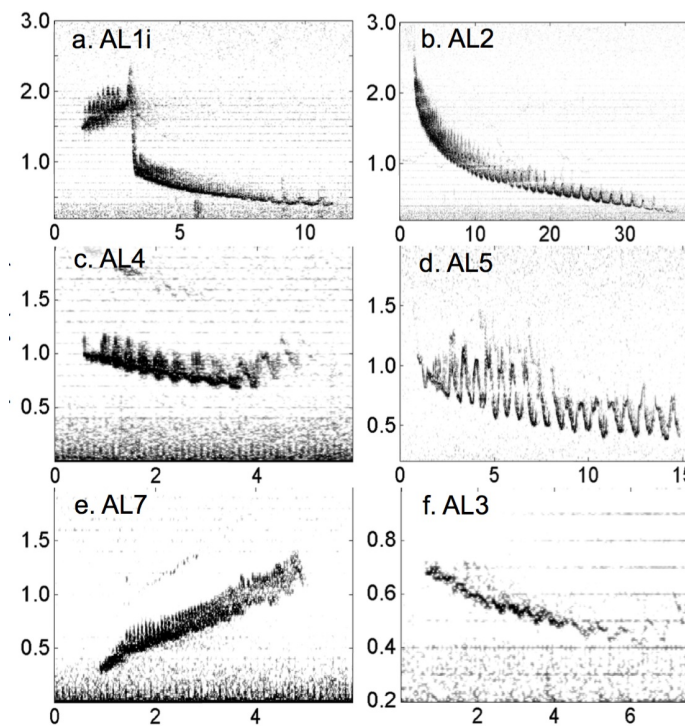


# Under the sea ice

for string quartet

Meditations on the songs of the Arctic bearded seals



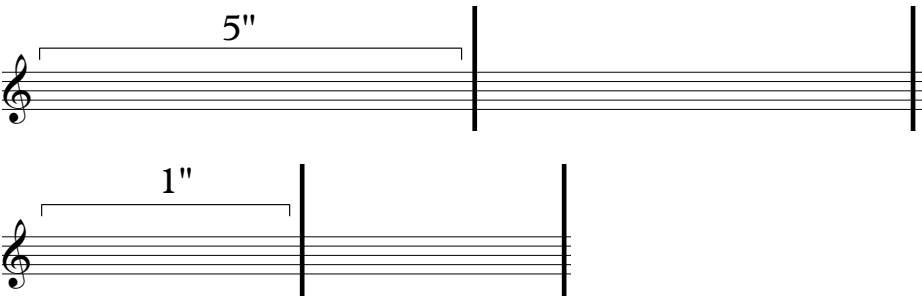
Christopher Luna-Mega

Special thanks to Joshua Jones, Staff Research Associate  
at the Scripps Whale Acoustic Lab (University of California, San Diego)  
for providing the recordings and information that made this piece possible

# Performance Notes

## Proportional Notation

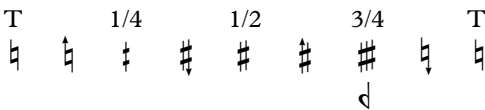
Each bar in the score is either 1" or 5" long.  
Brackets announce a change in the duration of a bar, which will affect the subsequent bars until a new change occurs.



## Durations / Rests

Stems do not indicate duration –their purpose is visual reference.  
Sounds must be continued until followed by another sound or by a silence.

## Accidentals



In various points of the piece, especially the fast sections, playing approximately the suggested accidental should suffice.

## Pitch references in glissandi

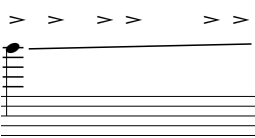
Note heads preceded and succeeded by glissandi must not be attacked. They serve as precise pitch references.



Pitches without a preceding glissando must be attacked



## Bow pressure accents over glissando



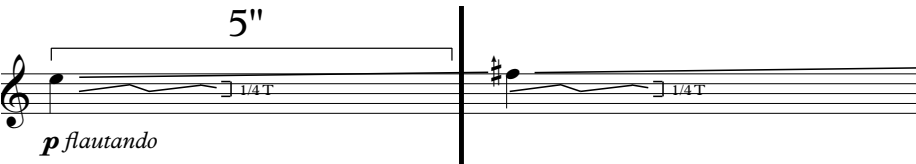
Fast irregular increase in bow pressure while glissando

## Tremolo



Tremolos should be played as fast as possible.  
Occasionally perform irregular rhythms (ad. libitum).

## Ad libitum glissandi



Ad libitum gradual fluctuations around the notated pitches (i.e. 1/4 of a tone higher and 1/4 tone lower than E) and dynamics (i.e. *pp* and *mp*). The fraction in the right side of the bracket indicates the intervallic frame for the ad lib. glissandi (i.e. 1/4 of a tone or 1/2 of a tone around the written note).

The ad. lib. glissando figure lasts the full bar in which it is notated. The pitches in between the figure must not be attacked (they are referential).

Under the sea ice

Christopher Luna-Mega (2015)

2

5"

(gliss to every note)

(gliss simil)

VI. I

*p flautando*

*mp*

VI. II

*p flautando*

*mp*

Vla.

8<sup>va</sup>

*p flautando*

*mp*

loco

Vc.

*p flautando*

*mp*

7

Vln. I

Vln. II

Vla.

Vc.

12 17

Vln. I

*mf*

*p* 1/2 T

Vln. II

1/2 T

*p*

Vla.

1/2 T

Vc.

*p*

1"

21

Vln. I

Vln. II

Vla.

*p*

*mf* *p*

*f* *f*

Vc.

29

Vln. I

Vln. II

Vla.

*f* *f* *f* *p* *f* *p* *mf* *p*

Vc.

37

Vln. I

Vln. II

Vla.

Vc.

*8<sup>va</sup>*

*f* *ff* *mp*

*mp*

45

Vln. I

Vln. II

Vla.

Vc.

53

Vln. I

Vln. II

Vla.

Vc.

This system contains measures 53 through 60. Each measure is 4 bars long. The instrumentation consists of Violin I, Violin II, Viola, and Violoncello. The key signature has one sharp (F#). The music features a consistent harmonic pattern across all staves, with each instrument playing a half note. The notes are: F#4 (Vln. I), F#3 (Vln. II), E3 (Vla.), and D3 (Vc.).

61

**loco**

Vln. I

**loco**

Vln. II

**loco**

Vla.

**loco**

Vc.

This system contains measures 61 through 68. Each measure is 4 bars long. The instrumentation consists of Violin I, Violin II, Viola, and Violoncello. The key signature has one sharp (F#). The music features a consistent harmonic pattern across all staves, with each instrument playing a half note. The notes are: F#4 (Vln. I), F#3 (Vln. II), E3 (Vla.), and D3 (Vc.). The word "loco" is written above the first measure of each staff.

69

Vln. I

Vln. II

Vla.

Vc.

This system contains measures 69 through 76. Each measure is 4 bars long. The instrumentation consists of Violin I, Violin II, Viola, and Violoncello. The key signature has one sharp (F#). The music features a consistent harmonic pattern across all staves, with each instrument playing a half note. The notes are: F#4 (Vln. I), F#3 (Vln. II), E3 (Vla.), and D3 (Vc.).

77

5"

5

Vln. I

Vln. II

Vla.

Vc.

1"

91

SP

ORD

SP

*mp*

*mp*

*mp*

*mp*

*p*

*mp*

Vln. I

Vln. II

Vla.

Vc.

Violins I and II: 103, 1/2 T, (gliss.), mf, SP, ORD, (gliss.), 1/2 T, mf, SP, ORD, (gliss.), 1/2 T.

Viola: 1/2 T, mf, 1/2 T, 1/2 T, 1/2 T, 1/2 T.

Violoncello: 1/2 T, mf, 1/2 T, SP, ORD, (gliss.), 1/2 T.



107

Vln. I

Vln. II

Vla.

Vc.

1/2 T

1/2 T

1/2 T

1/2 T

1/2 T

1/2 T

110

Vln. I

Vln. II

Vla.

Vc.

1"

*f*

*f*

*f*

*f*

*f*

*mf*

*mf*

*mf*

*mf*

(gliss to every note)

(gliss to every note)

(gliss simil)

(gliss simil)

118

Vln. I

Vln. II

Vla.

Vc.

This musical system covers measures 118 through 125. It features four staves: Violin I, Violin II, Viola, and Violoncello. The key signature has one flat (B-flat). The Violin I and II parts are highly active, with many sixteenth and thirty-second notes. The Viola and Violoncello parts provide a harmonic foundation with longer note values and some ties.

126

Vln. I

Vln. II

Vla.

Vc.

This musical system covers measures 126 through 133. It continues the same instrumentation and key signature as the previous system. The Violin I and II parts continue their melodic lines, while the Viola and Violoncello parts maintain their harmonic support with sustained notes and occasional movement.

134

Vln. I

Vln. II

Vla.

Vc.

*loco*

*loco*

*loco*

*mf*

*loco*

*mf*

142

Vln. I

Vln. II

Vla.

Vc.

*mp*

*mp*

*mp*

*mp*

150

Vln. I

Vln. II

Vla.

Vc.

*mf*

Detailed description: This system contains measures 150 through 157. Vln. I starts with a half note G#4, which has a fermata extending to the end of the system. Vln. II is silent until measure 155, where it begins a melodic line starting on A#4. Vla. and Vc. play a descending chromatic line: G#4, F#4, E4, D#4, C#4, B3, A3, G3. Vln. II has an *mf* dynamic marking at measure 155.

158

Vln. I

Vln. II

Vla.

Vc.

*mf*

*mp*

*8va*

Detailed description: This system contains measures 158 through 165. Vln. I has a melodic line starting on A#4, with an *8va* marking above measure 160. Vln. II has a melodic line starting on G#4. Vla. and Vc. play a descending chromatic line: G#4, F#4, E4, D#4, C#4, B3, A3, G3. Vln. I has an *mf* dynamic marking at measure 160. Vln. II has an *mp* dynamic marking at measure 163.

166

Vln. I

Vln. II

Vla.

Vc.

*mp*

*loco*

*f*

Detailed description: This system contains measures 166 through 173. Vln. I and Vln. II play a descending chromatic line, starting on G#4 and ending on E3. Vla. plays a descending chromatic line, starting on G#4 and ending on E3, with a 'loco' marking above the staff. Vc. plays a descending chromatic line, starting on G#4 and ending on E3, with a 'f' marking below the staff. Dynamics include *mp* (mezzo-piano) and *f* (forte).

174

Vln. I

Vln. II

Vla.

Vc.

*mf*

*mp*

*f*

Detailed description: This system contains measures 174 through 181. Vln. I and Vln. II play a descending chromatic line, starting on G#4 and ending on E3. Vla. plays a descending chromatic line, starting on G#4 and ending on E3. Vc. plays a descending chromatic line, starting on G#4 and ending on E3. Dynamics include *mf* (mezzo-forte), *mp* (mezzo-piano), and *f* (forte).

182

Vln. I

Vln. II

Vla.

Vc.

*mp*

*mp*

*f*

190

Vln. I

Vln. II

Vla.

Vc.

*mp*

*mf*

*mf*

198

Vln. I

Vln. II

Vla.

Vc.

*mp*

*f*

*8va*

Measures 198-205. Vln. I and Vln. II play a melodic line with various accidentals. Vla. plays a lower melodic line. Vc. plays a bass line. Dynamics include *mp* and *f*. An *8va* marking is present above the Vln. II staff in measure 200.

206

Vln. I

Vln. II

Vla.

Vc.

*mf*

*mp*

*mf*

*mp*

Measures 206-213. Vln. I and Vln. II continue the melodic line. Vla. plays a lower melodic line. Vc. plays a bass line. Dynamics include *mf* and *mp*. A double bar line is present in measure 209.

214

Vln. I

*mp*

Vln. II

Vla.

*mp* *mf* *mp* *mf*

Vc.

*mf* *mp* *mf*

222

Vln. I

*mf* *mp* *mf*

Vln. II

*f* *mp*

Vla.

*mp* *mf* *mp*

Vc.

*mp* *mf* *mp* *mf*



230

Vln. I

Vln. II

Vla.

Vc.

*mp* *mf* *mp* *mf* *mp* *mf* *mp* *mf*

ST

ST

*mp* *mf* *mp*

Detailed description: This system contains measures 230 through 237. Vln. I and Vln. II play a melodic line with accents and dynamic markings (mp, mf). Vla. and Vc. provide harmonic support with chords and single notes, also marked with dynamics and accents. ST markings are present in measures 236 and 237.

238

Vln. I

Vln. II

Vla.

Vc.

*mp* *mf* *mp* *mf* *mp* *mf* *mp* *mf*

8va

*mp* *mf* *mp* *mf* *mp* *mf* *mp* *mf*

Detailed description: This system contains measures 238 through 245. Vln. I and Vln. II play a melodic line with accents and dynamic markings (mp, mf). Vla. and Vc. provide harmonic support with chords and single notes, also marked with dynamics and accents. 8va marking is present in measure 245.

254

Vln. I

*mf*

*f*

Vln. II

*f* (gliss) (gliss)

Vla.

*mf*

*f* *8va*

Vc.

*p* *f* *f* *f* *f* *f* *p* *f* *p* *mf*

262

Vln. I

Vln. II

Vla.

Vc.

*p*

*f*

*ff*

*mp*

*f*

*f*

*8va*

*f*

*< mf >*

*p*

(gliss to every note)

(gliss simil)

*mf*

(II)

*f*

*ff*

*mp*

270

Vln. I

Vln. II

Vla.

Vc.

*f*

*f*

*f*

*f*

*f*

*f*

*p*

*f*

*p*

*mf*

*p*

*loco*

(gliss to every note)

(gliss simil)

*f*

*mf*

*mf*

[illegible]

294

Vln. I

Vln. II

Vla. <sup>(8<sup>va</sup>)</sup>

Vc.

*ff* *mp* *mf* *f* *ff*

*p* *f*

(gliss to every note)

( 8<sup>va</sup> )

302

Vln. I

Vln. II

Vla.

Vc.

*f* *f* *mf*

(gliss simil)

SP

loco

[illegible]

334

Vln. I

Vln. II

Vla.

Vc.

ORD

8va

SP

loco

mp

f

342

Vln. I

Vln. II

Vla.

Vc.

SP

ORD

loco

*f*

*8va*

*mp*

*mf*

*loco*

*f*

ORD

loco

*f*

*8va*

*ff*

*mf*

*f*

350

Vln. I

Vln. II

Vla.

Vc.

ORD

*mf*

*f*

*8va*

*f*

*ff*

*mf*

SP

ORD

*f*

SP

*8va*

*f*

ORD

*ff*

*mf*



358

Vln. I *f* *ff*

Vln. II *f* *ff*

Vla. *f* *ff*

Vc. *f* *ff* I/II

366

Vln. I *sub p* *f*

Vln. II *sub p* *f*

Vla. *sub p* *f*

Vc. *sub p* *f* *loco*

376

Vln. I

Vln. II

Vla.

Vc.

(gliss to every note)

(gliss simil)

*mf*

(gliss to every note)

(gliss simil)

*mf*

(gliss to every note)

(gliss simil)

*mf*

(gliss to every note)

(gliss simil)

*mf*

384

Vln. I

Vln. II

Vla.

Vc.

392

Vln. I

Vln. II

Vla.

Vc.

400

**loco**

Vln. I

**loco**

Vln. II

**loco**

Vla.

**ORD**

**ST**

**ORD**

**ST**

Vc.

408

Vln. I

Vln. II

Vla.

Vc.

ORD

ST

ORD

*mp*

*p*

*mp*

*p flautando*

416

Vln. I

Vln. II

Vla.

Vc.

424

Vln. I

Vln. II

Vla.

Vc.

pp

pp

pp

pp