

Alex Hilliard

EMPIRICAL REFRACTION (Concerto For Tuba and Symphonic Winds)

INSTRUMENTATION

- | | |
|----------------------------------|--|
| 1-Full Score (Letter Size) | 2-3rd Horn in F |
| 1-Full Score (Large Score) | 2-4 th Horn in F |
| 2-Piccolo | 2-1 st Trombone |
| 6-Flute | 2-2 nd Trombone |
| 2-Oboe | 2-3 rd Trombone |
| 1-1 st Bassoon | 3-Baritone BC |
| 1-2 nd Bassoon | 2-Baritone TC |
| 3-1 st Clarinet | 1-Solo Tuba |
| 3-2 nd Clarinet | 4-Tuba Section |
| 3-3 rd Clarinet | 1-String Bass |
| 2-Bass Clarinet | 1-Timpani |
| 1-Bb Contrabass Clarinet | 2-Xylophone/Chimes |
| 2-1 st Alto Saxophone | 4-Snare Dr./Bass Dr./Crash Cym.) |
| 2-2 nd Alto Saxophone | 4-Percussion 1 |
| 2-Tenor Saxophone | (Whistle/Claves/Bongos/Tambourine) |
| 1-Baritone Saxophone | 4-Percussion 2 |
| 3-1 st Trumpet | (Castanets/Triangle/Sleigh Bells/Taiko Drums/Gong) |
| 3-2 nd Trumpet | 2-Percussion 3 (Ocean Drum) |
| 3-3 rd Trumpet | 2-Marimba |
| 2-1 st Horn in F | 2-Vibraphone |
| 2-2 nd Horn in F | |

Duration: Approx. 9 minutes 38 seconds
Grade: 4 (Medium-Advanced)

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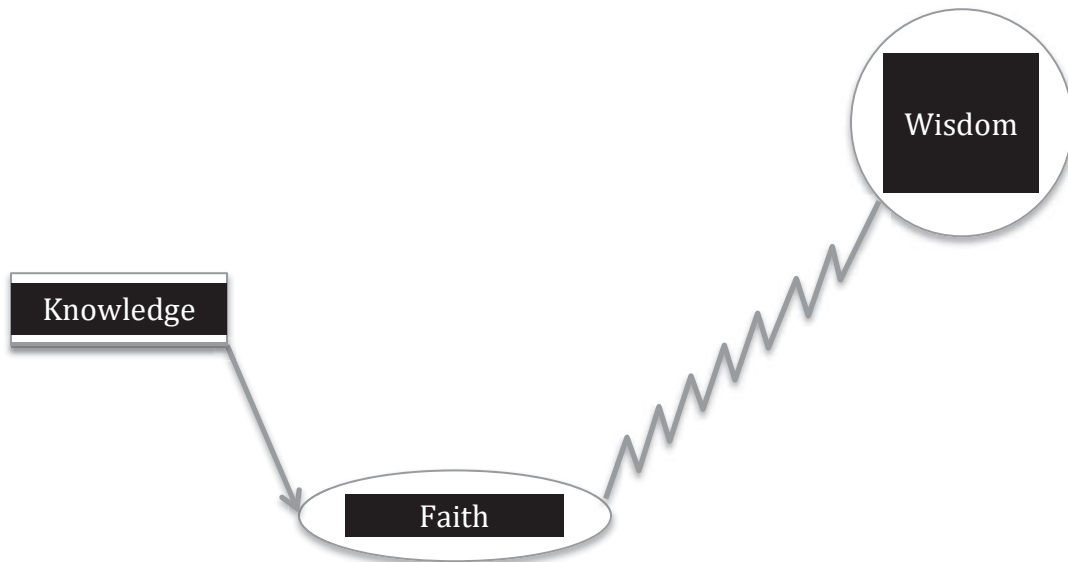
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EMPIRICAL REFRACTION

(Concerto For Tuba and Symphonic Winds)

Program Notes

The journey to achieving a more enlightened self is one for the most mature, readied, and humble hearts. When? Where? How? Why? The answers are all unique to our own existence as individual beings. Moving forward toward enlightenment, it then becomes our challenge to undergo a sequential process defined here as, *Empirical Refraction*:



This work begins with a confident level of *Knowledge*, exuding pride and swagger above all else. The soloist, a chip planted firmly on his shoulder, rifles through rapid chains of sixteenth notes and exhibits considerable flexibility with regard to the many excited moods presented throughout the first movement. Eventually though, things become hurried and a position of comfort and stability quickly becomes one of reaction and uncertainty. Life reveals itself as an entity of overwhelming superiority and sends the ensemble tumbling down a steep slope. The soloist plummets to a dark, shadowy place graced only by the presence of *Faith*.

Lonely, yet determined, our soloist endures while the percussion ensemble supports a through-composed and distressing lament. As time progresses, the ensemble sends soloists and other small groups of instrumentalists to offer support in the way of collaboration during such arduous times. From these cooperative efforts, our soloist gathers the courage to trek through obscurity as unconditional hope provides the necessary illuminating presence. A suspenseful setting soon detaches the end of this movement from itself and, as if one were able to pause time and spiritually withdraw from reality, allows a moment for objective reflection. This atmosphere is supported by solo oboe and an omnipotent hum manufactured by the ensemble. The movement comes to a close with the solace of an out-stretched oboe hand, only to be enveloped by the warmth of our soloist and a few instrument groups from the ensemble.

Wisdom is introduced by a refined waltz, which is then fulfilled by the soloist. Our tubist faces many encounters throughout this climb to a more informed existence, but draws justification from past encounters. This provides one with a powerful, yet unassuming sense of clarity and purpose, which is demonstrated by the frequent but failed attempts by the melodic material to pull away from that of its original beginnings. When the musical material finally does reach a different place, realize that it is not of an uncontrollable nature like that of the first movement. Rather, it is more of a developed and timely transition exhibited by the soloist and the ensemble, together. The cadenza is a final chance for transformation, and the ensemble chooses to rally around this assimilation in the style of a declarative fanfare shortly thereafter. From this fervor, excitement grows and drives this composition to an explosive end with the soloist reaching up to accept the simplistic joys of a newfound perspective on life.

To the Soloist

It is my sincere hope that this work is not only enjoyable for you, but that it also presents you with an exercise in humility. Whether your modesty is probed by the technicality of this composition, or by the act of experiential reflection, I believe that humility is an important catalyst for one's spiritual growth. With this in mind, your interpretation will have more meaning. Without such forethought, the work is reduced to a compilation of sounds and will not translate into a genuine performance for your listeners. Therefore, if you have yet to ponder the twists and turns of your own actuality, then perhaps it is time that you should...

Empirical Refraction: a hero's journey, tailor-made for tuba.

ABOUT THE COMPOSER

Alex Hilliard received his Bachelor of Music, cum Laude from Vanderbilt University, where he studied conducting with Robin Fountain. While completing his undergraduate studies he served as principal tubist of the Nashville Philharmonic Orchestra, Vanderbilt University Wind Ensemble, Vanderbilt University Orchestra, and Tennessee State University Concert Band. Alex also performed with The Establishment, a professional jazz ensemble, in Nashville, Tennessee. After completing his undergraduate degree, he was awarded a graduate assistantship to study conducting with Dr. William Hochkeppel at the University of Louisiana-Lafayette. Here he taught music appreciation, music theory, and guest conducted the university wind ensemble while completing his Master of Music in instrumental conducting.

EMPIRICAL REFRACTION

CONCERTO FOR TUBA AND SYMPHONIC WINDS

I. Knowledge

ALEX HILLIARD

Vivace (♩ = 156) ④

Woodwinds:
Piccolo
Flute
Oboe
Bassoon 1, 2
B♭ Clarinet 1, 2
B♭ Bass Clarinet
B♭ Contrabass Clarinet
E♭ Alto Saxophone 1, 2
B♭ Tenor Saxophone
E♭ Baritone Saxophone
Solo Tuba

Brass:
B♭ Trumpet 1, 2, 3
F Horn 1, 2, 3
Trombone 1, 2
Baritone Euphonium
Tuba

Strings:
String Bass

Percussion:
Xylophone
Chimes
Timpani
Snare Drum
Bass Drum
Crash Cymbals
Percussion 1 (Winds, Claves, Bongos, Tambourine)
Percussion 2 (Castanets, Triangle, Steep Bells, Tuba Drum Gong)

SCORE - Empirical Refraction -Movement 1

Picc.

Fl.

Ob.

Bsn. 1
2

CL. 1
2

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax.

B. Sax.

Solo Tuba

1
2
3

Hn. 1
2
3
4

1
2
3

Bar. Euph.

Tuba

S.B.

Xylo. Ch.

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

7 8 9 10 11

mf

mp

f

mp

mf

f

mp

p

Tri. mf

one player

Tutti

a2

div.

⑫

Picc.

Fl.

Ob.

Bsn. 1
2

1
2
3
CL.

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax.

B. Sax.

Solo Tuba

⑫

1
2
3
Tpt.

1
2
3
4
Hn.

1
2
Tbn.

Bar.
Euph.

Tuba

S.B.

Xylo.
Cb.

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

12 13 14 15 16 17

Tri. *mp*

SCORE - Empirical Refraction -Movement 1

The musical score is arranged in a standard orchestral format. The top section includes woodwinds and saxophones, followed by brass instruments, and a percussion section at the bottom. Key features include:

- Woodwinds:** Piccolo (Solo, *mp*), Flute (Solo, *f*), Oboe (Solo, *mf*), Bassoon (Solo, *f*), Clarinet (Solo, *f*), Bass Clarinet (Solo, *f*), Contrabass Clarinet (Solo, *f*), Alto Saxophone (Solo, *f*), Tenor Saxophone (Solo, *f*), Bass Saxophone (Solo, *f*).
- Brass:** Solo Tuba (*mf*), Tuba (*f*), Trombone (1, 2, 3), Baritone/Euphonium (Solo, *f*), Tuba (Solo, *f*), Snare Drum (*f*).
- Percussion:** Triangle (Tri.), Sleigh Bells (*mf*).
- Other:** Xylophone/Chimes (*f*), Tom-toms (*f*).

Measures 18-22 are shown. Measure 20 is circled. Dynamics range from *mp* to *f*. Performance markings include *Solo*, *f*, *mf*, *div.*, and *a2*.

The musical score for page 5 of "Empirical Refraction - Movement 1" features the following instruments and parts:

- Picc.**: Piccolo
- Fl.**: Flute
- Ob.**: Oboe
- Bsn. 1, 2**: Bassoon
- CL. 1, 2, 3**: Clarinet
- B. CL.**: Bass Clarinet
- C.B. CL.**: Contrabass Clarinet
- A. Sax 1, 2**: Alto Saxophone
- T. Sax**: Tenor Saxophone
- B. Sax**: Baritone Saxophone
- Solo Tuba**: Solo Tuba
- Tpt. 1, 2, 3**: Trumpet
- Hn. 1, 2, 3, 4**: Horn
- Tbn. 1, 2, 3**: Trombone
- Bar. Euph.**: Euphonium
- Tuba**: Tuba
- S.B.**: Snare Drum
- Xylo. Ch.**: Xylophone/Chimes
- Timp.**: Timpani
- S.D., B.D., C.C.**: Small Drum, Bass Drum, Conga/Cajon
- Perc. 1, 2**: Percussion

Key performance markings include dynamics such as *mf*, *mp*, *pp*, *f*, and *p*, as well as articulation like *div.* and *tr.*. Performance instructions include "two players" for the Trumpets and "Tutti st. mute" for the Horns. The score is divided into measures 23 through 27.

SCORE - Empirical Refraction -Movement 1

28

Picc.

Fl.

Ob.

Bsn. 1
2

1
2
3
CL.

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

28

1
2
3
Tpt.

Bsn. 1, 2

Hn.

1
2
3
4
Tbn.

1
2
3
Bar. Euph.

Tuba

S.B.

Xylo.
Ch.

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

28 29 30 31 32 33

34

Picc.

Fl.

Ob.

Bsn. 1
2

CL. 1
2

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

34

Tpt. 1
2

Hn. 1
2
3
4

Tbn. 1
2

Bar. Euph.

Tuba

S.B.

Xylo. Ch.

Timp.

S.D. B.D. C.C.

Perc. 1

Perc. 2

34 35 36 37 38

Picc. *mp* *p* *f* *f*
 Fl. *mp* *p* *f* *f*
 Ob. *mp* *p* *f* *ff* *div.*
 Bsn. 1 2 *a2* *p* *f*
 Cl. 1 *mp* *p* *f* *f*
 Cl. 2 *mp* *p* *f* *f*
 B. Cl. *p* *f*
 C.B. Cl. *p* *f*
 A. Sax 1 2 *div.* *mp* *p* *f* *a2*
 T. Sax *p* *f* *f*
 B. Sax *p* *f*
 Solo Tuba
 Tpt. 1 *p* *f* *bells up*
 Tpt. 2 3 *div.* *p* *f* *bells up*
 Hn. 1 2 *p* *f* *bells up* *a2* *ff*
 Hn. 3 4 *a2* *p* *f* *bells up* *ff*
 Tbn. 1 2 *a2* *p* *f*
 Tbn. 3 *p* *f*
 Bar. Euph. *p* *f*
 Tuba *p* *f*
 S.B. *p* *f* *arco*
 Xylo. Ch. *Xylo.* *Ch.* *ff*
 Timp. *p* *f*
 S.D. B.D. C.C. *mp* *ff*
 Perc. 1 *Tamb.* *f*
 Perc. 2

45

Picc. *Δ*

Fl. *Δ*

Ob. *Δ*

Bsn. 1 *Δ*

2 *Δ*

CL. 1 *Δ* Solo *f* *p* *f* *mp* *mf*

2 *Δ*

B. CL. *v*

C.B. CL. *v*

A. Sax 1 *Δ*

2 *Δ*

T. Sax *Δ*

B. Sax *Δ*

Solo Tuba *f* *p*

1 *Δ* div. bells down *p*

2 *Δ* a2 bells down *p*

3 *Δ*

Hn. 1 *div.*

2 *Δ*

3 *Δ*

4 *v*

Tbn. 1 *Δ*

2 *Δ*

3 *v*

Bar. Euph. *Δ*

Tuba *v*

S.B. *v*

Xylo. *Δ*

Ch. dampen

Timp. *ff* *Δ* (F, A, B)

S.D. *v*

B.D. Claves

C.C. Bongos

Perc. 1 *mp* *mp* *mp* Cast.

Perc. 2 *Tri* *p*

44 *f* Gong (scrape w/ coin) 45 46 47 48

Picc. *mp*

Fl. *mp*

Ob.

Bsn. 1
2

1
CL. *f*

2
3 *mf*

B. CL.

C.B. CL.

A. Sax 1
2 *mp* Hn. F:2

T. Sax

B. Sax

Solo Tuba *f* *mp* *mf*

1
Tpt. *f* *mp*

2
3 *f* *mp*

1
2 Hn. bells down *mp* *p*

3
4 bells down *mp* *p*

1
2 Tbn. div. *mp* *p*

3

Bar. Euph.

Tuba

S.B.

Xylo. Ch. *mf* *mp*

Timp. *mf* *mp*

S.D.
R.D.
C.C.

Perc. 1 *f* *mp*

Perc. 2 *f* *mp*

49 50 51 52 53 54

55

Picc.

Fl.

Ob.

Bsn. 1
2

1
2

CL.

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

1
2
3

Hn.

1
2
3

Tbn.

Bar. Euph.

Tuba

S.B.

Xylo. Ch.

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

55 56 57 58 59

Picc. *f* *ff* *pp* clap
 Fl. *f* *mp* *ff* *pp* clap
 Ob. *f* *mp* *ff* *pp* clap
 Bsn. 1 2 *f* *mp* *ff* *pp* clap
 Cl. 1 *f* *ff* *pp* clap
 Cl. 2 *f* *mp* *ff* *pp* clap
 B. Cl. *f* *mp* *ff* *pp* clap
 C.B. Cl. *f* *mp* *ff* *pp* clap
 A. Sax 1 2 *f* *mp* *ff* *pp* clap
 T. Sax *f* *mp* *ff* *pp* clap
 B. Sax *f* *mp* *ff* *pp* clap
 Solo Tuba *ff* *p* (63)
 Tpt. 1 *f* *mp* *ff*
 Tpt. 2 *f* *mp* *ff*
 Hn. 1 2 *f* *mp* *ff* *pp* clap
 Hn. 3 4 *f* *mp* *ff* *pp* clap
 Tbn. 1 2 *f* *mp* *ff*
 Bar. Euph. *f* *mp* *ff*
 Tuba *f* *mp* *ff*
 S.B. *f* *mp* *ff*
 Xylo. Ch. *f* *ff* dampen
 Timp. *f* *ff* *mp* dampen (D, G, D)
 S.D. B.D. C.C. *f* *mp* *ff* dampen
 Perc. 1 *f* dampen
 Perc. 2 *f* dampen
 Gong *ff* dampen
 60 61 62 63 64

The musical score for page 13 of "Empirical Refraction - Movement 1" features the following instruments and parts:

- Woodwinds:** Picc., Fl., Ob., Bsn. 1 & 2, CL. 1 & 2, B. CL., C.B. CL., A. Sax 1 & 2, T. Sax, B. Sax.
- Brass:** Solo Tuba, Tpt. 1 & 2, Hn. 1, 2, 3 & 4, Tbn. 1 & 2, Bar. Euph., Tuba, S.B.
- Percussion:** Xylo. Ch., Timp., S.D., B.D., C.C., Perc. 1, Perc. 2.

Key performance markings include dynamics such as *mf* (mezzo-forte) and *p* (piano), and articulation like accents (*^*). The Solo Tuba part includes specific dynamics of *f* and *mp*. Clap parts are indicated for Tpt., Hn., Tbn., and S.B. The score is divided into measures 65 through 69.

70

Picc. *ff*

Fl. *ff*

Ob. *ff*

Bsn. 1 2 *ff*

1 2 3 Cl. *ff*

B. Cl. *ff*

C.B. Cl. *ff*

A. Sax 1 2 *ff*

T. Sax *ff*

B. Sax *ff*

Solo Tuba *f*

70

1 2 3 Tpt. *ff*

1 2 3 4 Hn. *ff*

1 2 Tbn. *ff*

3 *ff*

Bar. Euph. *ff*

Tuba *ff*

S.B. *ff*

Xylo. Ch. *ff*

Timp. *ff*

B.D. (dampen and use hard timpani mallets) *sub p*

S.D. R.D. C.C. *ff*

Perc. 1 *ff* *sub p* *sub p* *sub p* *sub p*

snare sticks *sub p*

Perc. 2 *ff*

70 71 72 *sub p* 73 74 75

R160101 - EMPIRICAL REFRACTION - MVMT. 1

(78) Agitato (♩ = 162)

Picc.

Fl.

Ob.

Bsn. 1
2

Ob.
1

CL.
2
3

Hn. 1, 2

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

Tuba

(78) Agitato (♩ = 162)

1
2
3

Hn.

1
2

Tbn.

Bar. Euph.

Tuba

S.B.

Xylo.
Ch.

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

Tri.

76 77 78 79 80 81 82 83

86

84 85 86 87 88 89 90

94 one player

Pic.

Fl. one player
mf

Ob. one player
mf

Bsn. 1
2

1
2

CL. one player
mf

B. CL. one player
mf

C.B. CL.

Hn. 1
mf one player

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

94

1
2
3

Hn. one player
mf

1
2
3

Tbn.

Bar. Euph. B. CL. mp

Tuba

S.B.

Xylo. Ch.

Timp. mp

S.D.
B.D.
C.C.

Perc. 1

Perc. 2 Sleigh Bells mp

91 92 93 94 95 96 97

(98) Aggressivo

Picc. *mf*

Fl.

Ob.

Bsn. 1 2 *mf*

Cl. 1 2 3 *mf*

B. Cl. *f* *mf*

C.B. Cl. *mf*

A. Sax 1 2

T. Sax *mf*

B. Sax *mf*

Solo Tuba *f*

(98) Aggressivo

1 2 3 *mf*

Hn. 1 2 3 4 *mf*

Tbn. 1 2 3 *mf*

Bar. Euph. *mf*

Tuba *mf* div.

S.B. *mf*

Xylo. Ch. *f*

Timp. *mf* hard mallets

S.D. B.D. C.C.

Perc. 1 *f* Tamb.

Perc. 2

98 99 100 101 102 103 104 105

106

Picc.
Fl.
Ob.
Bsn. 1
2
Cl. 1
2
B. Cl.
C.B. Cl.
A. Sax 1
2
T. Sax
B. Sax
Solo Tuba
106
Tpt. 1
2
Hn. 1
2
3
4
Tbn. 1
2
3
Bar. Euph.
Tuba
S.B.
Xylo. Ch.
Timp.
S.D. R.D. C.C.
Perc. 1
Perc. 2
Tri. *f* (use heavier beater)
106 107 108 109 110

114

114

111 112 113 114 115 116

Picc.

Fl.

Ob.

Bsn. 1
2

1
2
CL.

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

1
2
Tpt.

1
2
3
4
Hn.

1
2
3
Tbn.

Bar. Euph.

Tuba

S.B.

Xylo. Ch.

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

117 118 119 120 121 122

123

Picc. *p* *f*

Fl. *f*

Ob. *f*

Bsn. 1 2 *div.* *mp* *f*

1 2 CL. *f*

B. CL. *f*

C.B. CL. *f*

A. Sax 1 2 *f*

T. Sax *f*

B. Sax *f*

Solo Tuba *f*

1 2 3 Tpt. *f* *div.* *a2*

1 2 3 4 Hn. *mp* *f* *a2*

1 2 Tbn. *mp* *f*

Bar. Euph. *f*

Tuba *div.* *f*

S.B. *f*

Xylo. Ch. *f*

Timp. *mp* *f*

S.D. R.D. C.C. *f*

Perc. 1 *mp* *f*

Perc. 2 *shake*

123 124 125 126 127 128

Picc. *ff*

Fl. *ff*

Ob. *ff*

Bsn. 1 2 *ff* *div.* *a2*

Cl. 1 2 *ff* *a2*

B. Cl. *ff*

C.B. Cl. *ff*

A. Sax 1 2 *ff*

T. Sax *ff*

B. Sax *ff*

Solo Tuba *ff* *f*

Tpt. 1 2 3 *ff* *div.* *a2*

Hn. 1 2 3 4 *ff* *f* *a2*

Tbn. 1 2 *ff* *Soli* *Tutti* *a2*

Bar. Euph. *ff*

Tuba *ff* *unis.*

S.B. *ff*

Xylo. Ch. *ff* *choke*

Timp. *ff*

S.D. B.D. C.C. *ff* *choke*

Perc. 1 *ff* *Whistle* *Tamb.*

Perc. 2 *Gong* *ff* *Tri.* *f*

129 130 131 132 133

EMPIRICAL REFRACTION

CONCERTO FOR TUBA AND SYMPHONIC WINDS

II. Faith

ALEX HILLIARD

Allegretto (♩ = 68)

Piccolo

Flute

Oboe

Bassoon 1
2

B Clarinet 1
2
3

B Bass Clarinet

B Contrabass Clarinet

E Alto Saxophone 1
2

B Tenor Saxophone

E Baritone Saxophone

Solo Tuba

Allegretto (♩ = 68)

B Trumpet 1
2
3

F Horn 1
2
3
4

Trombone 1
2
3

Baritone Euphonium

Tuba

String Bass

Bells Chimes

Vibraphone

Marimba

Timpani

Percussion 1
(Windkimes, Crotales)

Percussion 2
(Triangle, Suspended Cymbal, Crash Cymbal)

Percussion 3
(Ocean Drum)

p

mp

p

mp

S.C. scrape with metal beater

p Lv.

2 3 4 5

⑥

Picc.

Fl.

Ob.

Bsn. 1
2

1
Cl.

2
3

B. Cl.

C.B. Cl.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

⑥

1
Tpt.

2
3

1
Hn.

2
3
4

1
Tbn.

2

3

Bar. Euph.

Tuba

S.B.

Bells

Ch.

Vibr.

Mar.

Timp.

Perc. 1

Perc. 2

Perc. 3

Tri. *mp* *lv.* *sim.* *mf*

mf

mf

6 7 8 9 10

SCORE - Empirical Refraction - Movement II

13

Picc. *mf*

Fl. *mf*

Ob. *mf*

Bsn. 1 *mf*

2

1 *mf*

Cl. 2 *mf*

3

B. Cl. *f*

C.B. Cl. *f*

A. Sax 1 *mf*

2

T. Sax *f*

B. Sax *f*

Solo Tuba

13

1

Tpt. 2

3

1 *mf*

Hn. 2 *mf*

3 *mf*

4 *mf*

1 *mf*

2 *mf*

3 *mf*

Tbn. 4

Bar. *mf*

Euph. *mf*

Tuba *mf*

S.B. *mf*

Bells *mf*

Ch. *mf*

Vibr. *mf*

Mar. *f*

Timp. *f* (F, B, C)

Perc. 1 *mf* W. Ch. Lv.

Perc. 2 *mf* Lv.

Perc. 3 *mf* Lv.

Picc.

Fl.

Ob.

Bsn. 1
2

1
2
3

Cl.

B. Cl.

C.B. Cl.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

1
2
3

Tpt.

1
2
3
4

Hn.

1
2
3

Tbn.

Bar. Euph.

Tuba

S.B.

Bells Ch.

Vibr.

Mar.

Timp.

Perc. 1

Perc. 2

Perc. 3

W. Ch.

Lv.

p

f

mf

mp

mf

mp

17 18 19 20 21 22 23 24

SCORE - Empirical Refraction - Movement II

28

25

Picc. *mf*

Ob. ssa *mf*

FL. *mf*

Ob. Solo *f cantabile*

Bsn. 1 2

1 *p*

CL. *p*

2 3 *p*

B. Cl. *mf*

C.B. Cl. *mf*

A. Sax 1 2

T. Sax

B. Sax

Solo Tuba *mp*

25

1 bucket mute *p* div. *mf*

2 a2 bucket mute *p* *mf*

3 *p* *mf*

1 Hn.

2 3 4

1 2 Tbn.

3

Bar. Euph.

Tuba

S.B.

Bells Ch. *p*

Vibr. *p*

Mar. *mp*

Timp. *p* *mp* *p*

Perc. 1 *mf* lv.

Perc. 2 *mp* scrape

Perc. 3

25 26 27 28 29 30 31 32

33

Picc.

FL. Solo *mf* *mp*

Ob. *mp*

Bsn. 1 2 Solo *mf* *mp*

CL. 1 Solo *mf* *mp*
2
3

B. CL.

C.B. CL.

A. Sax 1 2

T. Sax

B. Sax

Solo Tuba *mf* *p* *tr*

33

Tpt. 1 2 3

Hn. 1 2 3 4

Tbn. 1 2 3

Bar. Euph.

Tuba

S.B.

Belb. Ch. *mf*

Vibr. *mf*

Mar. *mf* *mf*

Timp.

Perc. 1

Perc. 2

Perc. 3

33 34 35 36 37

SCORE - Empirical Refraction - Movement II

30

38

Soli

mp

mf

Tutti

FL

Soli

Ob.

Soli

Bsn. 1

2

a2

mp

mf

1

Soli

CL

2

3

one player

mp

mf

B. CL

C.B. CL

A. Sax 1

2

Hn. 1

mp

mf

one player

mp

mf

T. Sax

B. Sax

Solo Tuba

mf

mp

mf

38

1

Tpt.

2

3

open

mp

mf

1

2

3

Hn. 2

mp

mf

1

2

3

Tbn.

one player

mp

mf

Bar. Euph.

Tuba

S.B.

Bells Ch.

Vibr.

p

Mar.

mp

mp

Timp.

mf

p

Perc. 1

Perc. 2

p

mf Lv.

mf scrape Lv.

Perc. 3

38 39 40 41 42 43 44

45

Picc.

FL.

Ob.

Bsn. 1
2

1
2
3
CL.

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

45

1
2
Tpt.

1
2
Hn.

3
4

1
2
Tbn.

Bar.
Euph.

Tuba

S.B.

Bells
Ch.

Vibr.

Mar.

Timp.

Perc. 1

Perc. 2

Perc. 3

W. Ch. Crotales

lv lv

f scrape sim. f CC.

53

Picc. *ff*

Fl. *ff*

Ob. *ff*

Bsn. 1 *ff*

Bsn. 2 *ff*

Cl. 1 *ff*

Cl. 2 *ff*

Cl. 3 *ff*

B. Cl. *f*

C.B. Cl. *f*

A. Sax 1 *f*

A. Sax 2 *ff*

T. Sax *ff*

B. Sax *ff*

Solo Tuba *ff*

53

Tpt. 1 *ff*

Tpt. 2 *ff*

Tpt. 3 *ff*

Hn. 1 *ff*

Hn. 2 *ff*

Hn. 3 *ff*

Hn. 4 *ff*

Tbn. 1 *f*

Tbn. 2 *ff*

Tbn. 3 *f*

Bar. Euph. *f*

Tuba *f*

S.B. *f*

Bells Ch. *f*

Vibr. *f*

Mar. *f*

Timp. *f*

Perc. 1 *f*

Perc. 2 *mp* S.C. *f* C.C.

Perc. 3 *f*

53 54 55 56 57 58 59 60

61

Picc. *rall.* *p*

Fl. *p*

Ob.

Bsn. 1
2

1
2
3
Cl. *p*

B. Cl. *ff*

C.B. Cl. *ff*

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

61

1
2
3
Tpt. *div.*

1
2
3
Hn. *div.* *stopped* *a2* *f*

1
2
3
Tbn. *ff*

Bar. Euph.

Tuba *ff* *div.*

S.B.

Bells Ch.

Vibr.

Mar.

Timp. *ff*

Perc. 1

Perc. 2 *choke* *mf* *choke* *mf* *scrape* *lv.*

Perc. 3

61 62 63 64 65 66

R160102 EMPIRICAL REFRACTION - MVMT. II

SCORE - Empirical Refraction - Movement II

69 Più lentamente (♩ = 52)

Picc. *f*
 FL. *f*
 Ob. Solo *p* *held* *mf espress.* *mp*
 Bsn. 1 2 *pp*
 CL. 1 *f* *div.* *p* *unis.* *pp*
 2 3 *f* *p* *pp*
 B. CL. *pp* Hum
 C.B. CL. *pp* Hum
 A. Sax 1 2 *pp* Hum
 T. Sax *pp* Hum
 B. Sax *pp* Hum
 Solo Tuba
 Tpt. 1 *mf espress.* *pp* Hum
 2 3 *pp* Hum
 Hn. 1 2 *pp* Hum
 3 4 *pp* Hum
 Tbn. 1 bucket mute *f* *pp* Hum
 2 bucket mute *pp* Hum
 3 *f* *pp* Hum
 Bar. Euph. *pp* Hum
 Tuba *pp* Hum
 S.B. *pp*
 Bells Ch.
 Vibr. *pp*
 Mar. *pp*
 Timp. *mf* *ppp*
 Perc. 1 *p*
 Perc. 2
 Perc. 3

SCORE - Empirical Refraction - Movement II

rit.

Picc.

Fl.

Ob.

Bsn. 1
2

1
2
3

Cl.

B. Cl.

C.B. Cl.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

p

(Multiphonics:
bottom note - play
top note - sing)

rit.

1
2
3

Tpt.

1
2
3
4

Hn.

1
2

Tbn.

3

Bar.
Euph.

Tuba

S.R.

Bells
Ch.

Vibr.

Mar.

Timp.

Perc. 1

Perc. 2

Perc. 3

ppp

73 74 75 76 77

EMPIRICAL REFRACTION

CONCERTO FOR TUBA AND SYMPHONIC WINDS

III. Wisdom

ALEX HILLIARD

Waltz (♩ = 66)

Piccolo
Flute
Oboe
Bassoon 1 2
B♭ Clarinet 1 2 3
B♭ Bass Clarinet
B♭ Contrabass Clarinet
E♭ Alto Saxophone 1 2
B♭ Tenor Saxophone
E♭ Baritone Saxophone
Solo Tuba
B♭ Trumpet 1 2
F Horn 1 2 3 4
Trombone 1 2 3
Baritone Euphonium
Tuba
String Bass
Bells Chimes
Marimba
Timpani (G, A, C)
Snare Drum
Bass Drum
Crash Cymbals
Percussion 1 (Castanets, Shapstick, Tambourine)
Percussion 2 (Triangle, Suspended Cymbal, Gong)

2 3 4 5 6

7

Picc. *ppp*

Fl. *mp*

Ob. *mp*

Bsn. 1 2 *mp*

1 2 3 *mp*

B. CL. *mp*

C.B. CL. *mp*

A. Sax 1 2 *mp*

T. Sax *mp*

B. Sax *p*

Solo Tuba *mf*

Ob. *f*

7

Tpt. 1 2 3 *mf*

Hn. 1 2 3 4 *mp*

Tbn. 1 2 3 *mp*

Bar. Euph. *mp*

Tuba *mp*

S.B. *mp*

Bells Ch. *mp*

Mar. *mp*

Timp. *mp*

S.D. B.D. C.C. *p*

Perc. 1

Perc. 2

8 9 10 11 12 13 14

SCORE - Empirical Refraction - Movement III

3/8 (15)

Picc.

Fl. *mp*

Ob. *mp*

Bsn. 1 2 *mp*

1 2 3 *mp*

B. CL. *mp*

C.B. CL. *mp*

A. Sax 1 2 *mp*

T. Sax *mp*

B. Sax *p*

Solo Tuba *mf*

(15) Ob.

1 2 3

Hn. 1 2 3 4 *mp*

1 2 3 *mp*

Bar. Euph. *mp*

Tuba *mp* *unis.*

S.B. *mp*

Bells Ch.

Mar. *mp*

Timp. *mp*

S.D. B.D. C.C. *mp*

Perc. 1

Perc. 2

16 17 18 19 20 21 22

SCORE - Empirical Refraction - Movement III

23 39

Picc. *f* *Soli*

Fl. *p* *f* *p*

Ob. *p* *f* *p*

Bsn. 1 2 *f* *mp*

CL. 1 2 3 *p* *f* *p* *mp*

B. Cl. *f* *mp*

C.B. Cl. *f* *mp*

A. Sax. 1 2 *Hn. Solo* *mp* *f* *mp*

T. Sax. *f* *mp*

B. Sax. *mf* *pp*

Solo Tuba *mp* *f* *mp*

23 *straight mute* *p* *f* *p*

Tpt. 1 2 3 *a2 straight mute* *p* *f* *p*

Hn. 1 2 3 4 *Solo* *f*

Tbn. 1 2 3 *p* *f* *p*

Bar. Euph. *p* *f*

Tuba *p* *f* *p*

S.B. *p* *f* *p*

Bells Ch. *mp* *f* *mp*

Mar. *p* *f* *Soli* *f* *p*

Timp. *p* *f* *p*

S.D. B.D. C.C. *p* *f* *mp*

Perc. 1 *Tamb.* *p* *f* *p*

Perc. 2 *Tri.* *p* *f* *p*

24 25 26 27 28 29 30

SCORE - Empirical Refraction - Movement III

40 (31) Soli *mp*

Picc. *mp*

Fl.

Ob.

Bsn. 1
2

1
2
3

CL

B. CL

C.R. CL

A. Sax 1
2 *Soli mp*

T. Sax

B. Sax

Solo Tuba

(31)

1
2
3

Tpt.

1
2

Hn. *p*

3
4 *p*

1
2

Tbn. *p*

3

Bar. Euph.

Tuba *div.*

S.B. *p*

Bells Ch.

Mar. *mp*

(F, B, E)

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

32 33 34 35 36

39

39

Ob.

37 38 40 41 42

SCORE - Empirical Refraction - Movement III

42

43 44 45 46 47 48

43 44 45 46 47 48

49

Picc.

Fl.

Ob.

Bsn. 1
2

1
2
3
CL.

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

49 Ob. *mp dolce*

1
2
3
Tpt.

1
2
Hn.

3
4

1
2
Tbn. *div.* *Bsns.* *p*

3

Bar.
Euph.

Tuba

S.B. *pp pizz.* *mf*

Bells
Ch.

1
2
3
Mar. *Soli* *mp dolce*

Timp. *p*

S.D.
B.D.
C.C.

Perc. 1 *mp* *p* *mp*

Perc. 2 *p*

50 51 52 53 54 55 56

SCORE - Empirical Refraction - Movement III

44 (57)

Picc.

Fl.

Ob.

Bsn. 1
2

1
2
3

CL.

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax.

B. Sax.

Solo Tuba

1
2
3

Tpt.

1
2
3

Hn.

1
2
3
4

1
2
3

Tbn.

Bar. Euph.

Tuba

S.B.

Bells Ch.

Mar.

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

58 59 60 61 62 S.C. 63 64 65

66

Picc.
Fl.
Ob.
Bsn. 1
2
Cl. 1
2
3
B. Cl.
C.B. Cl.
A. Sax 1
2
T. Sax
B. Sax
Solo Tuba

66

Tpt. 1
2
3
Hn. 1
2
3
4
Tbn. 1
2
3
Bar. Euph.
Tuba
S.B.
Bells Ch.
Mar.
Timp.
S.D.
B.D.
C.C.
Perc. 1
Perc. 2

67 68 69 70 71 72 73

SCORE - Empirical Refraction - Movement III

74

46

Picc.

Fl.

Ob.

Bsn. 1
2

1
2
3

CL.

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

74

1
2
3

Tpt.

1
2
3
4

Hn.

1
2

Tbn.

Bar. Euph.

Tuba

S.B.

Bells Ch.

Mar.

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

75 76 77 78 79 80 81

83

Picc.

Fl.

Ob.

Bsn. 1
2

1
2
3

CL.

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

83

1
2
3

Tpt.

1
2
3

Hn.

1
2
3
4

Tbn.

1
2
3

Bar. Euph.

Tuba

S.B.

Bells Ch.

Mar.

(G, A, C)

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

82 84 85 86 87 88 89

S.C. *f* (scrape w/ metal beater)

90

SCORE - Empirical Refraction - Movement III

48 (91)

Picc.

Fl.

Ob.

Bsn. 1
2

1
2
3

CL

B. CL

C.B. CL

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

(91)

1
2
3

Tpt.

1
2
3
4

Hn.

1
2

Tbn.

Bar. Euph.

Tuba

S.B.

Bells
Ch.

Mar.

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

92 93 94 95 96

97

Picc.

Fl.

Ob.

Bsn. 1
2

CL. 1
2
3

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

97

Tpt. 1
2
3

Hn. 1
2
3
4

Tbn. 1
2
3

Bar. Euph.

Tuba

S.B.

Bells Ch.

Mar.

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

98 99 100 101 102

SCORE - Empirical Refraction - Movement III

50 (103)

Picc. *ff*

Fl. *ff*

Ob. *ff*

Bsn. 1 2 *ff* *div.*

Cl. 1 2 3 *ff* *div.* *a2*

B. Cl. *ff*

C.B. Cl. *ff*

A. Sax 1 2 *ff*

E. Sax *ff*

B. Sax *ff*

Solo Tuba

(103)

Tpt. 1 2 3 *ff* *a2*

Hn. 1 2 3 4 *ff* *a2*

Tbn. 1 2 3 *ff* *a2*

Bar. Euph. *ff*

Tuba *ff*

S.B. *ff*

Bells Ch. *ff*

Mar. *ff*

Timp. *ff*

S.D. B.D. C.C. *ff* *damper* *hard imp. mallet* *Slapsick* *ff* *ff*

Perc. 1

Perc. 2

104 105 106 *f* Gong 107 108 109 110

Picc. *pp*
 Fl. *mf* two players
 Ob. *pp*
 Bsn. 1 2
 Cl. 1 *pp*
 2 3 *pp*
 B. Cl. *pp*
 C.B. Cl. *pp*
 A. Sax 1 2 *mp*
 T. Sax
 B. Sax *pp*
 Solo Tuba *mf*
 Tpt. 1 *p* one player
 2 3 *p*
 Hn. 1 2 *mp*
 3 4 *pp*
 Tbn. 1 2
 3
 Bar. Euph. *pp*
 Tuba *pp*
 S.B. *pp*
 Bells Ch.
 Mar. *pp*
 Timp. *pp*
 S.D. B.D. C.C.
 Perc. 1 *p* Tamb.
 Perc. 2 *p* Tri.

SCORE - Empirical Refraction - Movement III

119

Picc. *ff* *mp*

Fl. *mp* *f* *ff* *mp*

Ob. *p* *f* *ff* *mp*

Bsn. 1 *ff* *mp*

2 *ff* *mp*

CL. 1 *p* *f* *ff* *mp*

2 *ff* *mp*

3 *ff* *mp*

B. CL. *p* *f* *ff* *mp*

C.B. CL. *ff* *mp*

A. Sax 1 *f* *ff* *mp*

2 *ff* *mp*

T. Sax *ff* *mp*

B. Sax *ff* *mp*

Solo Tuba *p* *ff* *mp*

119

Tpt. 1 *pp* *f* *ff* *mp*

2 *pp* *f* *ff* *mp*

3 *pp* *f* *ff* *mp*

Hn. 1 *p* *f* *ff* *mp*

2 *ff* *mp*

3 *ff* *mp*

4 *ff* *mp*

Tbn. 1 *ff* *mp*

2 *ff* *mp*

3 *ff* *mp*

Bar. Euph. *ff* *mp*

Tuba *ff* *mp*

S.B. *ff* *mp*

Bells Ch. *mp* *f* *mf*

Mar. *mp* *f* *mp*

Timp. *ff* *mf*

S.D.
B.D.
C.C.

Perc. 1

Perc. 2 *f*

120 121 122 123 124 S.C. *p* 125 126

127

Picc. *f*

Fl. *f* *Soli* *mf*

Ob. *f* *Soli* *mf*

Bsn. 1 *mf* *Soli* *div.*

2 *mf*

1 *f*

2 *div.* *mf*

3 *mf*

B. CL. *mf*

C.B. CL. *mf*

A. Sax 1 *mf* *f*

2 *mf*

T. Sax *mf*

B. Sax *mf*

Solo Tuba *mf* *Soli*

1 *mf* *Soli* *straight mute* *mf*

2 *mf* *a2*

3 *mf*

1 *mf* *div.*

2 *mf*

3 *mf*

4 *mf*

1 *mf* *div.*

2 *mf*

3 *mf*

Bar. Euph. *mf*

Tuba *mf*

S.B. *mf*

Bells Ch. *f* *mf*

Mar. *mf*

Timp. *f* *mf*

S.D.
B.D.
C.C.

Perc. 1

Perc. 2 *mf* *lv.*

128 129 130 131 132 133 134

(143) Cadenza

Picc.

Fl.

Ob.

Bsn. 1
2

1
2
3
CL

B. CL

C.B. CL

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

(143) Cadenza

1
Tpt.

2
3

1
2
Hn.

3
4

1
2
Tbn.

3

Bar.
Euph.

Tuba

S.B.

Bells
Ch.

Mar.

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

SCORE - Empirical Refraction - Movement III

56

Picc.

Fl.

Ob.

Bsn. 1
2

1
2
3
CL.

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

1
2
3
Tpt.

1
2
3
4
Hn.

1
2
3
Tbn.

Bar.
Euph.

Tuba

S.B.

Bells
Ch.

Mar.

Timp.

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

f

mf

rit.

Picc.

Fl.

Ob.

Bsn. 1
2

1
2
3
CL.

B. CL.

C.B. CL.

A. Sax 1
2

T. Sax

B. Sax

Solo Tuba

rit.

1
2
3
Tpt.

1
2
3
4
Hn.

1
2
3
Tbn.

Bar.
Euph.

Tuba

S.B.

Bells
Ch.

Mar.

Timp.

p *mf* *p* *cresc. molto*

S.D.
B.D.
C.C.

Perc. 1

Perc. 2

SCORE - Empirical Refraction - Movement III

149 Grandioso (♩ = 84)

58

149 Grandioso (♩ = 84)

150 151 152 153 154 155

Gong *sfz* *lc*

153

SCORE - Empirical Refraction - Movement III

156 *accel. poco a poco*

59

157 158 159 160 161 162 163

SCORE - Empirical Refraction - Movement III

(164) Presto (♩ = ca. 180)

Picc. *f*
 Fl. *f*
 Ob. *f*
 Bsn. 1 2 *f*
 CL. 1 *f*
 2 3 *f* div.
 B. CL. *f*
 C.R. CL. *f*
 A. Sax 1 2 *f* div.
 T. Sax *f*
 B. Sax *f*
 Solo Tuba *f*

(164) Presto (♩ = ca. 180)

1 *f*
 2 3 *f* div.
 Hn. 1 2 *f* bells up
 3 4 *f* bells up
 1 2 *f*
 3 *f*
 Bar. Euph. *f*
 Tuba *f*
 S.B. *f*
 Bells Ch. *f* let ring
 Mar. *f*
 Timp. *f*
 S.D. B.D. C.C. *fp*
 Perc. 1 *f* Slapstick
 Perc. 2 *f* simile

168 169 170 171

SCORE - Empirical Refraction - Movement III

172

Picc.
Fl.
Ob.
Bsn. 1
2
Cl. 1
2
3
B. Cl.
C.B. Cl.
A. Sax 1
2
T. Sax
B. Sax
Solo Tuba
Tpt. 1
2
3
Hn. 1
2
3
4
Tbn. 1
2
3
Bar. Euph.
Tuba
S.B.
Bells Ch.
Mar.
Timp.
S.D.
B.D.
C.C.
Perc. 1
Perc. 2

173 174 175 176