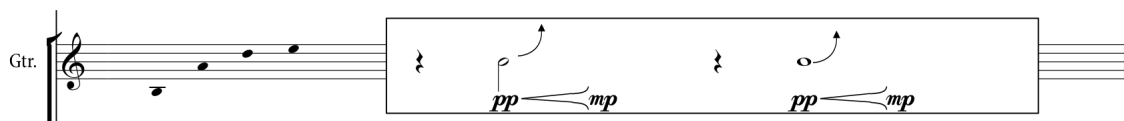
Certain special playing techniques found in the score are detailed below.

**Harmonic Gliss** (section H in strings):



The string player should begin by bowing one of the pitches on the left, and throughout the gliss, gradually lift the finger of the left-hand to create harmonics, traveling all the way up the fingerboard. The player should then return down the fingerboard slowly reapplying pressure with the finger of left-hand before starting the next gesture beginning with another pitch on the left.

**Exponential Gliss** (sections K & L in guitars; sections M & N in strings):





## GUIDE TO NOTATION FOR MOVEMENT IV

### *second fastest land animal for short distances*

Movement IV begins attacca from movement III with five numbered sections each with a corresponding approximate duration:

Section 1: **1** ca. 7" (each instrument as fast as possible, but not rhythmically coordinated)  
*f* poss. legato (breathe as necessary)

Section 2: **2** ca. 9" (simile)  
*simile*

Instruments: Oboe and Alto Saxophone.

In conjunction with the electronic accompaniment, each section proceeds for the duration listed and abruptly stops, pausing briefly before the next section begins. The players should make every effort to stop and start each section in sync with the corresponding electronics. This may be most easily facilitated by the conductor cuing the start and end of each section. The fifth and final section should start softly and gain intensity before four distinct quarter notes are heard in the electronics counting off the start of rehearsal letter A:

Section 5: **5** ca. 15" choose from pitches — start slow and accel.  
*mp*

Rehearsal Letter A: **A** mechanistic and aggressive ♩=132  
 4/4  
*f* → *mp*

Instruments: Oboe (Ob.), Saxophone (Sax.), and Funky Drummer.

This movement contains an audio input part for the string trio and piano whose signals are fed into the computer running Max/MSP. This part contains four staves:



The bottom staff shows the sampled drum tracks that occur in the electronic accompaniment throughout the movement. The grand staff contains the pitches from which the four players may freely choose. The single-line staff above contains the rhythms with which the pitches should be played. The pitch(es) chosen by the player can change (but don't have to) on each new rhythm but should still be drawn from the pitch collection in the bottom staff until a new set of pitches in that staff occurs. The four players should make an effort to avoid large leaps when changing pitches and should be as quiet as possible, only faintly being audible in the performance space but loud enough to provide a strong audio signal to the computer.



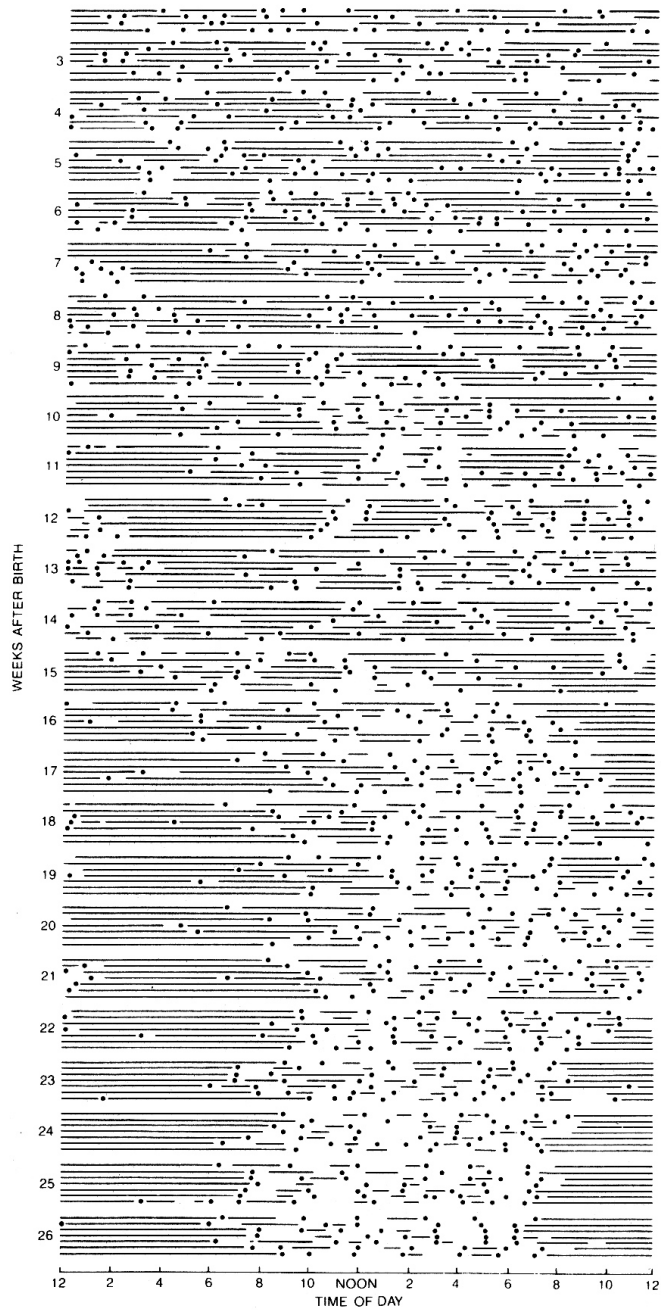
## DESCRIPTION OF MOVEMENTS

Movement I, *history becoming memory*, explores time as it relates to change; the movement from past through present to future as represented by the changing states of ending, being and becoming. This movement also considers the role of history and memory as informing musical language. It includes musical devices employed by other composers who also investigate time as an entity in their own work. Specifically, much of the movement uses the non-retrogradable rhythms found in the *Quartet for the End of Time* by Olivier Messiaen, who saw his use of these “mirror” rhythms as operating on time itself, revealing its nature. In his words, “without musicians, time would be much less understood.”<sup>1</sup>

Movement II, *circadian cycles*, involves the mapping onto musical parameters particular psychological research material articulating the sleep and feeding patterns of the first six months of an infant’s life (see graph on following page). Where the musical representation of the data is explicit, the lines denoting sleep are represented by sustained notes and the dots denoting feeding as short staccato notes. In these instances, eight bars of music represents a time-span of 24 hours. Over the course of the movement, I attempt to let the listener in to the infant’s entrainment, or pulling into phase of a more regular circadian sleep and feeding cycle.

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<sup>1</sup> Anthony Pople, *Messiaen, Quatuor Pour La Fin Du Temps*, Cambridge Music Handbooks (Cambridge ; New York: Cambridge University Press, 1998), 13.



**Entrainment of an infant's circadian rhythm.<sup>2</sup>**

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<sup>2</sup> JT Fraser, *Time, the Familiar Stranger* (Amherst: University of Massachusetts Press, 1987), 118.

Movement III, *relative and noisy*, uses digitally processed sound samples of modeled cosmic events that would cause ripples in the fabric of space-time as the background to which the musicians aleatorically react. These ripples, known in the scientific community as gravitational waves, are phenomena that, if detected, would be the last step in proving Einstein's ideas about space-time and his general theory of relativity. There are several gravitational wave observatories operating in different parts of the world, some of which act as super-sensitive microphones of sorts, tuned to the audible frequency range, listening for the "sounds" of these ripples that, in theory, reshape space and time in the regions through which they pass.<sup>3</sup> (For the source of the audio samples used in this movement, please refer to the bibliography.)

The final movement, *second fastest land animal for short distances*, explores ideas of speed and rapidity using elements, both composed and sequenced, of common "breakbeats" found in certain genres of electronic dance music. The breakbeat is the short snippet of sampled drum groove (usually taken from 70's soul and R&B songs) that when looped, lays the rhythmic foundation for much electronic dance music and hip-hop. The music for this movement stems from my attraction to jungle or drum 'n' bass music where breakbeats are sped up at inordinately fast tempos and split into short rhythmic fragments that when sequenced, create a frenetic chain of syncopated drum patterns. I derived much of the rhythmic and tonal contour of the composition from "sampling" and "fragmenting" specific breakbeats that are commonly heard in jungle/drum 'n' bass. (These particular breakbeats

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<sup>3</sup> M Bartusiak, *Einstein's Unfinished Symphony: Listening to the Sounds of Space-Time* (Washington, D.C.: Joseph Henry Press, 2000).

are cited in the bibliography.) I then mapped each component of the beat to specific instruments. The digitally processed, live electronic accompaniment in this movement consists of the specific breakbeats, both whole and broken, that form the rhythmic skeleton of the entire movement.



7 **7/4** **5/4** **4/4** **6/4** **5/4**

Ob. *ppp* *mp* *ppp* *ppp*

Bsn. *ppp* *mp* *ppp* *ppp*

Crot. *p* (med. mallets) *p*

Pno. *ord. pp* *ord. p*  
*scrape strings w/finger tip*  
*8va<sup>-1</sup>* *8va<sup>-1</sup>*  
*Red.*

Gtr.

Bass

Vln. *pp* *mp*

Vla. *pp* *mp*

Vc. *pizz. arco* *mp* *pp* *pp* *mp* *pizz.* *mf* *arco* *mp*

11

Ob.  $\frac{5}{4}$   $\frac{4}{4}$   $\frac{7}{4}$   $\frac{5}{4}$   
*mf* *ppp* *ppp* *mf*

Bsn. *mf* *ppp* *ppp* *mf*

Crot. *p* *p*

Pno. *p* *p* *p*  
 scrape strings w/finger tip  
 ord.  
 8<sup>va</sup>  
 8<sup>ub</sup>  
 Ped.

Gtr.

Bass

Vln.  $\frac{5}{4}$   $\frac{4}{4}$   $\frac{7}{4}$   $\frac{5}{4}$   
*mp* *mf* *ord.*

Vla. *mp* *mf* *ord.*

Vc. *mp* *mf* *f* *pizz.* *arco* *pp* *mf* *ord.*

14 **5/4** **4/4** **6/4**

Ob. *ppp* *ppp*

Bsn. *ppp* *ppp*

Crot.

Pno.

Gtr.

Bass

Vln. **5/4** **4/4** **5** **3** **6/4**

Vla. **3**

Vc. **3** **3**

Detailed description: This page of a musical score covers measures 14 through 17. It features staves for Oboe (Ob.), Bassoon (Bsn.), Crotonal (Crot.), Piano (Pno.), Guitar (Gtr.), Bass, Violin (Vln.), Viola (Vla.), and Violoncello (Vc.). The woodwinds play a melodic line in 5/4, 4/4, and 6/4 time signatures, marked *ppp*. The strings provide harmonic support with various textures, including triplets and slurs. The Crotal has a single note in measure 15. The Piano, Guitar, and Bass are silent.



16 **6/4** *mf* *ppp* *ppp* **5/4**

Ob.

Bsn.

Crot.

Pno. *p* *8va* *2ed.*

Gtr.

Bass

Vln. **6/4** **5/4**

Vla. *6* *3* *3* *3* *3* *3* *3* *3*

Vc. *3* *3* *3* *3* *3* *3* *3* *3* *9* *f* *9*

Detailed description: This page of a musical score covers measures 16, 17, and 18. The woodwind section (Oboe and Bassoon) features melodic lines with dynamic markings of *mf* and *ppp*. The Oboe part includes a **6/4** time signature in measure 16 and a **5/4** time signature in measure 17. The Percussion section (Crotchet) has sparse rhythmic patterns. The Piano part consists of sustained chords in the right hand and a bass line in the left hand, with an *8va* marking and a *2ed.* (second ending) bracket. The string section (Violins, Violas, and Cellos) has a complex rhythmic texture with triplets and sixteenth-note patterns. The Violin part has **6/4** and **5/4** time signatures. The Viola and Cello parts feature triplet markings and a *f* dynamic marking in the final measure.

18

Ob. *mf* *ppp*

Bsn. *mf* *ppp*

Crot. To Vib.

Pno.

Gtr.

Bass

Vln. *f* *mf* *f* sul tasto (gradually move towards bridge...)

Vla. *f* 6 6 6 6 sul tasto (gradually move towards bridge...)

Vc. *mf* *f* 9 9 9 sul tasto (gradually move towards bridge...)

**B**  
4/4

20

Ob. *ppp*

Bsn. *ppp*

Crot.

Pno. *sost. Ped.*  
*silently depress all notes between these pitches and catch with sost. ped.*

Gtr.

Bass

Vln. *sul pont.*

Vla. *sul pont.*

Vc. *sul pont.*

22

Ob. *mf* *ppp*

Bsn. *mf* *ppp*

Vib. *mp* *Ped.* 3 3

Pno. *mf* *simile*

Gtr.

Bass

Vln. *v*

Vla. 6 6 6 6 6 6 6

Vc. 9 9 9 9

Ob.  
Bsn.  
Vib.  
Pno.  
Gtr.  
Bass  
Vln.  
Vla.  
Vc.

The musical score for measures 24-27 includes the following parts and features:

- Ob. (Oboe):** Rests for all four measures.
- Bsn. (Bassoon):** Rests for all four measures.
- Vib. (Vibraphone):** Features triplet patterns in both hands across all four measures.
- Pno. (Piano):** Provides harmonic support with chords and single notes in both hands.
- Gtr. (Guitar):** Rests for all four measures.
- Bass:** Rests for all four measures.
- Vln. (Violin):** Plays a rhythmic eighth-note pattern with accents in both hands.
- Vla. (Viola):** Features sixteenth-note runs with slurs and accents, marked with a '6'.
- Vc. (Violoncello):** Features sixteenth-note runs with slurs and accents, marked with a '9'.

25

Ob. *ppp*

Bsn. *ppp*

Vib.

Pno.

Gtr.

Bass

Vln.

Vla. 6

Vc. 9

**C** Tenderly (not too heavy)

27

Ob. *f* *ppp*

Bsn. *f* *ppp*

Vib.

Pno.

Gtr. *p*

Bass *p*

(finger entire chord and let all notes ring)

Vln. *mf*

Vla. *mf* 6

Vc. *mf* 9

The musical score is arranged in a vertical system. It begins with measures 27 and 28. The Oboe and Bassoon parts feature a dynamic shift from forte (f) to pianissimo (ppp) across the two measures. The Vibraphone part consists of a continuous eighth-note triplet pattern. The Piano part is mostly silent, with a few notes in the first measure. The Guitar and Bass parts play a rhythmic accompaniment of chords and triplets. The Violin, Viola, and Violoncello parts play a melodic line with slurs and accents, featuring sixteenth-note patterns. The Viola and Cello parts include fingering numbers 6 and 9 respectively.





**D**

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

Ob. *f* *mp* *f*

Bsn. *f* *mp* *f*

Pno.

Gtr. *p* ① ② ③ ④

Bass *p*

Vln.  $\frac{4}{4}$   $\frac{2}{4}$   $\frac{3}{4}$   $\frac{4}{4}$  *mp* pizz.

Vla. *mp* pizz.

Vc. *mp* pizz.



36 **4/4** **3/4**

Ob. *mp* *f*

Bsn. *mp* *f*

Vib. *p* *mf*

Pno.

Gtr. ② ④ ③ ④

Bass

Vln. **4/4** **3/4**

Vla.

Vc.

38 **3/4** **E** **4/4**

Ob. *mp* 6 3 *f* *mf*

Bsn. *mp* 6 3 *f* *mf*

Vib. *mp* 3 *f*

Pno. *mf*

Gtr. *mp*

Bass *mp*

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

Vln. *mf* arco *f* a little heavier

Vla. *mf* arco *f* a little heavier

Vc. *mf* arco *f* a little heavier

40

Ob.

Bsn.

Vib.

Pno.

Gtr.

Bass

Vln.

Vla.

Vc.

3/4

2/4

3/4

2/4

43

Ob.

Bsn.

Vib.

Pno.

Gtr.

Bass

Vln.

Vla.

Vc.

**F**

**mf**

3/8

4/4

2

4

46

Ob. *ppp*

Bsn. *pp*

Vib.

Pno.

Gtr. ① ② ③ ④

Bass

Vln.

Vla.

Vc.

48

Ob. *p mp f*

Bsn. *p mp f*

Vib.

Pno.

Gtr. ① ③

Bass ④ ② ③ ④

Vln. *pp mf*

Vla. *pp mf*

Vc. *pp mf*



50

Ob. *mf* *pp*

Bsn. *mf* *pp*

Vib.

Pno. *p*

Gtr.

Bass *mf* *pp*

Vln. *pp* *pp*

Vla. *pp* *pp*

Vc. *pp* *pp*

52 **G**

Ob. *pp* *mf*

Bsn. *pp* *mf*

Vib.

Pno. *mf*

Gtr.

Bass

**G**

Vln. *mf* *pp*

Vla. *mf* *pp*

Vc. *mf* *pp*

Ob. *pp*

Bsn. *pp*

Vib. *p*

Pno.

Gtr.

Bass

Vln. *pp*

Vla. *pp*

Vc. *pp*

Detailed description: This page of a musical score, numbered 54, contains nine staves. The top two staves are for Oboe (Ob.) and Bassoon (Bsn.), both marked *pp* (pianissimo). The third staff is for Vibraphone (Vib.), marked *p* (piano). The fourth staff is for Piano (Pno.), showing a complex rhythmic accompaniment. The fifth and sixth staves are for Guitar (Gtr.) and Bass, respectively, featuring intricate chordal and melodic lines. The bottom three staves are for Violin (Vln.), Viola (Vla.), and Violoncello (Vc.), all marked *pp*. The score includes various musical notations such as slurs, ties, and dynamic markings.

56

Ob. *p* *mf*

Bsn. *pp* *mf*

Vib. *mf*

Pno.

Gtr. ③ ④ ① ③

Bass

Vln. *mf* *pp*

Vla. *mf* *pp*

Vc. *mf* *pp*

Detailed description: This page of a musical score contains measures 56 through 59. The score is arranged in a standard orchestral layout with nine staves. The Oboe (Ob.) part begins with a rest, followed by a half note G4 (piano), a half note A4 (piano), and a half note B4 (mezzo-forte). The Bassoon (Bsn.) part starts with a rest, followed by a half note G3 (pianissimo), a half note A3 (pianissimo), and a half note B3 (mezzo-forte). The Vibraphone (Vib.) part features a complex rhythmic pattern of eighth notes with a mezzo-forte dynamic. The Piano (Pno.) part has a dense texture of chords and moving lines in both hands. The Guitar (Gtr.) part plays a rhythmic accompaniment with a series of chords, marked with accents and dynamic markings. The Bass part has a melodic line with eighth notes and rests. The Violin (Vln.), Viola (Vla.), and Violoncello (Vc.) parts play sustained chords, with dynamics shifting from mezzo-forte to pianissimo. The page number 56 is at the top left, and the page number 24 is at the bottom center.

58

Ob. *pp*

Bsn. *pp*

Vib.

Pno.

Gtr. ① ③

Bass

Vln. *pp* start tremolo slowly and increase speed until tremolo double-stop

Vla. *pp* start tremolo slowly and increase speed until tremolo double-stop

Vc. *pp* start tremolo slowly and increase speed until tremolo double-stop

60

Ob. *pp*

Bsn. *pp*

Vib.

Pno.

Gtr.

Bass

Vln. *mf* slowly decrease tremolo speed  $\frac{3}{4}$   $\frac{2}{4}$

Vla. *mf* slowly decrease tremolo speed  $\frac{3}{4}$   $\frac{2}{4}$

Vc. *mf* slowly decrease tremolo speed  $\frac{3}{4}$   $\frac{2}{4}$

62  $\frac{2}{4}$   $\frac{3}{8}$   $\frac{3}{4}$   $\frac{2}{4}$  **H**

Ob. *mf*

Bsn. *mf*

Vib.

Pno.

Gtr.  $\textcircled{2}$   $\textcircled{4}$

Bass

Vln.  $\frac{2}{4}$   $\frac{3}{8}$   $\frac{3}{4}$   $\frac{2}{4}$  **H**  
*ppp* *p* *mf* sul pont.

Vla. *ppp* *p* *mf* sul pont.

Vc. *ppp* *p* *mf* sul pont.

65  $\frac{2}{4}$   $\frac{3}{8}$   $\frac{3}{4}$

Ob. *pp* *mp*

Bsn. *pp* *mp*

Vib.

Pno.

Gtr.

Bass

Vln.  $\frac{2}{4}$   $\frac{3}{8}$   $\frac{3}{4}$

Vla.

Vc.



68 **3/4** **5/4**

Ob. *f fp* *f fp*

Bsn. *f fp* *f fp*

Vib.

Pno.

Gtr.

Bass

Vln. **3/4** ord. *f* *p* **5/4**

Vla. ord. *f* 6 6

Vc.

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

Ob. *f fp* *n*

Bsn. *f fp* *n*

Vib. *p*

Pno. *p*

Gtr. *p*

Bass *p*

Vln.  $\frac{5}{4}$   $\frac{3}{4}$   $\frac{4}{4}$

Vla. *p*

Vc. *f* *ord.* *p*

72  $\frac{4}{4}$  **I** Espressivo, poco più mosso ( $\text{♩} = 64$ )

*breathe as necessary*

*mp* *f*

Ob.

*mp* *f*

Bsn.

*mp* *f*

Vib.

*f*

Pno.

*f*

Gtr.

*f*

Bass

*f*

**I** Espressivo, poco più mosso ( $\text{♩} = 64$ )

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

*mp* *f*

Vln.

*mp* *f*

Vla.

*mp* *f*

Vc.

*f*

75

Ob.

Bsn.

Vib.

Pno.

Gtr.

Bass

Vln.

Vla.

Vc.

Detailed description: This page of a musical score, numbered 75, contains measures 75 through 78. The score is arranged in a vertical stack of staves. From top to bottom, the instruments are: Oboe (Ob.), Bassoon (Bsn.), Vibraphone (Vib.), Piano (Pno.), Guitar (Gtr.), Bass, Violin (Vln.), Viola (Vla.), and Violoncello (Vc.). The Oboe, Bassoon, and Violin parts feature melodic lines with slurs and accents. The Piano part is a complex accompaniment with many beamed notes and slurs. The Guitar part has a steady eighth-note pattern. The Bass, Viola, and Violoncello parts provide a rhythmic and harmonic foundation with slurred eighth-note patterns. The Vibraphone part consists of chords with slurs. The key signature has two flats, and the time signature is 4/4.

79

Ob.

Bsn.

Vib.

*dim. poco a poco*

Pno.

*dim. poco a poco*

Gtr.

Bass

Vln.

Vla.

Vc.

This page of a musical score contains measures 79 through 82. The score is arranged in a system with ten staves. From top to bottom, the staves are for Oboe (Ob.), Bassoon (Bsn.), Vibraphone (Vib.), Piano (Pno.), Guitar (Gtr.), Bass, Violin (Vln.), Viola (Vla.), and Violoncello (Vc.). The key signature has two flats (B-flat and E-flat), and the time signature is 4/4. The woodwinds and strings play melodic lines with various articulations and slurs. The piano part features a complex accompaniment with many beamed sixteenth notes and slurs. The instruction 'dim. poco a poco' is written above the Vibraphone and Piano staves. The page number '79' is located at the top left of the first staff.

82

Ob.

Bsn. *dim. poco a poco*

Vib. *p* l.v.

Pno. *p* l.v.

Gtr. *dim. poco a poco*

Bass *dim. poco a poco* *p* l.v.

Vln.

Vla.

Vc.

Detailed description: This page of a musical score contains measures 82 through 85. The score is for a full orchestra and includes parts for Oboe (Ob.), Bassoon (Bsn.), Vibraphone (Vib.), Piano (Pno.), Guitar (Gtr.), Bass, Violin (Vln.), Viola (Vla.), and Violoncello (Vc.). The key signature has two flats (B-flat and E-flat), and the time signature is 4/4. The Oboe part features a melodic line with slurs and accents. The Bassoon part plays a similar melodic line, marked with a dynamic of *dim. poco a poco*. The Vibraphone and Piano parts play chords, with the Piano part marked *p* and *l.v.* (left hand). The Guitar part plays a melodic line, also marked *dim. poco a poco*. The Bass part plays a melodic line, marked *dim. poco a poco* and *p* in the later measures, with *l.v.* (left hand) indicated. The Violin, Viola, and Violoncello parts play a rhythmic accompaniment with slurs and accents.

87

Ob. *dim. poco a poco*

Bsn. *p* *n*

Vib.

Pno.

Gtr. *l.v.* *p*

Bass

Vln. *dim. poco a poco* *poco a poco sul tasto* *mf*

Vla. *dim. poco a poco* *poco a poco sul tasto* *mf*

Vc. *dim. poco a poco* *poco a poco sul tasto* *mf*

93

Ob. *n*

Bsn. -

Vib. -

Pno. -

Gtr. -

Bass -

Vln. *mp*

Vla. *mp*

Vc. *mp*



97 **poco rall.**  $\frac{4}{4}$

Ob. *pp*

Bsn. *pp*

Vib. *pp*

Pno.

Gr.

Bass

Vln. **poco rall.** *sul tasto*  $\frac{4}{4}$  *p* *ppp* *pp*

Vla. *sul tasto* *p* *ppp* *pp*

Vc. *sul tasto* *p* *ppp* *pp*

## II. circadian cycles

Stridently ( $\text{♩} = 104$ )

**3/4**

English Horn *f*

Alto Saxophone *f*

Electric Guitar 1 *f*

Electric Guitar 2 *f*

Drum Set *mf* *pp* *mf*

Piano

Stridently ( $\text{♩} = 104$ )

**3/4**

Violin *f*

Viola *f*

Violoncello *f*

7 **A** *Meno mosso* (♩ = 94)

E. Hn. *p ff*

Alto Sax. *p ff*

Gtr.1 *f*

Gtr.2 *f* <sup>8<sup>va</sup></sup>

Dr. *p mf*

Pno.

Vln. *p ff*

Vla. *p ff*

Vc. *p ff*

13

E. Hn. *mp* < *ff*

Alto Sax. *mp* < *ff*

Gtr.1 *mp* < *ff*

Gtr.2 (8) *mp* < *ff*

Dr. *mp* < *ff*

Pno.

Vln. *mp* < *ff*

Vla. *mp* < *ff*

Vc. *mp* < *ff*

4/4 3/4

**B** Molto meno mosso (♩ = 84)

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

E. Hn. *mf*

Alto Sax. *mf*

Gtr.1 *mf*

Gtr.2 *mf*

Dr. *p*

Pno.

Vln. *mf*

Vla. *mf*

Vc. *mf*

24

E. Hn.

Alto Sax.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

*f*

*mp*

*f*

*mp*

*mf*

*mp*

*f*

*mp*

*f*

*mp*

*f*

*mp*

30 **poco rall.** **C** ♩. = ♩ A tempo (♩ = 104)

E. Hn. *ff* *n*

Alto Sax. *ff* *n* To Bsn.

Gtr.1 *mf* let all notes ring where possible (reset at ♢)

Gtr.2 *mf* let all notes ring where possible (reset at ♢)

Dr. *mf* > To Croc.

Pno.

Vln. **poco rall.** **C** ♩. = ♩ A tempo (♩ = 104) *ff*

Vla. *ff*

Vc. *ff*

36

E. Hn.

Alto Sax.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

The musical score for measures 36-43 is as follows:

- E. Hn. and Alto Sax.:** Rests for all measures.
- Gtr.1:**
  - Measures 36-37: Quarter-note eighth-note pairs (F#4, G4), (A4, B4).
  - Measures 38-39: Quarter-note pairs (B4, A4), (G4, F#4).
  - Measures 40-41: Quarter-note pairs (E5, D5), (C5, B4).
  - Measures 42-43: Quarter-note pairs (B4, A4), (G4, F#4).
- Gtr.2:**
  - Measures 36-37: Quarter-note pairs (G3, A3), (B3, C4).
  - Measures 38-39: Quarter-note pairs (D4, E4), (F4, G4).
  - Measures 40-41: Quarter-note pairs (A4, B4), (C5, B4).
  - Measures 42-43: Quarter-note pairs (A4, G4), (F#4, E4).
- Dr.:** Rests for all measures.
- Pno.:** Rests for all measures.
- Vln.:**
  - Measures 36-37: Quarter-note pairs (G4, A4), (B4, C5) with dynamics *p*.
  - Measures 38-39: Quarter-note pairs (B4, A4), (G4, F#4) with dynamics *p*.
  - Measures 40-43: Rests with dynamics *mf*.
- Vla.:**
  - Measures 36-37: Quarter-note pairs (G3, A3), (B3, C4) with dynamics *p*.
  - Measures 38-39: Quarter-note pairs (D4, E4), (F4, G4) with dynamics *p*.
  - Measures 40-43: Rests with dynamics *mf*.
- Vc.:**
  - Measures 36-37: Quarter-note pairs (G2, A2), (B2, C3) with dynamics *p*.
  - Measures 38-39: Quarter-note pairs (D3, E3), (F3, G3) with dynamics *p*.
  - Measures 40-43: Rests with dynamics *mf*.



44 **D** Delicately

E. Hn. *pp* *mf p* *mf pp* *mf pp* *mf*

Bassoon *pp* *mf pp* *mf pp* *mf pp* *mf pp*

Alto Sax. *pp* *mf pp* *mf pp* *mf pp* *mf pp*

Gtr.1 *pp*

Gtr.2 *pp*

Crot. (bowed) *mf*

Pno.

**D** Delicately (all strings gliss together) *mf* *mp* *p*

Vln. pizz. *mf* *mp* *p*

Vla. pizz. *mf* *mp* *p*

Vc. pizz. *mf* *mp* *p*

E. Hn. *pp* *mf* *p* *mf*

Bsn. *mf* *p* *mf* *pp* *mf* *pp* *mf*

Gtr.1

Gtr.2

Crot.

Pno. *pp*

Vln. *mf* *p* *mf* *p* *mf* *p*

Vla. *mf* *p* *mf* *p* *mf* *p*

Vc. *mf* *p* *mf* *p* *pizz.*

55

E

E. Hn.

Bsn.

Gtr.1

Gtr.2

Crot.

Pno.

Vln.

Vla.

Vc.

*mf* *p*

*p*

*mf* *p*

*mf* *p* *mf* *p* *mf* *p* *mf*

*mf* *p* *mf* *p* *mf* *p* *mf*

arco *mp*

61

E. Hn. *mf* *p* *mf* *p* *mf* *p*

Bsn. *mf* *p* *mf* *p* *mf* *p* *mf* *p* *mf* *p* *mf* *p*

Gtr.1

Gtr.2

Crot.

Pno. *mp*

Vln. arco *p*

Vla. arco *p*

Vc. *p*

**F** Majestically

67

E. Hn. *mf* *p* *f* *ppp*

Bsn. *mf* *p* *f* *ppp*

Gtr.1 *mf*

Gtr.2 *mf*

Crot.

Pno.

Vln. *f* *ppp*

Vla. *f* *ppp*

Vc. *f* *ppp*

2/4 3/4

E. Hn. *p* *mf* *p* *f*

Bsn. *mf* *p* *f* *p* *f* *p* *f*

Gtr.1 *mp*

Gtr.2 *mp*

Crot. *mp* *cresc.*

Pno.

Vln.

Vla. *f* *p* *f* *p* *f*

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

79

**G**

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

E. Hn. *p* *f* *p* *ff* *mp*

Bsn. *p* *f* *p* *ff* *mp*

Gtr.1 *p*

Gtr.2 *p*

Crot. *f* To Dr.

Pno.

**G**

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

Vln. *mf* *p* *f* *p* *ff* *f* *p < f* *p*

Vla. *p* *f* *p* *ff* *p*

Vc. *p* *f* *p* *ff* *p* *f* *p*

E. Hn.

Bsn.

Gtr. 1

Gtr. 2

Croc.

Pno.

Vln.

Vla.

Vc.

*f* *p* *f* *p* *f* *p* *f* *p*

*f* *p* *f* *p* *f* *p* *f* *p*

*f* *p* *f* *p* *f* *p* *f* *p*





**H** Driving and crisp

**3/4**

E. Hn. *ff* *n*

Bsn. *ff* *n*

Gtr.1 *mf*

Gtr.2 *mf*

Dr. *mf*

Pno. *f*

**H** Driving and crisp

**3/4**

Vln. *ff*

Vla. *ff*

Vc. *ff*

99 I

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

*mf*

*mf*

*f*

*f*

*f*

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

Detailed description: This page of a musical score covers measures 103 through 106. The instruments are arranged in a standard orchestral layout. The E. Hn. and Bsn. parts are mostly silent, indicated by rests. The Gtr.1 and Gtr.2 parts feature complex, melodic lines with many slurs and ties. The Dr. part has a rhythmic pattern with 'x' marks above notes, suggesting a specific drum sound. The Pno. part is silent. The Vln., Vla., and Vc. parts have active, rhythmic accompaniment with many slurs and ties. The score is written in a key with one sharp (F#) and a 4/4 time signature.

107

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

*p*

*p*

Detailed description: This page of a musical score covers measures 107 through 110. The score is arranged in a standard orchestral layout. At the top, the E. Hn. and Bsn. parts are shown, both starting with a *p* dynamic marking. The Gtr. 1 and Gtr. 2 parts feature complex rhythmic patterns with many beamed notes and slurs. The Dr. part has a consistent pattern of eighth notes with 'x' marks above them, indicating cymbal hits. The Pno. part is silent throughout these measures. The Vln., Vla., and Vc. parts provide a harmonic foundation with various rhythmic figures and slurs. The page number 107 is written above the first measure of the E. Hn. staff.

111

**J**

E. Hn. *fp* *f* *p* *f* *mp* *f*

Bsn. *fp* *f* *p* *f* *p*

Gtr.1

Gtr.2

Dr.

Pno. *mf*

**J**

Vln.

Vla.

Vc.

114

E. Hn. *mp* *f* *p* *f* *mp* *f* *p* *f* *p*

Bsn. *f* *mp* *f* *p* *f* *p* *f* *p*

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

Detailed description: This page of a musical score, numbered 114, contains eight staves. The top two staves are for E. Hn. (English Horn) and Bsn. (Bassoon). The E. Hn. staff has a treble clef and a key signature of one flat. The Bsn. staff has a bass clef. The next two staves are for Gtr.1 and Gtr.2 (Guitars). The Dr. (Drum) staff has a drum clef and shows a rhythmic pattern with 'x' marks for cymbals. The Pno. (Piano) staff has a grand staff with treble and bass clefs. The bottom three staves are for Vln. (Violin), Vla. (Viola), and Vc. (Violoncello). The Vln. and Vla. staves have treble clefs, and the Vc. staff has a bass clef. Dynamic markings (*mp*, *f*, *p*) and articulation marks (accents, slurs) are present throughout the score.

**K**  
118

E. Hn.  
*mf*

Bsn.  
*mf*

Gtr.1  
*mf*

Gtr.2  
*mf*

Dr.

Pno.  
*mf*

**K**

Vln.  
*mf*

Vla.

Vc.



122

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

Detailed description: This page of a musical score covers measures 122 through 125. The score is arranged in a system with eight staves. The top two staves are for E. Hn. (E-flat Horn) and Bsn. (Baritone Saxophone). The next two staves are for Gtr.1 (Guitar 1) and Gtr.2 (Guitar 2). The fifth staff is for Dr. (Drum), showing a consistent rhythmic pattern of eighth notes. The sixth staff is for Pno. (Piano), with both treble and bass clefs. The bottom three staves are for Vln. (Violin), Vla. (Viola), and Vc. (Violoncello), which are currently silent. The music is in a key with one flat (B-flat major or E-flat minor) and a 4/4 time signature. Measure 122 starts with a treble clef and a key signature of one flat. The horn parts play eighth-note patterns, while the guitar parts play chords and arpeggios. The piano part provides a harmonic accompaniment with eighth-note chords. The drum part maintains a steady eighth-note pulse.



131

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

Detailed description: This page of a musical score covers measures 131 through 134. The score is arranged in a system with eight staves. The top two staves are for E. Hn. (treble clef) and Bsn. (bass clef). The next two staves are for Gtr.1 (treble clef) and Gtr.2 (treble clef). The fifth staff is for Dr. (drum set). The sixth staff is for Pno. (piano), with a grand staff (treble and bass clefs). The bottom three staves are for Vln. (treble clef), Vla. (bass clef), and Vc. (bass clef). The music is in a key with one sharp (F#) and a 4/4 time signature. The E. Hn. part features a melodic line with slurs and accents. The Bsn. part provides a harmonic accompaniment. The Gtr.1 part has a rhythmic pattern with slurs. The Gtr.2 part has a similar rhythmic pattern. The Dr. part has a consistent drum pattern. The Pno. part has a steady accompaniment. The Vln., Vla., and Vc. parts have a rhythmic accompaniment.

135

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

2/4

2/4

139  $\frac{2}{4}$   $\frac{3}{4}$  M

E. Hn. *mf*

Bsn.

Gtr.1 *f* *mp*

Gtr.2 *f* *mp*

Dr. *mp*

Pno. *mf*

Vln. *f*

Vla. *f* sul pont.

Vc. *f* sul pont.

144 2/4

E. Hn.

Bsn.

Gtr. 1

Gtr. 2

Dr.

Pno.

Vln. 2/4

Vla.

Vc.

147  $\frac{2}{4}$  **N**  $\frac{3}{4}$

E. Hn. *f*

Bsn. *f*

Gtr.1 *p*

Gtr.2 *p*

Dr.

Pno. *mp*

Vln. *mf*

Vla. *mf* ord.

Vc. *mf* ord.

151

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

7/8

3/4

7/8

3/4

sul pont.

sul pont.

Detailed description of the musical score: The score is for measures 151, 152, and 153. It features eight staves: E. Hn. (Trumpet), Bsn. (Baritone Saxophone), Gtr.1 (Electric Guitar 1), Gtr.2 (Electric Guitar 2), Dr. (Drum), Pno. (Piano), Vln. (Violin), Vla. (Viola), and Vc. (Violoncello). The key signature is one sharp (F#). The time signature is 7/8 for measures 151 and 152, and changes to 3/4 for measure 153. The E. Hn. and Bsn. parts have melodic lines with slurs and accents. The Gtr.1 part consists of rhythmic chords marked with 'x'. The Gtr.2 part has a similar rhythmic pattern. The Dr. part shows a drum kit with various rhythms. The Pno. part has a harmonic accompaniment. The Vln., Vla., and Vc. parts are marked 'sul pont.' and play a rhythmic accompaniment. There are dynamic markings like 'v' and 'f' throughout. Measure numbers 151, 152, and 153 are indicated at the top. Time signature changes from 7/8 to 3/4 are marked above the staves.



154  $\frac{3}{4}$

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.  $\frac{3}{4}$

Vla. ord.

Vc. ord.

157

**O**

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

*n*

*n*

*p*

*mf*

*mf*

*mf*

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

Detailed description: This page of a musical score covers measures 161 to 164. The score is arranged in a standard orchestral layout. The top section includes the woodwinds: E. Hn. (E-flat Horn) and Bsn. (Bassoon), both of which are silent in these measures. Below them are the guitars (Gtr.1 and Gtr.2) and the drums (Dr.), also silent. The piano (Pno.) part features a complex rhythmic accompaniment with sixteenth and thirty-second notes, including accents and slurs. The string section (Vln., Vla., Vc.) plays a melodic line with slurs and accents, mirroring the piano's rhythmic complexity. The key signature has one flat (B-flat), and the time signature is 4/4.

165

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

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

*mf*

*f*

*mf*

**P**

170

E. Hn.

Bsn.

Gtr.1  
*mf*

Gtr.2  
*mf*

Dr.  
*mp*

Pno.  
*f*

**P**

Vln.  
*f*

Vla.  
*f*

Vc.  
*f*

Detailed description of the musical score: The score is for measures 170-173. It features seven staves: E. Hn. (English Horn), Bsn. (Bassoon), Gtr.1 (Electric Guitar 1), Gtr.2 (Electric Guitar 2), Dr. (Drum), Pno. (Piano), and a string section (Vln., Vla., Vc.). The key signature has one sharp (F#) and the time signature is 4/4. The E. Hn. and Bsn. parts play a melodic line with eighth notes and rests. The Gtr.1 part has a melodic line with slurs and accents, marked *mf*. The Gtr.2 part has a rhythmic accompaniment with chords and slurs, also marked *mf*. The Dr. part has a complex rhythmic pattern with accents, marked *mp*. The Pno. part has a harmonic accompaniment with chords and slurs, marked *f*. The string section (Vln., Vla., Vc.) has a melodic line with slurs and accents, marked *f*. A 'P' (Piano) instruction is placed above the first measure of the E. Hn. staff.

174

E. Hn.

Bsn.

Gtr. 1

Gtr. 2

Dr.

Pno.

Vln.

Vla.

Vc.

Detailed description: This page of a musical score covers measures 174 through 177. The score is arranged in a system with eight staves. The instruments are: E. Hn. (Euphonium), Bsn. (Baritone Saxophone), Gtr. 1 (Guitar 1), Gtr. 2 (Guitar 2), Dr. (Drum set), Pno. (Piano), Vln. (Violin), Vla. (Viola), and Vc. (Violoncello). The key signature has two flats (B-flat and E-flat), and the time signature is 4/4. The E. Hn. and Bsn. parts feature melodic lines with slurs and accents. The Gtr. 1 part has sustained chords and melodic fragments, while Gtr. 2 plays a rhythmic accompaniment of chords. The Dr. part shows a consistent drum pattern with various note values and rests. The Pno. part provides harmonic support with chords and moving lines. The Vln., Vla., and Vc. parts play more complex, rhythmic patterns, often with slurs and accents.

178

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln.

Vla.

Vc.

181

Detailed description: This page of a musical score covers measures 178 to 181. The instruments are arranged in a standard orchestral layout. The E. Hn. and Bsn. parts feature eighth-note patterns with slurs. The Gtr.1 part has a melodic line with slurs and ties, while Gtr.2 provides a rhythmic accompaniment with chords and eighth notes. The Dr. part shows a complex drum pattern with various note values and rests. The Pno. part consists of a steady eighth-note accompaniment in both hands. The Vln., Vla., and Vc. parts have melodic lines with slurs and ties, mirroring the E. Hn. part. A double bar line with a repeat sign is located at the end of measure 181.

182

**Q** More broadly (♩ = c. 92)

**4**/**8** **4**/**4** **3**/**4**

E. Hn. *f* *n*

Bsn. *f* *n*

Gtr.1 *f*

Gtr.2 *f* To Drop D

Dr.

Pno. *f*

**Q** More broadly (♩ = c. 92)

**4**/**8** **4**/**4** **3**/**4** (jeté)

Vln. *f* *n* *mf*

Vla. *f* *n* *mf*

Vc. *f* *n* *mf*



186 4/4

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln. 4/4

Vla.

Vc.

190

**4/4** **3/4** **9/8**

E. Hn.

Bsn.

Gtr.1

Gtr.2

Dr.

Pno.

Vln. (exact rhythm)

Vla.

Vc.

*p*

**R** ← ♩ = ♩ → (♩. = 92)

195

E. Hn. *mf* *n* To Ob.

Bsn. *mf* *n* To Alto Sax.

Gtr. 1 *mf*

Gtr. 2 *mf* Drop D

Dr. *p*

Pno. *p*

Vln. *mp*

Vla. *mp*

Vc. *mp*

E. Hn.

Bsn.

Gtr. 1

Gtr. 2

Dr.

Pno.

Vln.

Vla.

Vc.

Detailed description: This page of a musical score covers measures 199 through 202. The score is arranged in a vertical stack of staves. At the top, the E. Hn. and Bsn. staves are mostly empty, with only a few rests. Below them, the Gtr. 1 staff features a complex, multi-measure chordal texture with many notes beamed together. The Gtr. 2 staff has a rhythmic pattern of eighth notes with frequent rests. The Dr. staff shows a consistent drum pattern with 'x' marks for cymbals. The Pno. staff has a dense, multi-measure chordal texture. The Vln., Vla., and Vc. staves all have melodic lines with many notes beamed together, often marked with accents.

E. Hn.

Bsn.

Gtr. 1

Gtr. 2

Dr.

Pno.

Vln.

Vla.

Vc.

*mp*

Detailed description: This page of a musical score covers measures 203 through 206. The score is arranged in a vertical stack of staves. At the top, the E. Hn. and Bsn. staves are mostly empty, with only a few notes in measure 203. Below them, the Gtr. 1 staff features a complex, multi-measure chordal texture with many notes beamed together. The Gtr. 2 staff has a more rhythmic, percussive feel with many rests and short notes. The Dr. staff shows a consistent rhythmic pattern of eighth notes with 'x' marks above them, indicating a specific drum sound, and a *mp* dynamic marking. The Pno. staff has a dense, multi-measure chordal texture. The Vln., Vla., and Vc. staves all feature melodic lines with many notes beamed together, often with accents or slurs. The overall texture is dense and complex.

E. Hn.

Bsn.

Gtr. 1

Gtr. 2

Dr.

Pno.

Vln.

Vla.

Vc.

Detailed description: This page of a musical score covers measures 207 to 210. The score is arranged in a standard orchestral layout. At the top, the E. Hn. and Bsn. parts are shown with whole rests. The Gtr. 1 part features a complex, multi-measure chordal texture with many notes beamed together. The Gtr. 2 part plays a rhythmic pattern of eighth notes with a 7/8 time signature. The Dr. part has a consistent eighth-note pattern with 'x' marks above the notes. The Pno. part has a flowing, melodic line with many notes beamed together. The Vln. part has a melodic line with many notes beamed together. The Vla. part has a melodic line with many notes beamed together. The Vc. part has a melodic line with many notes beamed together.

210 **S** Oboe

E. Hn. *p cresc.*

Sax. Alto Saxophone *p cresc.*

Gtr. 1

Gtr. 2

Dr.

Pno. *mp*

Vln. **S** *mf*

Vla. *mf*

Vc. *mf*

Ob. *mf*

Sax. *mf*

Gtr. 1

Gtr. 2

Dr.

Pno.

Vln.

Vla.

Vc.

Detailed description: This page of a musical score covers measures 213, 214, and 215. The instrumentation includes Oboe (Ob.), Saxophone (Sax.), two Guitars (Gtr. 1 and Gtr. 2), Drums (Dr.), Piano (Pno.), Violin (Vln.), Viola (Vla.), and Violoncello (Vc.). The Oboe and Saxophone parts are marked *mf* and feature melodic lines with slurs and accents. The Guitars play a rhythmic accompaniment with chords and single notes. The Drums play a steady pattern of eighth notes. The Piano part consists of a complex harmonic accompaniment with many chords and slurs. The Violin part has a melodic line with some double stops and slurs. The Viola and Violoncello parts provide a harmonic foundation with sustained notes and some movement.



T ← ♩ = ♩ → (♩ = 138)

**3**  
**4**

216

Ob. *ff*

Sax. *ff*

Gtr.1 *mf*

Gtr.2 *mf*

Dr. *mf*

Pno. *f*

T ← ♩ = ♩ → (♩ = 138)

**3**  
**4** (at the frog)

Vln. *f* (at the frog)

Vla. *f*

Vc. *f* (at the frog)

220

Ob.

Sax.

Gtr. 1

Gtr. 2

Dr.

Pno.

Vln.

Vla.

Vc.

*p*

*pizz*

Detailed description: This page of a musical score covers measures 220 to 224. The instruments are arranged vertically: Oboe (Ob.), Saxophone (Sax.), Guitar 1 (Gtr. 1), Guitar 2 (Gtr. 2), Drums (Dr.), Piano (Pno.), Violin (Vln.), Viola (Vla.), and Violoncello (Vc.). The score is written in treble clef for most instruments, with the piano part in grand staff. The key signature has one sharp (F#). The tempo is 120. The score includes various musical notations such as slurs, accents, and dynamic markings. The guitar parts feature complex rhythmic patterns with many accidentals. The drum part has a consistent rhythmic pattern with accents. The piano part has a melodic line in the right hand and a supporting bass line in the left hand. The string parts (Vln., Vla., Vc.) play a rhythmic accompaniment with some melodic movement. The word 'pizz' (pizzicato) is written above the string staves in measures 223 and 224. The dynamic marking 'p' (piano) is used in measures 221, 222, and 223.

225

**4/4**

Ob.

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

*p* *f*

Sax.

*p* *f*

Gtr. 1

*mf*

Gtr. 2

*mf*

Dr.

*mf*

Pno.

*f*

**4/4**

Vln.

**3/4** **U** arco (at the frog)

*mf*

Vla.

arco (at the frog)

*mf*

Vc.

arco (at the frog)

*mf*

229 2/4

Ob.  
Sax.  
Gtr.1 *p*  
Gtr.2 *p*  
Dr. *p*  
Pno. *p*  
Vln. *pizz.*  
Vla. *pizz.*  
Vc. *pizz.*

2/4

Detailed description: This page of a musical score covers measures 229 to 232. The score is for a 2/4 time signature. The instruments are arranged in a standard orchestral layout. The woodwinds (Ob. and Sax.) play a melodic line with a grace note in the first measure. The guitars (Gtr.1 and Gtr.2) play a rhythmic accompaniment with a *p* dynamic. The drums (Dr.) play a steady pattern with a *p* dynamic. The piano (Pno.) plays a complex accompaniment with a *p* dynamic. The strings (Vln., Vla., Vc.) play a rhythmic pattern with a *pizz.* dynamic. The score ends with a 2/4 time signature in the bottom right corner.

234

Ob.  $\frac{2}{4}$   $\frac{3}{4}$   $\text{V}$   $f$

Sax.  $f$

Gtr. 1  $mf$

Gtr. 2  $mf$

Dr.  $mf$

Pno.  $f$

Vln.  $\frac{2}{4}$   $\frac{3}{4}$   $\text{V}$   $p$   $mf$  (at the frog)

Vla.  $p$   $mf$  (at the frog)

Vc.  $p$   $mf$  (at the frog)

239

Ob.

Sax.

Gtr. 1

Gtr. 2

Dr.

Pno.

Vln.

Vla.

Vc.

*p*

*pizz.*

**2/4** **3/4** **2/4**

Detailed description of the musical score: The score is for measures 239-242. It features a variety of instruments: Oboe (Ob.), Saxophone (Sax.), two Guitars (Gtr. 1 and Gtr. 2), Drums (Dr.), Piano (Pno.), Violin (Vln.), Viola (Vla.), and Violoncello (Vc.). The music is characterized by intricate rhythmic patterns, particularly in the guitar and piano parts. Dynamic markings include piano (*p*) and pizzicato (*pizz.*). The time signature changes from 2/4 in measure 239 to 3/4 in measure 240, and returns to 2/4 in measure 241. The Oboe and Saxophone parts have melodic lines with some rests. The guitar parts feature complex rhythmic textures with many sixteenth and thirty-second notes. The drums provide a steady accompaniment. The piano part has a dense, flowing texture. The string parts (Vln., Vla., Vc.) play pizzicato chords and single notes.

244  $\frac{2}{4}$   $\frac{3}{4}$   $\frac{7}{8}$  251

Ob. *p* *f*

Sax. *p* *f*

Gtr. 1 *mf*

Gtr. 2 *mf*

Dr. *mf*

Pno. *f*

Vln.  $\frac{2}{4}$   $\frac{3}{4}$   $\frac{7}{8}$  251 *mf* arco (at the frog)

Vla. *mf* arco (at the frog)

Vc. *mf* arco (at the frog)

249

Ob.  $\frac{5}{8}$   $\frac{3}{4}$   $\frac{4}{4}$   $\frac{3}{4}$  **X**  
*p*  $\rightarrow$  *f*

Sax. *p*  $\rightarrow$  *f*

Gtr. 1 *p*  $\rightarrow$  *mf*

Gtr. 2 *p*  $\rightarrow$  *mf*

Dr. *p*  $\rightarrow$  *mf*

Pno. *p*  $\rightarrow$  *f*

Vln.  $\frac{5}{8}$   $\frac{3}{4}$  pizz.  $\frac{4}{4}$   $\frac{3}{4}$  arco (at the frog) **X**  
*mf*

Vla. pizz. arco (at the frog)  
*mf*

Vc. pizz. arco (at the frog)  
*mf*



Ob.

Sax.

Gtr. 1

Gtr. 2

Dr.

Pno.

Vln.

Vla.

Vc.

Detailed description: This page of a musical score, numbered 253, contains eight staves. The top two staves are for Oboe (Ob.) and Saxophone (Sax.), both in treble clef with a key signature of one flat. The next two staves are for Electric Guitars (Gtr. 1 and Gtr. 2), with Gtr. 1 in treble clef and Gtr. 2 in bass clef. The fifth staff is for Drums (Dr.) in a standard drum set notation. The sixth staff is for Piano (Pno.) in grand staff notation. The bottom three staves are for Violin (Vln.), Viola (Vla.), and Violoncello (Vc.), with Vln. in treble clef, Vla. in bass clef, and Vc. in bass clef. The score includes various musical notations such as notes, rests, slurs, and dynamic markings like 'v'.

257

Ob. *mp*

Sax. *mp*

Gtr.1 *p*

Gtr.2 *p*

Dr. *p*

Pno. *p*

Vln. *pizz.*

Vla. *pizz.*

Vc. *pizz.*

262

Ob.  $\frac{4}{4}$   $\frac{3}{4}$  *ff*

Sax. *ff*

Gtr. 1 *f*

Gtr. 2 *f*

Dr. *mf*

Pno. *ff*

Vln.  $\frac{4}{4}$  arco (ord.)  $\frac{3}{4}$  *p* *ff*

Vla. arco (ord.) *p* *ff*

Vc. arco (ord.) *p* *ff*



272

Ob.  $fp$   $ff$

Sax.  $fp$   $ff$

Gtr.1  $fp$   $f$

Gtr.2  $fp$   $f$

Dr.  $p$   $f$

Pno.  $ff$

Vln.  $fp$   $ff$

Vla.  $fp$   $ff$

Vc.  $fp$   $ff$

**Z**

**Z**

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

277

Ob.

Sax.

Gtr. 1

Gtr. 2

Dr.

Pno.

Vln.

Vla.

Vc.

*sfz*

Detailed description: This page of a musical score covers measures 277 through 282. The score is arranged in a standard orchestral layout with eight staves. The instruments are: Oboe (Ob.), Saxophone (Sax.), Guitar 1 (Gtr. 1), Guitar 2 (Gtr. 2), Drums (Dr.), Piano (Pno.), Violin (Vln.), Viola (Vla.), and Violoncello (Vc.). The key signature is one flat (B-flat major or D minor), and the time signature is 4/4. The Oboe and Saxophone parts feature melodic lines with accents and slurs. The Guitars play rhythmic patterns, with Gtr. 2 using a complex, multi-layered texture. The Drums play a steady, syncopated pattern. The Piano part consists of dense chords and arpeggiated figures. The Violin, Viola, and Violoncello parts provide harmonic support with sustained chords and moving lines. A dynamic marking of *sfz* (sforzando) is placed below the drum staff in measure 280.

283

Ob.

Sax.

Gtr. 1

Gtr. 2

Dr.

Pno.

Vln.

Vla.

Vc.

Detailed description: This page of a musical score covers measures 283, 284, and 285. The score is arranged in a standard orchestral layout with eight staves. The instruments are: Oboe (Ob.), Saxophone (Sax.), Guitar 1 (Gtr. 1), Guitar 2 (Gtr. 2), Drums (Dr.), Piano (Pno.), Violin (Vln.), Viola (Vla.), and Violoncello (Vc.). The key signature is one sharp (F#) and the time signature is 4/4. The Oboe and Saxophone parts feature melodic lines with accents and slurs. The Guitars play rhythmic accompaniment with chords and single notes. The Drums play a steady eighth-note pattern. The Piano part consists of chords and moving bass lines. The Violin, Viola, and Violoncello parts provide harmonic support with chords and moving lines. Roman numerals (V, VI, VII, IV) are used to indicate chord positions for the strings and guitars.

Ob. *mp* *molto* *sfz*

Sax. *mp* *molto* *sfz*

Gtr. 1 *mp* *molto* *sfz*

Gtr. 2 *mp* *molto* *sfz*

Dr. *p* *molto* *sfz*

Pno. *mp* *molto* *sfz*

Vln. *mp* *molto* *sfz*

Vla. *mp* *molto* *sfz*

Vc. *mp* *molto* *sfz*



### III. relative and noisy

**A-57"**

Electronics



**B - 29"**

pizz. string with fingertip  
*fz<sup>ma</sup>*

Pno.

♩ = 44 - 72 — consistent tempo but not metrically coordinated (see notation guide)

*p poss.*

ℳℓℓ →

behind neck or bridge

Gtr.

♩ = 44 - 72 — consistent tempo but not metrically coordinated (see notation guide)

*p poss.*

Elec.

C - 25"

Elec.

The score for the electric guitar part consists of two staves (treble and bass clef) with a dense, tremolo-like texture. Below the staves are two waveform plots showing the amplitude of the sound over time.



D - 24"

Dr.

brushes

*p poss.*

Pno.

pizz. string w/fingertip

*p poss.*  
Ped. →

Gtr.

behind neck or bridge

*p poss.*

Bass

*p poss.*

Elec.

The score for the electric guitar part consists of two staves (treble and bass clef) with a dense, tremolo-like texture. Below the staves are two waveform plots showing the amplitude of the sound over time.

**E - 16"**

Vln. *sul pont. con sord.*  
*n*  $\leftarrow$  *mp*  $\rightarrow$  *n*    *n*  $\leftarrow$  *mp*  $\rightarrow$  *n*    *n*  $\leftarrow$  *mp*  $\rightarrow$  *n*

Vla. *sul pont. con sord.*  
*n*  $\leftarrow$  *mp*  $\rightarrow$  *n*    *n*  $\leftarrow$  *mp*  $\rightarrow$  *n*    *n*  $\leftarrow$  *mp*  $\rightarrow$  *n*

Vc. *sul pont. con sord.*  
*n*  $\leftarrow$  *mp*  $\rightarrow$  *n*    *n*  $\leftarrow$  *mp*  $\rightarrow$  *n*    *n*  $\leftarrow$  *mp*  $\rightarrow$  *n*

Elec.

**F - 15"**

Dr. *w/bow*  
*pp*

Gtr. *w/finger nail or pick edge—gliss between all notes*  
*pp*

E. Bass *w/finger nail or pick edge—gliss between all notes*  
*pp*

Vln. *sul pont. con sord.*  
*n*  $\leftarrow$  *mp*  $\rightarrow$  *n*    *n*  $\leftarrow$  *mp*  $\rightarrow$  *n*    *n*  $\leftarrow$  *mp*  $\rightarrow$  *n*

Vla. *sul pont. con sord.*  
*n*  $\leftarrow$  *mp*  $\rightarrow$  *n*    *n*  $\leftarrow$  *mp*  $\rightarrow$  *n*    *n*  $\leftarrow$  *mp*  $\rightarrow$  *n*

Vc. *sul pont. con sord.*  
*n*  $\leftarrow$  *mp*  $\rightarrow$  *n*    *n*  $\leftarrow$  *mp*  $\rightarrow$  *n*    *n*  $\leftarrow$  *mp*  $\rightarrow$  *n*

Elec.

**G - 12<sup>th</sup>**

Dr. *p poss.* brushes end with cymbal (l.v.)

Pno. *p poss.* *ped. →*

Gtr. l.v. *p poss.*

E. Bass l.v. *p poss.*

**G - 12<sup>th</sup>**

Vln. sul A at the point—gliss between all notes *p*

Vla. sul D at the point—gliss between all notes *p*

Vc. sul D at the point—gliss between all notes *p*

Elec.

**H - 12"**

Dr. *shake brush on drum*

Pno.

Gtr. *w/finger nail or pick edge—gliss between all notes*

E. Bass *w/finger nail or pick edge—gliss between all notes*

Vln. I *(ord.) harmonic glisses (see notation guide)*

Vla. *(ord.) harmonic glisses (see notation guide)*

Vc. *(ord.) harmonic glisses (see notation guide)*

Elec.

The score is for a piece titled "H - 12\"". It includes parts for Drums (Dr.), Piano (Pno.), Guitar (Gtr.), Electric Bass (E. Bass), Violin I (Vln. I), Viola (Vla.), Violoncello (Vc.), and Electric Guitar (Elec.). The Drums part features a "shake brush on drum" effect. The Piano part includes a tremolo effect. The Guitar and Electric Bass parts use a glissando technique with a finger nail or pick edge. The Violin I, Viola, and Violoncello parts use ordered harmonic glissandos. The Electric Guitar part includes a waveform visualization.

**I - 10"**

Dr. to marimba

rub with superball mallets end with cymbal (l.v.)

Pno. *mp*

slide finger up and down single string inside piano

Gtr. rapidly fluctuating whispers of electronic noise *pp*

E. Bass rapidly fluctuating whispers of electronic noise *pp*

**I - 10"**

Vln. ord. *n mp n n < mp > n n < mp > n*

Vla. ord. *n mp n n mp n n mp n*

Vc. ord. *n mp n n mp n*

Elec.

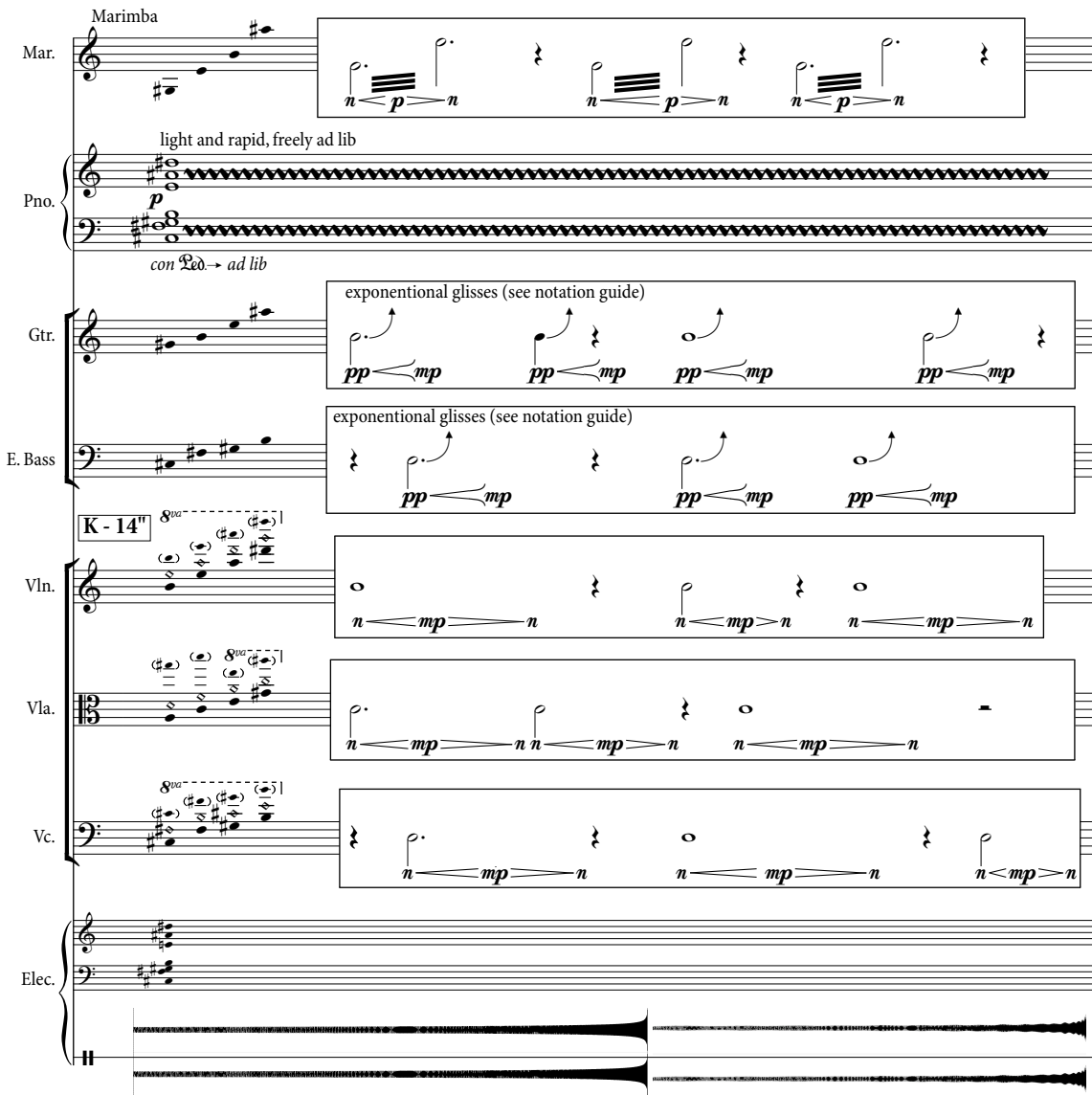
**J-9"**



Musical score for J-9" featuring an electric piano (Elec.) and a large blacked-out area below the staves.



**K-14"**



Musical score for K-14" featuring Marimba, Piano (Pno.), Guitar (Gtr.), Electric Bass (E. Bass), Violin (Vln.), Viola (Vla.), Violoncello (Vc.), and Electric Piano (Elec.).

**Marimba:** *light and rapid, freely ad lib*. Includes a box with three notes:  $n \langle p \rangle n$ .

**Piano (Pno.):** *con Ped. → ad lib*. Includes a box with three notes:  $n \langle p \rangle n$ .

**Guitar (Gtr.):** Includes a box with four notes and the text "exponential glisses (see notation guide)" and  $pp \langle mp \rangle$ .

**Electric Bass (E. Bass):** Includes a box with four notes and the text "exponential glisses (see notation guide)" and  $pp \langle mp \rangle$ .

**Violin (Vln.):** Includes a box with three notes and  $n \langle mp \rangle n$ .

**Viola (Vla.):** Includes a box with three notes and  $n \langle mp \rangle n$ .

**Violoncello (Vc.):** Includes a box with three notes and  $n \langle mp \rangle n$ .

**Electric Piano (Elec.):** Includes a large blacked-out area below the staves.

**L - 10"**

rapidly fluctuating whispers of non-pitched noise (key clicks, breath, reed kiss, etc.)

Ob. *pp*

Alto Sax. *pp*

Mar. *p*

Pno. *p*  
*con Ped. → ad lib*

Gtr. *pp* *mp*

E. Bass *pp* *mp*

**L - 10"**

rapidly fluctuating whispers of non-pitched noise (scrapes, sub. pont., inst. taps, silent fingering, etc.)

Vln. *pp*

Vla. *pp*

Vc. *pp*

Elec.



**M - 9"**

Ob. rapid filigree (see notation guide) *p*

Alto Sax. rapid filigree (see notation guide) *p*

Mar. rapid filigree (see notation guide) *p*

Pno. simile *p*  
con *ℓ*ed. → ad lib

E. Gtr. rapid filigree (see notation guide) *p*

E. Bass rapid filigree (see notation guide) *p*

**M - 9"**

Vln. exponential glisses (see notation guide) *pp* → *mp*

Vla. exponential glisses (see notation guide) *pp* → *mp*

Vc. exponential glisses (see notation guide) *pp* → *mp*

Elec.

N - 9"

attacca

The musical score for measures 9-10 includes the following parts:

- Ob. (Oboe):** Melodic line with slurs and accents, marked *mp*.
- Alto Sax. (Alto Saxophone):** Melodic line with slurs and accents, marked *mp*.
- Mar. (Maracas):** Rhythmic accompaniment with slurs and accents, marked *mp*.
- Pno. (Piano):** Sustained chords in both hands, marked *p* with a *simile* instruction and a *cresc.* (crescendo) marking.
- Gtr. (Guitar):** Sustained chords, marked *mp* with a *cresc.* marking.
- E. Bass (Electric Bass):** Sustained chords, marked *mp* with a *cresc.* marking.
- Vln. (Violin):** Melodic line with slurs and accents, marked *p* and *mf*.
- Vla. (Viola):** Melodic line with slurs and accents, marked *p* and *mf*.
- Vc. (Violoncello):** Melodic line with slurs and accents, marked *p* and *mf*.
- Elec. (Electric Guitar):** Sustained chords, marked *p* and *mf*.

for pulsoptional  
(and lena & roger)

## IV. second fastest land animal for short distances

**1** ca. 7" (each instrument as fast as possible, but not rhythmically coordinated)      **2** ca. 9" (*simile*)

The score is divided into two measures. Measure 1 is marked 'ca. 7" (each instrument as fast as possible, but not rhythmically coordinated)'. Measure 2 is marked 'ca. 9" (*simile*)'. The instruments and their parts are:

- Oboe:** *f* *poss. legato* (breathe as necessary) in measure 1; *simile* in measure 2.
- Alto Saxophone:** *mf* *legato* (breathe as necessary) in measure 1; *simile* in measure 2.
- Marimba:** *f* *poss.* in measure 1; *simile* in measure 2.
- Electric Guitar:** *mf* in measure 1; *simile* in measure 2.
- Electric Bass:** *f* in measure 1; *simile* in measure 2.
- Audio Input (optional):** Chords in measure 1; *simile* in measure 2.
- Breakbeats:** 'Think' in measure 1; 'Copter' in measure 2.



5 ca. 15" choose from pitches — start slow and accel.

**A** mechanistic and aggressive  $\text{♩} = 132$

5 ca. 15" **A** mechanistic and aggressive  $\text{♩} = 132$

Funky Drummer Amen

The musical score is arranged in a system with five staves. The top staff is for Oboe (Ob.), the second for Saxophone (Sax.), the third for Maracas (Mar.), the fourth for Guitar (Gtr.), and the fifth for Bass. The second system includes a Piano (P) part and a Funky Drummer part. The score is in 4/4 time and consists of two systems. The first system includes parts for Oboe, Saxophone, Maracas, Guitar, and Bass. The second system includes parts for Piano and Funky Drummer. Dynamics range from mp to f. Performance instructions include 'choose from pitches — start slow and accel.' and 'mechanistic and aggressive'.

8

Ob.

Sax.

Mar.

Gtr.

Bass



17

Ob.

Sax.

Mar.

Gtr.

Bass

The musical score consists of six staves. The first two staves are for Oboe (Ob.) and Saxophone (Sax.), both in treble clef. The third staff is for Maracas (Mar.), with a treble clef for the right hand and a bass clef for the left hand. The fourth staff is for Guitar (Gtr.) in treble clef, showing chordal accompaniment. The fifth staff is for Bass in bass clef. The sixth staff is a double bass line in bass clef. The score is divided into four measures. The first measure starts with a treble clef and a key signature of one sharp (F#). The second measure has a common time signature (C). The third measure has a 7/8 time signature. The fourth measure has a 3/4 time signature. The piece concludes with a double bar line and a key signature change to one flat (Bb).



**B**

21

Ob. *ff* *mf*

Sax. *ff* *mf*

Mar. *f* *mf*

Gtr. *ff* *mf*

Bass *ff* *mf*

**B**

*mf*

25

Ob.

Sax.

Mar.

Gtr.

Bass

The musical score consists of six staves. The top two staves are for Oboe (Ob.) and Saxophone (Sax.), both in treble clef. The third staff is for Maracas (Mar.), with a treble clef for the right hand and a bass clef for the left hand. The fourth staff is for Guitar (Gtr.), in treble clef. The fifth staff is for Bass, in bass clef. The sixth staff is a double bass line, with a treble clef for the right hand and a bass clef for the left hand. The score is in 4/4 time and features a key signature of one sharp (F#). The music includes various rhythmic patterns, including eighth and sixteenth notes, and rests. The guitar part features complex chordal textures with many accidentals. The bass part has a steady eighth-note pattern. The double bass line is a simple eighth-note accompaniment.

29

Ob.

Sax.

Mar.

Gtr.

Bass

The image shows a musical score for measures 29 through 32. The score is arranged in a system with five staves: Oboe (Ob.), Saxophone (Sax.), Maracas (Mar.), Guitar (Gtr.), and Bass. The key signature is one sharp (F#) and the time signature is 4/4. The Oboe and Saxophone parts feature melodic lines with various articulations like accents and slurs. The Maracas part consists of rhythmic patterns. The Guitar part shows complex chordal textures with many accidentals. The Bass part provides a steady rhythmic accompaniment. At the bottom of the system, there is a grand staff with a treble clef and a bass clef, containing a few notes and a key signature change to two sharps (F# and C#).

33

Ob.

Sax.

Mar.

Gtr.

Bass

*cresc.*

*cresc.*

*cresc.*

*cresc.*

*cresc.*

**3**/**4**

**2**/**4**

37 **2/4** **4/4** **C**

Ob.

Sax.

Mar.

Gtr.

Bass

**2/4** **4/4** **C**

41

Ob.  
Sax.  
Mar.  
Gtr.  
Bass

The musical score consists of six staves. The top two staves are for Oboe (Ob.) and Saxophone (Sax.), both in treble clef. The third staff is for Maracas (Mar.), with a grand staff (treble and bass clefs). The fourth staff is for Guitar (Gtr.), in treble clef, featuring complex chordal textures. The fifth staff is for Bass, in bass clef. The sixth staff is for Percussion, with a treble clef and a key signature of one sharp (F#). The score is divided into four measures. The first three measures are in 4/4 time, and the fourth measure is in 2/4 time. The key signature is one sharp (F#). The percussion part includes a variety of rhythmic patterns, including eighth and sixteenth notes, and rests.

45

Ob.

Sax.

Mar.

Gtr.

Bass

The musical score consists of six staves. The Oboe (Ob.) and Saxophone (Sax.) parts are in the upper register, featuring melodic lines with various intervals and rests. The Maracas (Mar.) part is a rhythmic accompaniment with a steady pulse. The Guitar (Gtr.) part features a complex, multi-layered texture with many notes beamed together. The Bass part is a melodic line in the lower register. The double bass line at the bottom is a simple, rhythmic accompaniment.

D

49

Ob.

Sax.

Mar.

Gtr.

Bass

*n*

*n*

*mf*

*mf*

*mf*

D

D

8

8



53

Ob.

Sax.

Mar.

Gtr.

Bass

Drums

Detailed description: This is a page of a musical score for a jazz ensemble. The page number '53' is located at the top left. The score is arranged in a vertical stack of staves. The top two staves are for the Oboe (Ob.) and Saxophone (Sax.), both in treble clef. The next two staves are for the Maracas (Mar.), with a treble clef on the top staff and a bass clef on the bottom staff. Below that is the Guitar (Gtr.) staff in treble clef, followed by the Bass staff in bass clef. At the bottom is a single staff for the Drums. The music is in 4/4 time and features a key signature of one sharp (F#). The saxophones and oboe play melodic lines with various articulations like accents and slurs. The maracas play a steady, rhythmic pattern. The guitar and bass provide harmonic support with chords and moving lines. The drums play a simple, steady pattern.

57

Ob.

Sax.

Mar.

Gtr.

Bass

Chord diagram for double bass line in measure 59:

```

  Treble clef:  - - - - -
  Bass clef:   - - - - -
  
```

61

Ob.

Sax.

Mar.

Gtr.

Bass

E

64

Ob.

Sax.

Mar.

Gtr.

Bass

*mf*

*n*

E

8

8

The musical score is arranged in a system with six staves. The top two staves are for Oboe (Ob.) and Saxophone (Sax.), both in treble clef. The third staff is for Maracas (Mar.), in treble and bass clefs. The fourth staff is for Guitar (Gtr.), in treble clef. The fifth staff is for Bass, in bass clef. The sixth staff is for Drums, in treble clef. The score begins at measure 64. The key signature changes to E major (one sharp). The dynamic marking *mf* (mezzo-forte) is indicated. The Oboe and Saxophone parts feature melodic lines with accents and slurs. The Maracas part consists of a rhythmic accompaniment. The Guitar part features a chordal accompaniment with a *mf* dynamic. The Bass part features a melodic line with a *mf* dynamic. The Drums part features a rhythmic pattern. A key signature change to E major is indicated by a box containing the letter 'E'. A key signature change to E major is also indicated by a box containing the letter 'E' and the number '8' in both treble and bass clefs.

67

Ob.

Sax.

Mar.

Gtr.

Bass

Drum set

Detailed description: This page of a musical score covers measures 67 through 70. It features six staves: Oboe (Ob.), Saxophone (Sax.), Maracas (Mar.), Guitar (Gtr.), Bass, and a drum set. The Oboe and Saxophone parts are written in treble clef and include various articulations such as accents (v) and slurs. The Maracas part is in a grand staff (treble and bass clefs) and consists of a rhythmic pattern of eighth and sixteenth notes. The Guitar part is in treble clef and features a complex, multi-measure chordal texture with many beamed notes. The Bass part is in bass clef and provides a melodic line with some slurs. The drum set part is on a single staff with a few notes indicating a simple rhythmic accompaniment.

71

Ob.

Sax.

Mar.

Gtr.

Bass

Detailed description: This page of a musical score, numbered 71, features six staves. The top two staves are for Oboe (Ob.) and Saxophone (Sax.), both in treble clef. The Oboe part has a melodic line with slurs and accents, while the Saxophone part provides a rhythmic accompaniment with slurs. The third staff is for Maracas (Mar.), shown in a grand staff with a rhythmic pattern. The fourth staff is for Guitar (Gtr.), in treble clef, featuring a complex chordal accompaniment with many beamed notes. The fifth staff is for Bass, in bass clef, with a melodic line. The sixth staff is a double bass line, also in bass clef, with a rhythmic pattern. The key signature has two sharps (F# and C#), and the time signature is 3/4.

74

Ob.

Sax.

Mar.

Gtr.

Bass

5/4

4/4

5/4

4/4

**F**  
 $\frac{4}{4}$   
 77

Ob. *mf*

Sax. *mf*

Mar. *f*

Gtr. *f*

Bass *f*

**F**  
 $\frac{4}{4}$



81

Ob.

Sax.

Mar.

Gtr.

Bass

The image shows a page of a musical score, page 81. It features six staves. The top two staves are for Oboe (Ob.) and Saxophone (Sax.), both in treble clef. The third staff is for Maracas (Mar.), with a grand staff (treble and bass clefs). The fourth staff is for Guitar (Gtr.), in treble clef, showing a complex chordal accompaniment with many accidentals and slurs. The fifth staff is for Bass, in bass clef. The sixth staff is a double bass line, also in bass clef, with many slurs and accents. The music is in a key with one sharp (F#) and a 4/4 time signature. The score includes various musical notations such as slurs, accents, and dynamic markings.

Ob.  
Sax.  
Mar.  
Gtr.  
Bass

The musical score consists of six staves. The top two staves are for Oboe (Ob.) and Saxophone (Sax.), both in treble clef with a key signature of two flats. The Oboe part features melodic lines with slurs and accents. The Saxophone part provides a similar melodic line with some chromaticism. The third staff is for Maracas (Mar.), showing a rhythmic accompaniment with eighth and sixteenth notes. The fourth staff is for Guitar (Gtr.), featuring a complex chordal texture with many accidentals and slurs. The fifth staff is for Bass, in bass clef with a key signature of one sharp, providing a melodic line. The sixth staff is an unlabeled staff at the bottom, containing a rhythmic pattern of eighth notes.

89 **G** *Meno mosso* (♩ = 116)

Ob. *ff* *sfz*

Sax. *ff* *sfz*

Mar. *ff* *p*

Gtr. *ff* *sfz* delay

Bass *ff* *sfz*

**G** *Meno mosso* (♩ = 116)

Apache

94

Ob.

Sax.

Mar.

Gtr.

Bass

*n*

*n*

*p*

*p*

98

Ob.

Sax.

Mar.

Gtr.

Bass

Copter

Detailed description: This page of a musical score covers measures 98 to 101. The score is arranged in a vertical stack of staves. The top two staves are for Oboe (Ob.) and Saxophone (Sax.), both of which are silent throughout the measures. The third staff is for Maracas (Mar.), featuring a rhythmic pattern of eighth notes with accents in the bass clef. The fourth staff is for Guitar (Gtr.), showing a series of chords in the treble clef, some with a key signature change from one sharp to two flats. The fifth staff is for Bass, with a melodic line in the bass clef. The sixth staff is for Piano accompaniment, showing chords in both treble and bass clefs. The seventh staff is for Copter, with a rhythmic pattern of eighth notes in the treble clef.

102

Ob.

Sax.

Mar.

Gtr.

Bass

Hot Pants

Think

**H**

106

Ob.

Sax.

Mar.

Gtr.

Bass

Funky Drummer

Apache

*ppp*

*ppp*

110

Ob.

Sax.

Mar.

Gtr.

Bass

Copter



114

Ob.

Sax.

Mar.

Gtr.

Bass

Apache

Hot Pants

The musical score for measures 114-117 consists of several staves. The Oboe (Ob.) and Saxophone (Sax.) parts are in the upper register, both marked with a mezzo-forte (*mf*) dynamic. The Maracas (Mar.) part is in the lower register, featuring a rhythmic pattern with accents. The Guitar (Gtr.) part shows chordal textures. The Bass part has a simple line. The Piano part includes a grand staff with chords. The bottom staff is a double bass line with 'Apache' and 'Hot Pants' markings.

118

Ob. *ppp* *p* *mf*

Sax. *ppp* *p* *mf*

Mar.

Gtr.

Bass

Think Funky Drummer

122

I

Ob.

Sax.

Mar.

Gtr.

Bass

delay off

*mp*

I

Apache

126

Ob.

Sax.

Mar.

Gtr.

Bass

Hot Pants

Think

Detailed description: This is a page of a musical score. At the top left, the number '126' is written. The score is divided into six staves. The first two staves are for 'Ob.' (Oboe) and 'Sax.' (Saxophone), both of which are currently blank. The third staff is for 'Mar.' (Maracas), showing a rhythmic pattern of eighth and sixteenth notes. The fourth staff is for 'Gtr.' (Guitar), featuring a complex chordal accompaniment with many beamed notes. The fifth staff is for 'Bass', showing a simple bass line with eighth notes. The sixth staff is a vocal line with lyrics 'Hot Pants' and 'Think' written above it. The vocal line includes various musical notations such as slurs and accents. At the bottom of the page, the number '144' is centered.

130

Ob.

Sax.

Mar.

Gtr.

Bass

Funky Drummer

ppp

ppp

3

133

Ob. *p* *cresc. poco a poco*

Sax. *p* *cresc. poco a poco*

Mar. *p* *cresc. poco a poco*

Gtr. *p* *cresc. poco a poco*

Bass *p* *cresc. poco a poco*

Apache

137

Ob.

Sax.

Mar.

Gtr.

Bass

147

141

Ob.

Sax.

Mar.

Gtr.

Bass

148



145

Ob.

Sax.

Mar.

Gtr.

Bass

*f*

*f*

*mf*

*mf*

**K**

149

Ob.

Sax.

Mar.

Gtr.

Bass

(composite rhythm)

dist.

*f*

*f*

(composite rhythm)

*f*

**K**

153

Ob.

Sax.

Mar.

Gtr.

Bass

Drums

Detailed description: This page of a musical score, numbered 153, features six staves. The Oboe (Ob.) staff is in treble clef with a key signature of one flat and contains a complex melodic line with many slurs and accents. The Saxophone (Sax.) staff is also in treble clef with one flat, playing a more rhythmic accompaniment. The Maracas (Mar.) staff is in bass clef with one flat, providing a steady accompaniment. The Guitar (Gtr.) staff is in treble clef with one flat, featuring a melodic line with slurs. The Bass staff is in bass clef with one flat, playing a melodic line with slurs. The Drums staff is in treble clef with a key signature of one flat, showing a consistent rhythmic pattern. The score includes various musical notations such as slurs, accents, and dynamic markings.

157

Ob.

Sax.

Mar.

Gtr.

Bass

Copter

L

The musical score consists of six staves. The Oboe (Ob.) staff features a melodic line with slurs and accents, including a ligature (L) in measure 158. The Saxophone (Sax.) staff has a rhythmic pattern with slurs and accents. The Maracas (Mar.) staff shows a steady rhythmic accompaniment. The Guitar (Gtr.) staff has a melodic line with slurs and accents. The Bass staff has a rhythmic pattern with slurs and accents. The Copter staff is a rhythmic accompaniment of eighth notes. A 'L' (Ligature) symbol is placed above the Oboe staff at measure 158.

161

Ob.

Sax.

Mar.

Gtr.

Bass

This musical score page contains five staves for measures 161 through 164. The instruments are Oboe (Ob.), Saxophone (Sax.), Maracas (Mar.), Guitar (Gtr.), and Bass. The Oboe part features a complex melodic line with many notes marked with 'N' and 'v'. The Saxophone part has a rhythmic pattern with notes marked 'v' and 'N'. The Maracas part consists of a steady, rhythmic accompaniment. The Guitar part has a melodic line with many notes marked with 'v'. The Bass part has a melodic line with many notes marked with 'v'. There is a double bar line between measures 163 and 164. At the bottom of the page, there is a section with a treble clef and a bass clef, and a series of rhythmic markings.

164

Ob.

Sax.

Mar.

Gtr.

Bass

Apache

6/4

168  $\frac{6}{4}$   $\frac{4}{4}$  **M**

Ob. *sub. p* *f* *ff*

Sax. *p* *f* *ff*

Mar. *p* *f* *ff*

Gtr. *f*

Bass *ff*

$\frac{6}{4}$   $\frac{4}{4}$  **M**

171

Ob.

Sax.

Mar.

Gtr.

Bass

5  
4



175  $\frac{5}{4}$   $\frac{4}{4}$  **N**

Ob.

Sax.

Mar.

Gtr.

Bass

Hot Pants

178

Ob.

Sax.

Mar.

Gtr.

Bass

Think

182

Ob.

Sax.

Mar.

Gtr.

Bass

0

0

Detailed description of the musical score: The score is for measures 182 through 185. The Oboe (Ob.) part is in the upper register, playing a series of eighth-note patterns with slurs and accents. The Saxophone (Sax.) part is in the lower register, also playing eighth-note patterns with slurs and accents. The Maracas (Mar.) part is a steady eighth-note accompaniment. The Guitar (Gtr.) part has a melodic line with slurs. The Bass part features a walking bass line with slurs. There are two circled '0' symbols above the Oboe staff and one above the Bass staff.

186

Ob.

Sax.

Mar.

Gtr.

Bass

Funky Drummer

This musical score page contains measures 186, 187, and 188. The instruments and their parts are as follows:

- Ob. (Oboe):** Single-staff line with a treble clef, playing a melodic line with eighth and sixteenth notes, including slurs and accents.
- Sax. (Saxophone):** Single-staff line with a treble clef, playing a similar melodic line to the oboe.
- Mar. (Maracas):** Two-staff line with a bass clef, playing a rhythmic accompaniment of eighth notes.
- Gtr. (Guitar):** Two-staff line with a treble clef, playing a melodic line with chords and slurs.
- Bass:** Two-staff line with a bass clef, playing a rhythmic line with eighth notes and slurs.
- Funky Drummer:** A single-staff line with a treble clef, playing a complex, syncopated drum pattern.

Measure 186 starts with a treble clef and a key signature of one flat. The score includes various musical notations such as slurs, accents, and dynamic markings.

189

Ob.

Sax.

Mar.

Gtr.

Bass

The musical score consists of five staves. The Oboe staff (top) begins with a rest, followed by a melodic line with slurs and accents, and a final whole note. The Saxophone staff (second) plays a rhythmic accompaniment with slurs and accents, ending with a whole note. The Maracas staff (third) features a steady rhythmic pattern with slurs and accents, ending with a whole note. The Guitar staff (fourth) has two parts: a melodic line with slurs and accents, and a bass line starting with a forte (*ff*) dynamic and slurs, ending with a whole note. The Bass staff (fifth) also has two parts: a melodic line with slurs and accents, and a bass line starting with a forte (*ff*) dynamic and slurs, ending with a whole note. A double bar line is present after the first measure. At the bottom, there is a grand staff with a treble clef and a bass clef, containing a rhythmic pattern with slurs and accents, ending with a whole note.

**P** A tempo ♩=132

193

Ob. *f* *mp*

Sax. *f* *mp*

Mar. *f* *mp*

Gtr. *f* *mp* dist. off

Bass *f* *mp*

Detailed description: This block contains the musical notation for five instruments: Oboe (Ob.), Saxophone (Sax.), Maracas (Mar.), Guitar (Gtr.), and Bass. The Oboe and Saxophone parts begin with a forte (*f*) dynamic and transition to mezzo-piano (*mp*) after the first measure. The Maracas part features a complex rhythmic pattern with accents and dynamic markings of *f* and *mp*. The Guitar part starts with a forte (*f*) dynamic and includes a 'dist. off' instruction. The Bass part begins with a forte (*f*) dynamic and moves to mezzo-piano (*mp*). The score is written in a key with one sharp (F#) and a 4/4 time signature.

**P** A tempo ♩=132

Amen

Detailed description: This block contains the piano accompaniment and an 'Amen' section. The piano part consists of two staves (treble and bass clef) with block chords. The 'Amen' section is a single staff with a complex rhythmic pattern. The piano part is written in a key with one sharp (F#) and a 4/4 time signature.

197

Ob.

Sax.

Mar.

Gtr.

Bass

Apache

201

Ob.

Sax.

Mar.

Gtr.

Bass

Copter

Hot Pants

Detailed description of the musical score: The score is for measures 201-204. The Oboe (Ob.) part starts with a melodic line in measure 201, featuring eighth and sixteenth notes with slurs and accents. The Saxophone (Sax.) part provides a similar melodic line, often in harmony with the Oboe. The Maracas (Mar.) part consists of rhythmic patterns, primarily eighth and sixteenth notes, with accents. The Guitar (Gtr.) part features a series of chords and single notes, often with accents. The Bass part provides a steady rhythmic accompaniment with eighth and sixteenth notes. The Percussion part includes a 'Copter' pattern (a series of eighth notes) and a 'Hot Pants' pattern (a series of eighth notes with a specific rhythmic feel). The key signature has two flats, and the time signature is 4/4.



205

Ob.

Sax.

Mar.

Gtr.

Bass

Think

Funky Drummer

**Q**

209

Ob. *f*

Sax. *f*

Mar. *f*

Gtr. *f*

Bass *f*

**Q**

Amen

Detailed description of the musical score: The score is for measures 209-212. It features five staves: Oboe (Ob.), Saxophone (Sax.), Maracas (Mar.), Guitar (Gtr.), and Bass. The key signature has one sharp (F#) and the time signature is 4/4. The music is marked with a forte (*f*) dynamic. The Oboe and Saxophone parts have melodic lines with slurs and accents. The Maracas part consists of a rhythmic pattern of eighth notes with accents. The Guitar part plays a chordal accompaniment with a rhythmic pattern of eighth notes and slurs. The Bass part has a melodic line with slurs and accents. A 'Q' (Quasi) marking is placed above the first and last measures. The word 'Amen' is written above the first measure of the final system.

213

Ob.

Sax.

Mar.

Gtr.

Bass

Apache

The musical score consists of six staves. The Oboe (Ob.) staff has a treble clef and contains melodic lines with slurs and accents. The Saxophone (Sax.) staff has a treble clef and contains a similar melodic line. The Maracas (Mar.) staff has a treble clef and contains a rhythmic pattern of eighth notes with accents. The Guitar (Gtr.) staff has a treble clef and contains a chordal accompaniment with slurs. The Bass staff has a bass clef and contains a melodic line. The Apache staff has a treble clef and contains a rhythmic pattern with accents. A key signature change to one sharp (F#) is indicated by a double bar line and a key signature change symbol. A double bar line is also present at the end of the Apache staff.

217

Ob.

Sax.

Mar.

Gtr.

Bass

Copter

Hot Pants

3/4 4/4 2/4

3/4 4/4 2/4

221

Ob.

Sax.

Mar.

Gtr.

Bass

2/4 4/4 3/4 4/4

Think

Funky Drummer

Detailed description of the musical score: The score is for a jazz ensemble. It consists of six staves: Oboe (Ob.), Saxophone (Sax.), Maracas (Mar.), Guitar (Gtr.), Bass, and Drums. The piece is divided into four measures with time signatures 2/4, 4/4, 3/4, and 4/4. The Oboe and Saxophone parts have melodic lines with slurs. The Maracas part has a rhythmic accompaniment. The Guitar part has a chordal accompaniment. The Bass part has a walking bass line. The Drums part includes a 'Think' section and a 'Funky Drummer' section.

225

Ob.  $\frac{5}{4}$   $\frac{4}{4}$  *ff* **R**

Sax. *ff*

Mar. *ff*

Gtr. *ff*

Bass *ff*

$\frac{5}{4}$   $\frac{4}{4}$  **R**

Apache

228

Ob.

Sax.

Mar.

Gtr.

Bass

Copter

Think

232

Ob.

Sax.

Mar.

Gtr.

Bass

A.I.

Funky Drummer

Copter



235

Ob.

Sax.

Mar.

Gtr.

Bass

Hot Pants

Think

Ob.  
Sax.  
Mar.  
Gtr.  
Bass  
A.I.  
Funky Drummer  
Hot Pants

The musical score consists of eight staves. The top two staves are for Oboe (Ob.) and Saxophone (Sax.), both in treble clef with a key signature of one flat. The third staff is for Maracas (Mar.), with a treble clef for the right hand and a bass clef for the left hand. The fourth staff is for Guitar (Gtr.), in treble clef with a key signature of one flat, featuring chordal accompaniment. The fifth staff is for Bass, in bass clef with a key signature of one flat, playing a steady eighth-note line. The sixth staff is for Accompaniment (A.I.), in treble and bass clefs with a key signature of one flat, providing harmonic support. The seventh staff is for Funky Drummer, in treble clef with a key signature of one flat, playing a complex rhythmic pattern. The eighth staff is for Hot Pants, in treble clef with a key signature of one flat, playing a melodic line.

242

Ob.

Sax.

Mar.

Gtr.

Bass

Think

Funky Drummer

*sfz*

*sfz*

*sfz*

*sfz*

*sfz*

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## BIOGRAPHY

Born in Washington DC in 1974, Thomas Limbert graduated from the Univ. of North Carolina at Chapel Hill (BA, Music & Philosophy, 1997), receiving the Thelma Thompson award for composition. He subsequently served on the percussion faculty of UNC-CH and worked as an audio engineer before starting graduate work in composition at Duke University. He is active as a composer and performer in the Triangle area of NC having composed both acoustic and electronic music for Burning Coal Theater Company and Duke Theater Studies productions and performed with Duke's Encounters New Music series, Duke/UNC Milestones Festival, Peace College Chamber Singers and Mallarmé Chamber Players. Thom is also a member of pulsoptional, a composers collective and new music ensemble based in Durham, NC. In addition to playing percussion and composing for the group, Thom recorded and mixed their self-titled debut CD which was released in April, 2007. In 2008, Thom was awarded the Alice Blackmore Hicks Endowment Summer Research Fellowship. Thom's music has been performed across North America and abroad by, among others, the UNC Percussion Ensemble, the Duke & UNC Symphony Orchestras, Sarah Gaston and the Polish Radio Amadeus Chamber Orchestra, So Percussion, Alarm Will Sound, Rhymes With Opera, Women's Voices Chorus and pulsoptional. His music is published by Studio 4 Music, Keyboard Percussion Publications and FuguFish publishing (ASCAP). His principal teachers have included Allen Anderson, Lynn Glassock, Stephen Jaffe, Anthony Kelley and Scott Lindroth.