

JUDITH SHATIN

Ice Becomes Water

String Orchestra and Electronics



Instrumentation

(Minimum)
Violin 1 (6)
Violin 2 (6)
Viola (4)
Cello (3)
Contrabass (2)
Electronics Performer

Equipment

Stereo Powered Speakers
Subwoofer
Monitor Speaker
Mixer and Cables

Program Note

Ice Becomes Water is a lament on the tragic melting of glaciers in our Anthropocene age and a call to change. It is scored for string orchestra and electronics developed from field recordings shared by glaciologist Oscar Glowacki, who studies the acoustic signatures of glaciers. As the glaciers melt, they raise sea levels, change currents, and affect the entire web of ecosystems across the world.

To develop the electronics, I transformed the field recordings in an intricate process, creating a trajectory that ranges from unprocessed sounds, recontextualized in a musical setting, to radically transformed ones. The former include low groans of sea-ice breaking and large crashes, while the latter include the high-pitched sounds of the opening, and a variety of pitched and noise sounds, as well as the specific shaping and location of sea-ice and water sounds. The next level up involved weaving these into a convincing narrative integrated with the string orchestra's music. To develop the timbres of the string instruments, I began by experimenting with my delightful University of Virginia colleagues David Sariti (violin), Ayn Baliya (viola), and Pete Spaar (bassist), and incorporating many of the results. I worked seamlessly between the acoustic and digital worlds, constantly traveling between the two.

Ice Becomes Water opens with the high thin sounds I imagine as the sonic embodiment of the blue tint of an icy glacier reflecting the sky. The music gradually becomes more intense, staying in that vast high register. It soon dips down into a singing range, beginning the lament for the vanishing glaciers, before moving into darker, ominous territory, leading to the crashing groans of ice breaking up and dramatic flows of water. The music shifts between pensive reflections and increasingly cataclysmic passages, before coming to rest on the low tones created to symbolize the glacial night with sorrowful yearning rising above. *Ice Becomes Water* was commissioned by, and is dedicated to, conductor Barbara Day Turner and the San Jose Chamber Orchestra.

World Premiere San Jose Chamber Orchestra Conductor Barbara Day Turner Le Petite Trianon Theatre San José, C 03/25/2018
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Duration: 12:00

Performance Notes

The cues for the electronics are marked in the score above the top staff, as are the timings within each cue. Time signatures are also provided for ease of score reading. Where relatively clear, square note-heads denote approximate pitches in the electronics. Otherwise, verbal descriptors are used to identify the types of sounds. There are ten cues, with overlaps between most of them, starting with Cue 4 and continuing with the exception of the final one, Cue10. This provides flexibility in pacing. The sound files are available collected in a Max patch, or as individual files that can be played back using whatever program is preferred. Given the frequency range of the electronics, it is best to have a subwoofer as well as the stereo speakers, the latter on either side of the stage. In addition, there should be a monitor speaker for the conductor.

Glossary

Bow Tremolo	Tremolo with the bow on your lowest string or strings moving perpendicular to them. Experiment with the best location and extent of motion to get the most and noisiest sound.
Chop	Heavy bow, short scratch sound near bridge. The amount of pitch depends on duration, with shorter durations resulting in less pitch
Gls. T- q.s.p.	Strong gliss from tasto almost to bridge; start with regular bow speed, slow down as you move towards the bridge. The goal is to maintain the fundamental. The sound is gritty.
msp	<i>Molto sul pont</i> , generally with the bow in normal position. Very close to the bridge, but not so close that you don't get sound. Very wiry, harsh sound.
MW	Light, airy bow on the tremolo, like moth wings (thanks to violist Sheila Browne)
Pivot	Angle the bow so it is about 70 degrees towards vertical; combine with slow scrape that makes a strong creaking/cracking sound.
Scratch	Similar to chop, even more noisy
Scrape	Bow scrape from close to the fingerboard neck towards the bridge in a strong, sweeping motion. Strong noise sound.
s.p.	<i>Sul pont</i> .
T	<i>Tasto</i>
T-s.p-T-sp	Circular bowing; move smoothly from tasto to sul pont and back. Should create a gradual timbral shift, moving from the fundamental to more harmonics and back.



Heavy bow pressure, light finger pressure; run fingers around the fingerboard, bowing whichever string they are on, and move among them. Makes a wildly shifting noise sound.



Rising pitch outline, follow general outline



Rising bow pressure



Rising bow pressure, leave finger down, use upbow if possible, makes a strong, noisy finish to the sound.



Bow pressure rises and falls, resulting in the most scratchy sound at the apex.



Heavy bow pressure for the duration of the sound



Light finger pressure



Additional indication of circular bowing

Note:

Feathered beams do not suggest a specific number of notes; rather play as many as you wish, with the goal an unmeasured accelerando or ritard.

Accidentals apply throughout the bar in register.

CUE 1

0:000:050:100:150:20

Icy ♩ = 60

Violin 1

Violin 2

Viola

Cello

Contrabass

Electronics

12345

0:250:300:350:40

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

6789

0:45

0:50

0:55

Intense
1:00

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

10

11

12

13

1:05

1:10

1:15

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

14

15

16

CUE 2

1:20

1:25

1:30

0:00 Lamenting

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

17

18

19

20

0:05

0:09

0:12

0:15

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

21

22

23

24

CUE 3

0:05 0:10 0:15 0:20

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

PERUSAL SCORE!

30 31 32 33

0:24 0:28 0:32 0:37

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

34 35 36 37

CUE 4

0:40 0:43 0:46 0:49 0:00 Ominous 0:05

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

38 39 40 41 42 43

CUE 4

Ominous

pizz.

mf

arco

mf

p

ff

f

div.

mf

p

sf

mf

f

T--s.p.--T--s.p.

0:10 0:15 0:20 0:25

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

arco *f*

arco *f*

unis. *f*

Gls. T--q.s.p. *mf* *f*

Gls. T--q.s.p. *mf* *f*

Gls. T--q.s.p. *mf* *f*

arco s.p. ord. S

arco s.p. ord. S

ord. S

ord. S

ord. S

mf *cresc.*

mf *cresc.*

mf *cresc.*

mf *cresc.*

mf *cresc.*

44 45 46 47

CUE 5 Wild

0:30 0:00 0:05

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

f *ff*

f *ff*

f *ff*

f *ff*

f *ff*

Dig s.p. chop

Dig s.p. chop

Dig s.p. chop

Dig To-----s.p. chop

Dig To-----s.p. chop

Continues into Cue 5 Increasing rumbles

48 49 50

[illegible]

Water sounds, intensifying

56 57

0:50

unis.

f

unis.

f

f

⊙ T--s.p.--T--s.p.

T

1:00

1:05

1:10

1:15

1:20

Gradually taper, increase breaks

Sparse

Run fingers around fingerboard

Stagger entries, intermittent breaks

dim. - - - - - pp

Gradually taper, increase breaks

Sparse

Run fingers around fingerboard

Stagger entries, intermittent breaks

dim. - - - - - pp

Gradually taper, increase breaks

Sparse

Run fingers around fingerboard

Stagger entries, intermittent breaks

dim. - - - - - pp

Gradually taper, increase breaks

Sparse

Run fingers around fingerboard

Stagger entries, intermittent breaks

dim. - - - - - pp

Gradually taper, increase breaks

Sparse

Stagger entries, start with these pitches
Start, quickly moving to and among pont and msp; also intersperse straight and tremolo notes

Gradually taper, increase breaks

Sparse

ff

Dig, strong accents, intermittent breaks
Start with short durations, gradually extend

dim. - - - - - pp

61

62

63

64

65

CUE 6

1:25

0:00 Pensive

0:05

0:10

0:15

mf

mf

mf

mf

mf

div.

unis. arco

arco

ff

f

mf

More harmonic sounding, various groans and interruptions

66

67

68

69

70

0:20 0:25 0:30 0:35

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

71 72 73 74

0:40 0:45 0:50 0:55

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

75 76 77 78

1:00 1:05 1:10 1:15

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

79 80 81 82

PERUSAL SCORE, NOT FOR PERFORMANCE

1:20 1:25 1:30 1:35

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

83 84 85 86

PERUSAL SCORE, NOT FOR PERFORMANCE

95 96 97 98

99 100 101 102

1:201:251:301:351:40

Vn. 1

arco

f $\rightarrow$ ff

f $\rightarrow$ ff

Gls. T--q.s.p.

ord.

Vn. 2

arco

f $\rightarrow$ ff

f $\rightarrow$ ff

Gls. T--q.s.p.

ord.

Va.

arco

f $\rightarrow$ ff

f $\rightarrow$ ff

Gls. T--q.s.p.

ord.

Vc.

arco

f $\rightarrow$ ff

ff f

Gls. T--q.s.p.

ord.

Cb.

arco

f $\rightarrow$ ff

ff $\rightarrow$ f

Gls. T--q.s.p.

Elec.

103104105106107

CUE 8

1:451:500:000:050:100:15

Vn. 1

ff

Start sparsely, increasingly dense

Increasing breaks, gradually calmer

Vn. 2

ff

Start sparsely, increasingly dense

Increasing breaks, gradually calmer

Va.

ff

s.p.--- msp, random shifts intersperse tremolos

Increasing breaks, gradually calmer

Vc.

div.

Gls. T--q.s.p. unis.

ff

s.p.--- msp, random shifts intersperse tremolos

T--s.p.--T--s.p.

Cb.

ord.

Gls. T--q.s.p.

f $\rightarrow$ ff

s.p.--- msp, random shifts intersperse tremolos

Smack strings

T--s.p.--T--s.p.

Elec.

Water rushing, high thins sounds, rumbles

Increasing, high edgy sounds
Crashes coming

108109110111112113

CUE 9

0:20 Stagger entries, intermittent scratch or scrape 0:25 0:30 0:00 0:05 0:10

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

div. msp, normal bow

Intermittent bounce bow at tip sporadic groupings and pitch change

Intermittent tremolo bowhair

Water, with more high thin sounds and groans.

114 115 116 117 118 119

0:15 0:20 0:25 0:30

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

ord.

ricochet

ricochet, plastic tip

ord., s.p.

ricochet, plastic tip

ff

120 121 122 123

PERUSAL SCORE NOT FOR PERFORMANCE

mal bow s.p. Stagger entries, intermittent breaks Intersperse longer scrapes and shorter chops Becoming sparse and gentler *pp*

mal bow s.p. Stagger entries, intermittent breaks Bow tremolo (III or IV) Intersperse longer scrapes and shorter chops *pp*

mal bow s.p. Stagger entries, intermittent breaks Bow tremolo (III or IV) Intersperse longer scrapes and shorter chops Scrape IV *f* *pp* Bow near bridge, IV

Deep glacier drone more pitch-focus *al fine*

124 125 126

0:10 0:13 0:16 0:20

4/4 3/4 5/4

mf *mf* *mf*

[illegible]

0:25 0:28 0:32 0:36 0:39 0:42

Vn. 1 *mf* *f* *mf* *mp* *mf*

Vn. 2 *mf* *f* *mf* *mp* *mf*

Va. *mf* *f* *mf* *mp* *mf* *div.* *unis.*

Vc. *mp* *mf*

Cb. *mf*

Elec. $\text{(\text{H})}$

133 134 135 136 137 138

0:46 0:50 0:55 1:00 1:05

Vn. 1 *mf* *f* *mp* *3*

Vn. 2 *f* *mp* *3*

Va. *f* *f* *mf* *f* *mp*

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

Cb. *mf* *s.p.* *ord.* *3*

Elec. $\text{(\text{H})}$

Pivot bow
Slow scrape IV

Slow bow
Low creaking

Scrape IV

Repeat intermittently

139 140 141 142 143

Yearning

1:09

1:14

1:17

1:20

1:24

1:27

1:30

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

144

145

146

147

148

149

150

1:33

1:36

1:39

1:42

1:46

1:51

1:55

Vn. 1

Vn. 2

Va.

Vc.

Cb.

Elec.

151

152

153

154

155

156

157

lightly mute string
light pressure
(Air sound)

Bow near bridge