

Nathan Thatcher

EBB AND FLOW

for
Flute, Viola, and Harp

2017

Full Score

PROGRAM NOTE

This piece is both inspired by the Huron river, which runs through Ann Arbor, Michigan, where the piece was written, and directly based on data of the river's discharge (total volume flowing through a cross-section of the river at a given moment) taken from one of the Ann Arbor measuring stations.

The piece is made up of 26 sections of 21 beats each. Each section represents two weeks of the year. Within each section, the percentage of the 21 beats that is occupied (per instrument) with notes corresponds to the average discharge of the river during those two weeks of the year averaged over the last 100 years expressed as a percentage of the maximum average discharge.

Thus, unlike a lot of "data-driven" music, in this piece the data determines elements of the form and not the content of the piece. The basic material of the piece comes from two quotations. The first is a children's song I grew up with: "Give Said the Little Stream." For me, this quite clearly emphasizes the eternally giving nature of the river. Although its discharge ebbs and flows, the Huron continuously provides Ann Arbor along with many other cities and countless plants and animals with drinking water. The second quote is from a Renaissance motet by Orlande de Lassus, "Eram quasi agnus," the text of which paraphrases several biblical passages and relates them to the innocent suffering of Jesus Christ. The river as well undergoes this kind of "holy" suffering. Although we abuse it and its health suffers it continues to give itself away.

PERFORMANCE NOTE

The piece meant to be cyclical, that is, there isn't a "first" section and a "last" section. There is, of course, a measure 1 (which represents the two weeks following January 1st) but a performance could theoretically start anywhere and end back at the same point, looping back from section 26 to section 1 and following all other sections in chronological order. The cycle can be repeated as many times as desired. Additionally, each individual section can also be repeated as many times as desired as long as every section is repeated the same number of times. If no repeats are taken and the "year" is only played through one time the piece should only last approximately 4 minutes.

Give Said the Little Stream

"Give," said the little stream.
Give, oh give.
"Give," said the little stream
As it hurried down the hill.
"I'm small, I know, but wherever I go
The grass grown greener still."
Singing, singing all the day,
"Give away, oh give away."

Words: Fanny J. Crosby
Music: William B. Bradbury

Eram Quasi Agnus Innocens

Behold, I was like an innocent lamb;
I was led to the slaughter, and I knew it not.
My enemies have conspired together against me, saying:
Come, let us put poison into his bread,
And let us cut him off out of the land of the living.

Working Title: EBB AND FLOW

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1

Flute: $\text{♩} = 150$, *tone → air*, $p \rightarrow f$, mf , $mf < ff$

Viola: $p \rightarrow$, $mf \rightarrow$, mf

Harp: $\text{♩} = 150$, mf

2

Flute: $>p \rightarrow$, p , p , p

Violin: $p \rightarrow$, p , p , mf

Harp: $A\sharp \rightarrow A\sharp$, $On \text{ last rep.}$, $D\sharp \rightarrow D\flat$, $C\sharp \rightarrow C\sharp$, $(\text{last } x \text{ } D\flat)$

3

1st x only

Last x only

5

6 SPRING
Play only

Play only on odd repeats

non vib.

non vib.
p

Play only on odd repeats

Musical score for bassoon, page 10, measures 11-12. The key signature is B-flat major (two flats). Measure 11 starts with a bass note followed by a fermata over a bass note, then a bass note with a sharp sign, a bass note with a sharp sign, and a bass note with a sharp sign. Measure 12 begins with a bass note with a sharp sign, followed by a bass note with a sharp sign, and ends with a bass note with a sharp sign.

4

3

3

3

mp

mp

A musical score excerpt featuring a single melodic line on a five-line staff. The key signature is one sharp. The first measure shows a quarter note followed by a eighth note with a dynamic instruction 'p.'. The second measure consists of two eighth notes, both with a dynamic instruction 'b.'. The third measure begins with a eighth note, followed by a quarter note with a dynamic instruction 'b.', and a half note with a dynamic instruction 'b.'. A measure change symbol '5/4' is placed above the half note. The fourth measure starts with a quarter note with a dynamic instruction 'b.'. The fifth measure shows a eighth note with a dynamic instruction 'b.', followed by a quarter note with a dynamic instruction 'b.'. The sixth measure consists of two eighth notes, both with a dynamic instruction 'b.'. The score concludes with a repeat sign and a double bar line.

ord. vib. not tongued (glottal?)

7

fpp

ord. vib.

p *f*

f

sim.

fpp

p *f* *p*

f

8

fpp *fpp* *fpp* *fpp*

mf

f *3*

5

fpp

mp

ff

9

p

mf

f

flz.

ord.

p

mf

f

mf

ord.

p sing lower note

Last x only

mp

11

mp

pizz.

f

ord.

E \flat → E \sharp
C \natural → C \sharp

12

sub. p

mp express.

sub. p

mp express.

A \sharp → A \sharp
F \sharp → F \sharp

Last x

13 SUMMER
Plans and Tools

Play only on odd repeats
non vib.

non vib.

p lower note on repeats

Play only on odd repeats

p non vib.

mp

Last x
C♯→C♯

14

ord. vib.

ord. vib.

ord. vib.

p *mf*

p

f

p *mf*

mf

mf >

mf

mf

mf

mf

E \sharp → E \flat
A \sharp → A \flat

Last x C \sharp

Last x

5

4

15

(arco)

p

près de la table

mp

pizz.

16

8va
ord.

arco

p

mp

p

mf

pizz.

p

mp

C#>C#

Bb>Bb

p

mp

17

p

f

(pizz.)

f

p

mf

p

(8)

18

19 AUTUMN
Play only on odd repeats

20

ord. vib.

21

21

sons etouffés

3
3
3

22

f

mp

f

ord.

p f

C♯→C♯
F♯→F♯

mp f

f

p f

f

23

24

25

Musical score for measure 25. The score consists of four staves. The first staff starts with a rest followed by a dynamic *mf*. The second staff begins with a dynamic *mp*, indicated by a downward arrow, followed by *mf* indicated by an upward arrow. The third staff starts with *mf* followed by a key change from A to A[#], indicated by "A↑→A♯". The fourth staff starts with a rest followed by a dynamic *f*.

26WINTER
Play only on odd repeats

Musical score for measure 26. The score consists of four staves. The first staff starts with *mp* non vib. The second staff starts with *mp* non vib. The third staff starts with *mp*. The fourth staff starts with a rest. The score includes performance instructions: "Play only on odd repeats" above the first two staves, and "Play on each repeat except the last" with a bracket over the last two staves.

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Flute

Flute

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1. Dynamics: $p \searrow f$, mf , \equiv , $mf < ff$. Performance note: tone → air.

2. Dynamics: $>p \searrow$, p , p .

3. Dynamics: $p \searrow mf$, $>$, $p \searrow f$, f . Performance notes: 1st x only, Last x only.

4. Dynamics: p , f , $p \searrow f \searrow$, $< p \searrow f >$.

5. Dynamics: f , p .

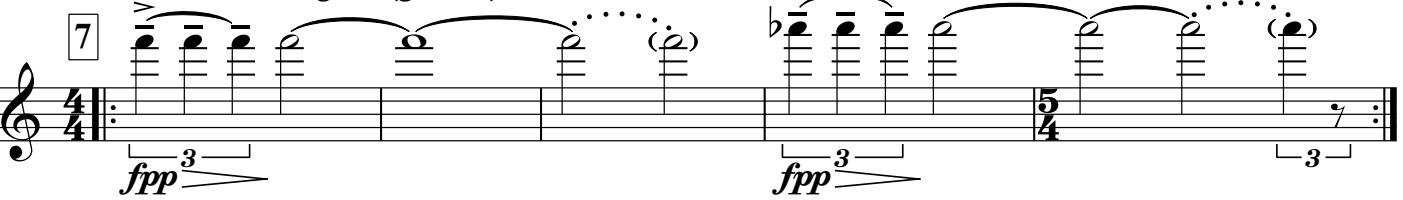
6. Dynamics: $mf \searrow f$, 3 , p , 3 , 3 , mf , \equiv . Performance note: non vib.

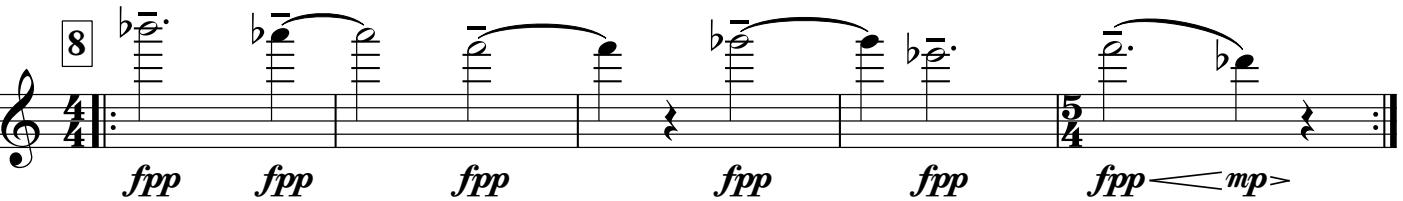
SPRING
Play only on odd repeats

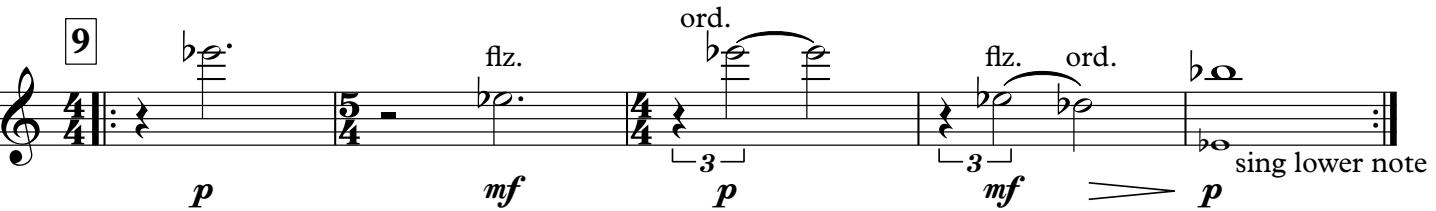
Flute

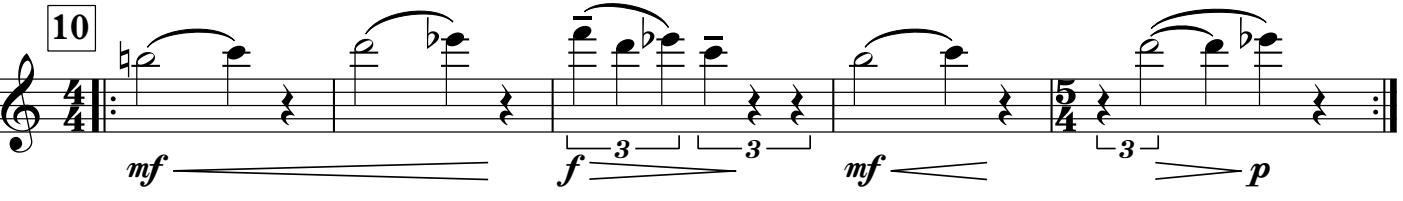
ord. vib. not tongued (glottal?)

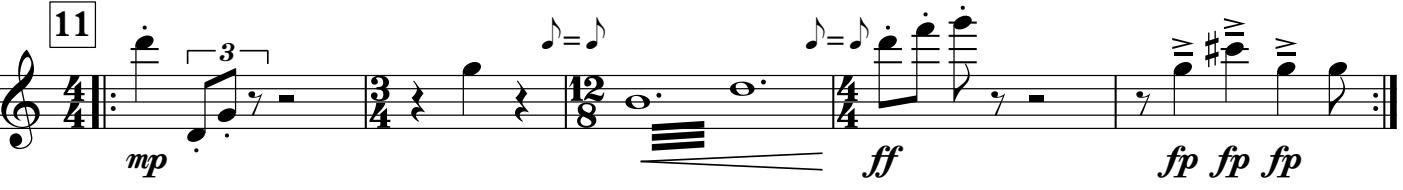
sim.

7 

8 

9 

10 

11 

12 

13 SUMMER
Play only on odd repeats
non vib.


14 ord. vib.

15

16

17

18

19 AUTUMN
Play only on odd repeats

20 ord. vib.

21

Flute

22

mf *mp* — *f* — *mp*

23

f

24

mf *f* — *mf*

mp *f*

25

mf *<f* —

26 WINTER
Play only on odd repeats

mp non vib.

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Viola

Viola

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1 $\text{♩} = 150$

2

3

4 pizz. arco

5

6 SPRING
Play only on odd repeats

6 non vib.

Viola

7 ord. vib.

7 ord. vib.

4

p **f**

p **f** **p**

8

mf

9

f

mf **f** **mf**

10

mf **f** **mf**

11 pizz.

f

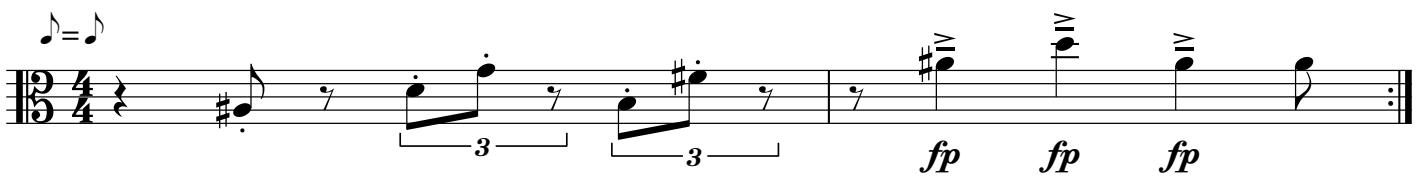
fp **fp** **fp** **fp** **fp** **fp** **fp** **fp**

fp **fp** **fp** **fp** **fp** **fp** **fp** **fp**

fp **fp** **fp** **fp** **fp** **fp** **fp** **fp**

Viola

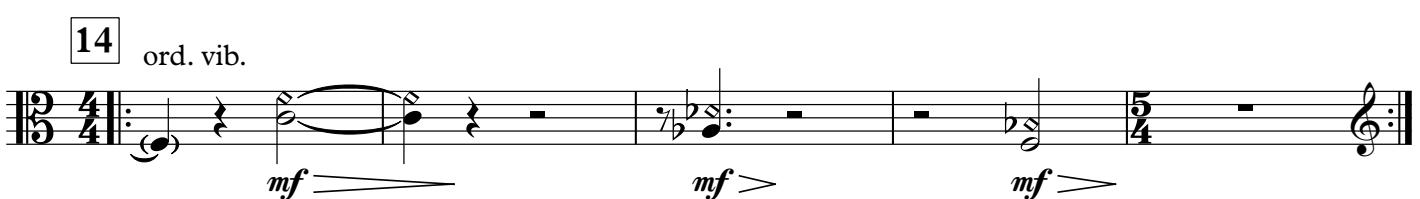
3

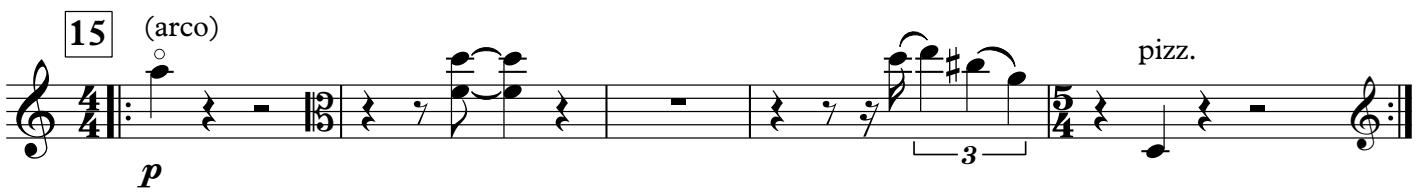


12 

13 

Play only on odd repeats

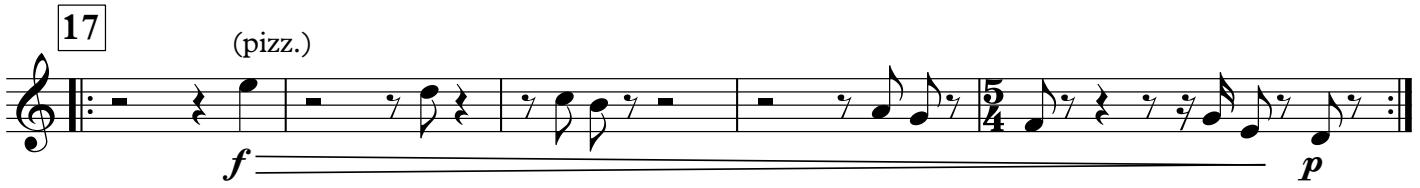
14 

15 

(arco)

16 

arco

17 

(pizz.)

18 

Viola

19 SUMMER
Play only on odd repeats

20 ord. vib. gritty (slurs optional)

21 *p*

22

23

24

25

26 Play only on odd repeats
mp non vib.

Play on each repeat except the last

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Harp

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2

A \sharp → A \sharp

Last x
D \natural → D \flat
C \sharp → C \sharp

(last x D \flat)

Musical score for piano, page 3, measures 1-4. The score consists of two staves. The top staff is in treble clef and 4/4 time, starting with a key signature of D-flat major (two flats). The bottom staff is in bass clef and 4/4 time, starting with a key signature of D major (one sharp). Measure 1: Treble staff has eighth-note pairs (D-flat, C) followed by a rest. Bass staff has eighth-note pairs (B, A) followed by a rest. Measure 2: Treble staff has eighth-note pairs (D-flat, C) followed by eighth-note pairs (B, A). Bass staff has eighth-note pairs (B, A) followed by eighth-note pairs (G, F). Measure 3: Treble staff has eighth-note pairs (D-flat, C) followed by eighth-note pairs (B, A). Bass staff has eighth-note pairs (B, A) followed by eighth-note pairs (G, F). Measure 4: Treble staff has eighth-note pairs (D-sharp, C) followed by eighth-note pairs (B, A). Bass staff has eighth-note pairs (B, A) followed by eighth-note pairs (G, F).

Musical score for piano, page 4, measures 1-10. The score consists of two staves: treble and bass. The key signature changes from A major (no sharps or flats) to B major (one sharp) at measure 10. Measure 1 starts with a forte dynamic. Measures 2-3 show eighth-note patterns. Measures 4-5 continue the eighth-note patterns. Measures 6-7 show eighth-note patterns with a fermata over the bass note in measure 7. Measures 8-9 show eighth-note patterns. Measure 10 begins with a forte dynamic and continues the eighth-note patterns.

Harp

5

f
A^{natural}→A^{flat}
D^{natural}→D^{flat}

p

mp

f

3

B^{flat}→B^{natural} Except on
E^{flat}→E^{natural}

6

mp

3

3

mp

3

3

G^{natural}→G^{flat}

3

3

7

f

3

3

3

3

3

3

3

3

3

3

3

3

3

3

Harp

3

8

9

10 (ord.)

11 ord. 3

Harp

4

12

A♯→A♯ **p**

F♯→F♯

Last x
++|====+

13

mp

Last x
C♯→C♯

14

mf

E♯→E♭
A♯→A♭

Last x C♯
++|====+

Last x
++|====+

15 près de la table

mp

16 8^{va}
ord.

p C♯→C♯
B♭→B♯

Last x
++|====+

Harp

5

17 (8)

measures 17-18: Dynamics: **mf**, **p**

18 (8)

measures 17-18: Dynamics: **p**, **mp**, **p**

19

measures 17-19: Dynamics: **mf**, **mf**, **p**

20

measures 17-20: Dynamics: **p**, **p**

Key changes: **Ab→A♯**, **G→G♯**, **6**

21

sons etouffés

measures 17-21: Dynamics: **mp**, **mp**, **f**

Key changes: **C♯→C♯**, **F♯→F♯**

6 **22** Harp

23

24

25

26