

***From the Vortex Perspective***

2015

For Large Orchestra

**Paul Frehner**

Written for the Toronto Symphony Orchestra, Peter Oundjian, Music Director [March 2016]

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## Instrumentation

3 Flutes [2<sup>nd</sup> doubles on alto flute, 3<sup>rd</sup> doubles on piccolo]  
3 Oboes [3<sup>rd</sup> doubles on English Horn]  
2 Clarinets  
Bass Clarinet  
3 Bassoons [3<sup>rd</sup> doubles on Contrabassoon]

4 Horns  
3 Trumpets  
2 Trombones  
1 Bass Trombone  
1 Tuba

Timpani: 32", 28", 25"  
Cymbal to be placed on timp.

### 3 Percussion

Vibraphone  
Marimba – 5 octaves; C16-C76  
2 Singing Bowls – F4, G4  
3 Cencerros – F4, G4, Bb4

Small Gong – tuned to G4  
Large Gong – tuned to F2

4 Suspended Cymbals – 20" large, medium, very small, 18" Chinese  
Large and thin sheet of metal – (Sinori Percussion thundersheet suggested)  
Very Large Symphonic Tam Tam or Gong (as large as possible - 40" minimum, 80" max)

MegaBass Waterphone  
2 Shakers (soft sonority and hard sonority)  
4 Concert Toms – low, med, high, very high – each tuned to a note from an F minor triad  
Bass Drum

Harp  
Piano/Celeste

Strings: 12,10,8,6,5\* suggested

\* Several members of the double bass section should have the low C extension or 5 strings

## Performance Notes

Accidentals function in the traditional manner. However, cautionary accidentals are frequently used. In addition, microtones are used occasionally [see note below on notation of microtones]. This score is notated in C. The piccolo, contrabassoon, celeste and double-bass, however, are written in their usual octave transpositions.

Prepared Piano: a heavy sheet of paper (24 lb at least) should be placed on the lowest two octaves of the piano strings: A0-A2.

Film audio: This composition is part of a collaborative multimedia work with filmmaker and video artist Peter Mettler. In performance there are moments when audio from Mettler's video component are to be diffused into the concert hall by a sound projectionist. These moments are indicated in the score on a dedicated staff. Typically the audio in these instances should smoothly fade in and fade out. Thus, a fader is required. Please note that the audio from the film should always be at a background level in relation to the orchestra.

Music Stand Lights: In order for the video to be properly viewed the concert hall lights should be appropriately lowered. Thus, it is necessary for the musicians to have music stand lights. The conductor, of course, should be clearly visible to members of the orchestra.

Special playing instructions: There are instances where special techniques are employed. These are explained in the score where they occur.

Concert performances without multimedia: In concert performances of this work where video projection is not possible the duration of "Rehearsal O" may be shortened. All instructions for diffusion [fade-in, fade-out] of audio from the film component can, in this case, be ignored.

Duration: ca. 16'

### Notation of Microtones



Quarter tone sharp



Quarter tone flat



Three quarter tone sharp



Slightly higher or lower [approx. 1/6 of tone] than the natural note



Slightly higher or lower [approx. 1/6 of tone] than the sharpened note



Slightly higher or lower [approx. 1/6 of tone] than the flattened note



Slightly higher than the quarter tone [approx 1/6 of tone]

Paul Frehner - From The Vortex Perspective - Excerpt from Score

DD

à 2

260

Fl. A. Fl.

Cl. 1

B. Cl.

Bsn. 2

Tpt. 3

Hp.

*simile*

Cup Mute  
Blend with dynamic level of violin II

260

DD

Div.

Vln. II

Vla.

Vc.

D.B.

Div.

Div.

*mp*

*f*

*mp*

*f*

*mp*

*f*

*mp*

*f*

264

(à 2)

Fl. A. Fl. *mf* *mf < f < ff*

Cl. 1 *mf* *mp < mp* *mf < f < ff*

Cl. 2 *f* *ff* *f* *mp* *mf < f < ff* *mp*

B. Cl. *<mf < f < mp < mf < f < mp simile*

Bsn. 1 *mf < f* *mf <*

Bsn. 2 *<mf < f < mp < mf < f < mp simile*

Bsn. 3 *<mp < mp < mp < mp simile*

264

Hn. 1 *f* *ff* *mf < f* *f <*

Hn. 2 *flutter* *mp <* *mp <* *mf < f* *f < ff*

Hn. 3 *ff* *f < ff*

Hn. 4 *mp* *mf < f*

Tpt. 3 *f* *mp* *f*

MegaBass Waterphone

Bowed

M.B. W.Ph. *p* *mp* *mf* *f* *mf* *f*

Hp. *f* *mp* *f* *mp*

264

Vln. II *f* *mp* *f*

Vla. *f* *Non. Div.* *mp* *f* *mp*

Vc. *mp* *f* *mp* *f*

D.B. *mp* *f* *mp* *f*

EE

268

Fl. A. Fl. *mp* < *mf* *mf* < >

Cl. 1 *mp* < *mf* *mf* < >

Cl. 2 *mf*

B. Cl. *mf*

Bsn. 1 *f* *mp* < *mf*

Bsn. 2 < *mp* < *mp* < *p* < *mp* < *mp* < *p* simile

Bsn. 3 < *mf* < *f* < *mp* < *mf* < *f* < *mp* simile

268

Hn. 1 *ff*

Hn. 2 *mp* < >

Hn. 3 *mf* < *f*

Hn. 4 *mf* < *f* *mp* >

Tpt. 3 (Cup Mute) *p*

Mrb. *mf* Marimba

M.B. W.Ph. *mf* *mp* *p*

Hp. *mp*

EE

268

Vln. II *mp*

Vla. *f* *mp* *f* *mp*

Vc. *mp* *f* *mp* *f*

D.B. *mp* *f* *mp* *f*

272

Fl. A. Fl. *mf* *f* *ff* *f* *p*

Cl. 1 *mf* *mf* *mp*

Cl. 2 *f* *ff* *f* *mp* *f* *mp*

B. Cl. *mf* *f* *mp* *mf* *f* *mp* *mf*

Bsn. 2 *mp* *mp* *p* *simile*

Bsn. 3 *mp* *mp* *mp* *mp* *simile*

Hn. 1 *f* *ff* *ff*

Hn. 2 *p* *mp* *mf* *mf* *f*

Hn. 3 *f* *ff* *f*

Hn. 4 *mf*

Tpt. 1 (Open) *f* *ff* *f* *ff*

Tpt. 2 Straight Mute *f* *ff* *f* *ff*

Tpt. 3 as before, blend with violin II *f* *p*

Tbn. 1 *mf* *mf*

Tbn. 2 *mf* *f*

Mrb. *ff* *mp*

M.B. W.Ph. *mp* *mf* *f*

4 Toms 4 Concert Toms Low, Med. High, Very High wood sticks *p* *poco a poco cresc. until arrival at fortissimo at m. 292*

Hp. *ff* *mp* *D<sub>1</sub>*

272 *above the texture*

Vln. I *ff* *poco a poco cresc.*

Vln. II *f* *ff* *mp*

Vla. *f* *mp* *f* *mp*

Vc. *mp* *f* *mp* *f*

D.B. *mp* *f* *mp* *f*



276

Fl. 1 *ff* *mf* *ff*

A. Flute *mp* *mf* *mp* *mf* *mf* *f* *f* *ff* *mf* *f* *mp* *mf* *Take Flute*

Picc.

Ob. 1 *mf* *ff*

Ob. 3 *ff*

Cl. 1 *mp* *mf* *mp* *mf* *mf* *f* *f* *ff* *mf* *f* *p* *mp*

Cl. 2 *mp* *mf* *mp* *mf* *f* *ff* *f* *ff* *mf* *f* *mp* *mf*

B. Cl. *mf* *f* *mp* *mf* *f* *mp* *simile*

Bsn. 1 *mp* *mf* *mp* *mf* *mf* *f* *f* *ff* *mf* *f* *p* *mp*

Bsn. 2 *mf* *f* *mp* *mf* *f* *mp* *simile*

Bsn. 3 *mf* *f* *mp* *mf* *f* *mp* *simile*

276

Hn. 1 *mp* *mf* *mp* *mf* *mf* *f* *f* *ff* *mp* *mf*

Hn. 2 *mp* *mf* *mp* *mf* *mf* *f* *f* *ff* *mp* *mf*

Hn. 3 *mp* *mf* *mf* *f* *f* *ff* *mf* *f* *p* *mp*

Hn. 4 *mp* *mf* *mf* *f* *f* *ff* *mf* *f* *p* *mp*

Tpt. 1 *mf* *ff* *vib.*

Tpt. 3 *f* *Remove Mute*

Mrb. *ff* *fff*

M.B. W.Ph. *mf* *f* *mf* *mp* *p*

4 Toms *(poco crescendo)*

Hp. *ff* *mp* *ff*

D<sub>b</sub>

276

Vln. I

Vln. II *f* *ff* *Div. à 3*

Vla. *f* *mp* *f*

Vc. *mp* *f* *mf*

D.B. *mp* *f* *mf*

279

**FF**

Fl. 1 *f* *ff* *ff*

Ob. 3 *ff* *ff*

B. Cl. *mp* *mp* *p simile*

Bsn. 2 *mp* *mp* *p simile*

Bsn. 3

Mrb. *fff* *ff* *ff*

4 Toms *(poco crescendo)*

Hp. *ff* *ff*

Celeste *Celeste* *ff*

Vln. I *fff* *ff* *ff*

Vln. II *ff* *ff* *ff*

Vla. *mf* *ff* *mf* (à 2)

Vc. *ff* *mf* *ff*

D.B. *ff* *mf* *ff*

282

Fl. 1 *ff* *ff*

Fl. 2 *mf* *f*

Fl. 3 *mp* *mp* *mp*

Ob. 1-2 *f* *f*

Ob. 3 *ff* *ff* *mf*

Cl. 1 *mf* *f*

Cl. 2 *f*

B. Cl. *mf* *f* *mp* *mf* *f* *mp* *simile*

Bsn. 1 *mp* *mp* *mp*

Bsn. 2 *mf* *f* *mp* *mf* *f* *mp* *simile*

Bsn. 3 *mf* *f* *mp* *mf* *f* *mp* *simile*

Hn. 1-2 *f*

Hn. 3-4 *mf* *f*

Tpt. 3 *mp* *mf*

Mrb. *ff* *ff* *mf*

4 Toms *(poco crescendo)*

Hp. *ff* *ff* *mf*

Celeste *mf*

Vln. I *mf* *mf* *fff* *above the texture with sustained intensity*

Vln. II *mf* *mf* *ff*

Vla. *ff* *mf* *ff*

Vc. *mf* *ff* *mf*

D.B. *mf* *ff* *mf*

285

Fl. 1 *f* *ff* *ff*

Fl. 2

Fl. 3

Ob. 1 *mf* *ff*

Ob. 2 *mf* *ff*

Ob. 3 *ff* *ff*

Cl. 1 *ff*

Cl. 2 *f* *ff*

B. Cl.

Bsn. 1

Bsn. 2 *mp* *mp* *p* simile

Bsn. 3

Hn. 1-2 *f* *ff* *f* *ff* *f* *ff*

Hn. 3-4 *f* *ff* *ff* *ff*

Tpt. 1 *f* *ff* *f* *ff* *f* *ff* *f* *ff*

Tpt. 2 (Straight Mute) *f* *ff* *f* *ff* *f* *ff* *f* *ff*

Tpt. 3 emerge now, from texture *f* *ff* *f* *ff* *f* *ff* *f* *ff*

Tbn. 1 *ff*

Tbn. 2 *ff* *f*

Mrb. *ff* *mf* *ff*

4 Toms

Hp. *ff* *mf* *ff*

Celeste *ff* *ff*

F. Audio niente

285

Vln. I *ff* *ff* *mf* Div. à 4

Vln. II *ff* *ff* *mf*

Vla. *mf* *ff* *mf*

Vc. *ff* *mf* *ff*

D.B. *ff* *mf* *ff*

288

Fl. 1: *ff* *ff* *mf*

Fl. 2: *mf* *f* *mf* *f* *mf* *f* *f* *ff*

Picc.: *mf* *ff*

Ob. 1: *mf* *ff* *mf*

Ob. 2: *mf* *ff*

Ob. 3: *ff* *ff* *mp*

Cl. 1: *mf* *f* *mf* *f* *f* *ff* *f*

Cl. 2: *mf* *f* *mf* *f* *mf* *f* *f* *ff*

B. Cl.: *mf* *f* *mf* *f* *mf* *f* *f*

Bsn. 1: *mf* *f* *mf* *f* *mf* *f* *f*

Bsn. 2: *mf* *f* *mp* *mf* *f* *mp* *simile*

Bsn. 3: *mf* *f* *mp* *mf* *f* *mp* *simile*

288

Hn. 1: *mf* *f* *mf* *f* *f* *ff*

Hn. 2: *mf* *f* *mf* *f* *f* *ff*

Hn. 3: *mf* *f* *mf* *f* *f* *ff*

Hn. 4: *mp* *mf* *f* *f* *f* *ff*

Tpt. 1: *f* *fff* *f* *fff* *mf* *ff* *mp* *f* *mp* *f* *mp* *f* *mp* *f*

Tpt. 2: *fff* *ff* *f* *mf* *mp* *f* *Remove Mute* *senza sord.* *f* *f* *f* *f* *f* *f* *f* *f*

Tpt. 3: *f* *f* *f* *f* *f* *f* *f* *f* *f* *f*

Tbn. 1: *mf* *f* *mf* *f* *f* *ff* *f*

Tbn. 2: *mf* *f* *mf* *f* *f* *ff* *f*

Mrb.: *ff* *ff* *mp*

4 Toms: *ff* *ff* *mp*

Hp.: *ff* *ff* *mp*

Celeste: *ff* *mp*

288

Vln. I: *f* *ff*

Vln. II: *f* *ff*

Vla.: *ff* *ff*

Vc.: *mf* *ff* *mf*

D.B.: *mf* *ff* *mf*

291

Fl. 1 *ff*

Fl. 2 *mf* *ff*

Picc. *ff*

Ob. 1 *ff* *mf* *ff*

Ob. 2 *mf* *ff* *mf*

Ob. 3 *ff*

Cl. 1 *ff* *f* *ff* *f* *ff*

Cl. 2 *f* *ff* *f* *ff* *f* *ff*

B. Cl. *ff*

Bsn. 1 *ff* *f* *ff* *f* *ff*

Bsn. 2 *mp* *mp* *mp* *smile*

Bsn. 3 *mp* *mp* *mp* *smile*

291

Hn. 1 *mf* *ff* *mf* *ff*

Hn. 2 *f* *ff* *mf* *ff*

Hn. 3 *f* *ff* *mf* *ff*

Hn. 4 *mf* *ff* *f* *ff*

Tpt. 1 *mf* *ff*

Tpt. 2 *mf* *ff*

Tpt. 3 *mf* *ff*

Tbn. 1 *ff* *mf* *f*

Tbn. 2 *mf* *f* *mf* *f*

B. Tbn. *ff*

B. Tba. *ff*

Mrb. *ff*

4 Toms *ff*

Hp. *ff*

Celeste *ff*

291

Vln. I *ffff*

Vln. II *ff*

Vla. *mf* *ff*

Vc. *ff* *f* *ff*

D.B. *ff* *f* *ff*

294

Fl. 1

Fl. 2

Picc.

Ob. 1-2

Ob. 3

Cl. 1-2

B. Cl.

Bsn. 1

Bsn. 2

Tpt. 1

Tpt. 2

Tpt. 3

B. Tbn.

B. Tba.

Mrb.

4 Toms

Hp.

Celeste

F. Audio

Detailed description of the score for measures 294-300: This section includes parts for Flutes 1 and 2, Piccolo, Oboes 1-2 and 3, Clarinets 1-2, Bass Clarinet, Bassoons 1 and 2, Trumpets 1, 2, and 3, Trombones, and Tubas. The percussion section includes Maracas, 4 Tom-toms, and a Celeste. The woodwinds and strings play a rhythmic pattern of eighth notes. The brass section features a melodic line with dynamic markings: *mf*, *f*, *mp*, *mf*, *f*, *mp*, *mf*, *f*, *mp*. The percussion parts include a steady eighth-note pattern and a tom-tom line with accents. The celeste part plays a similar eighth-note pattern. The audio track is represented by a wavy line.

294

Vln. I

Vln. II

Vla.

Vc.

D.B.

Detailed description of the score for measures 294-300: This section includes parts for Violin I, Violin II, Viola, Violoncello, and Double Bass. The strings play a sustained harmonic accompaniment. The Violin I part starts with a *ff* dynamic. The Violin II, Viola, and Violoncello parts start with a *fff* dynamic. The Double Bass part starts with a *f* dynamic. The dynamics change to *f* for Violin I and *f* for Violin II, Viola, and Violoncello in the second measure. In the third measure, the dynamics are *ff* for Violin I and *fff* for Violin II, Viola, and Violoncello.

II

♩ = 58

♩ = 48

297

Fl. 1 *f mp mf p*

Fl. 2 *f mp mf p*

Ob. 1 *f mp mf p*

Ob. 2 *f mp mf p*

Ob. 3 *f mp mf p*

Cl. 1 *f mp mf p*

Cl. 2 *f mp mf p*

B. Cl. *mf p*

Bsn. 1 *mf p*

C. Bsn. *mp f p mf*

297

Hn. 1-4 *ff* *à 4*

Trb. 1, 2 *ff* *à 2*

B. Tbn. *fff*

B. Tba. *fff*

Timp. *ff > p* *ff > p* *mf > pp*

B.D. **Bass Drum** *fff* *f* *ff* *mf* *p* *f* *mp* *p*

Thunder Sheet **Thundersheet** *f* *f* *f* *mf* *mf* *mp* *Shake vigorously*

Hp.

II

♩ = 58

♩ = 48

297

Vln. I *fff sostenuto* *Land on F#, sustain for 1 beat, then continue gliss.*

Vln. II *fff sostenuto (à 3)* *Land on F#, sustain for 1 beat, then continue gliss.*

Vla. *fff* *f* *ff* *mf* *f* *mp* *(à 2)*

Vc. *fff* *f* *mp* *ff* *mf* *p* *f* *mp*

D.B. *fff* *f* *mp* *ff* *mf* *p* *f* *mp*



303

B. Cl. *mp* *pp*

Bsn. 1 *mp* *p*

Hn. 1-4 *mf*

Timp. *mp* *pp*

V.L. Tam Tam

Very Large Paper Box - A corrugated cardboard box made of triple wall board is recommended (TWB)  
 Quickly scrape across the surface of the Tam Tam, keep the top of the box open  
 The result should emphasize low frequencies

superball mallet  
 long, slow rub across surface

*f < ff* *p*

B.D. *mf* *p* *pp* *ppp* *pp*

Thunder Sheet *mp* *p* *mf* L.V. *ppp* *p*

F. Audio

Fade out film audio as the resonance of the Tam Tam fades *niente*

303

Vln. I *f* *mf*

Vln. II *f* *mf*

Vla. *mf* *p*

Vc. *mf* *p* *ff* >

D.B. *mf* *p* *ff* >

*ricochet* (bounce hair of the bow on the wooden belly of the instrument - unpitched effect)