

Arrhythmia

for string quartet

Taylor Brook
2012

Arrhythmia concert notes

What does Mahler have to do with a string quartet written in 2012? It may be the result of an “anything goes” attitude on my part that I base a new string quartet on the first movement of Mahler’s ninth symphony. The melodic quotations ensure a clear connection to Mahler’s symphony, for those who know the work well, but in the end they amount to nothing more than winks. The more meaningful influences come in roundabout ways, such as thinking about how the music works over the course of a piece rather than what it sounds like at any given moment.

Arrhythmia continues my work re-imagining the music of composers from earlier generations. In 2011, I wrote a piece for 11 musicians that re-imagined Schoenberg’s orchestral work *Farben*, extracting material and concepts in order to ask myself what Schoenberg might have written if he were composing *Farben* today. If nothing else, this process has led me to explore pathways in my music that I would not otherwise. Perhaps this is a positive way to digest the canon of music history — re-imagining rather than rejecting, playing with history rather than feeling burdened by its weight.

Arrhythmia was composed by Taylor Brook for the American Composers Forum 2012 Finale National Composition Contest, a partnership between the American Composers Forum and JACK Quartet. This program is made possible with funding provided by MakeMusic, Inc. *Arrhythmia* was composed for JACK Quartet.

microtonality and just intonation:

Although there are many microtones in this work, much of the harmony is quite consonant. The microtones are used to approximate just intervals, therefore small adjustments should be made by ear to play these intervals perfectly in tune. I advise the performers to listen for the root of the chord (when present) in order to understand their particular role in the harmony.

The following accidental nomenclature is also used to approximate exact pitches:

♭ - ♯ approximately 1/4 tone flat or sharp

♭ - ♯ approximately 1/6 tone flat or sharp

♭ - ♭ - ♯ - ♯ - ♯ - ♯ approximately 1/12 tone flat or sharp

The accidentals showing the twelfth-tone (one sixth of a semitone) alterations should be thought of as extremely small inflections of the pitch. This minute alteration in pitch equals the difference between the just major third (the fourth harmonic) and the equal temperament major third. Wind players need not use alternate fingerings for these pitches, instead they should inflect the pitch slightly as one must do in tonal music performance practice when tuning the third of a chord. In other words, it is best to treat the notes with these accidentals as if they required a slight inflection for the sake of good tuning.

The sixth-tone (one third of a semitone) alteration equals the difference between the seventh harmonic and the equal temperament minor seventh. In other words, the seventh harmonic is a sixth-tone flat of the equal temperament minor seventh. This difference may be demonstrated by sounding the seventh harmonic on the fourth string of the cello; the pitch of this harmonic will be a sixth-tone flat of an equal temperament B-flat.

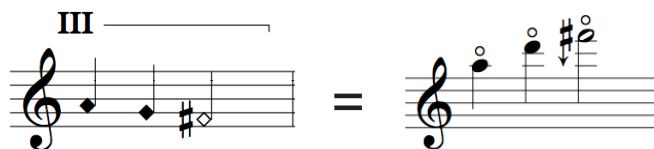
The quarter-tone alteration should be precisely halfway between the equal tempered pitches. The quarter-tone alteration can be heard at the 11th partial of the harmonic series, which is exactly halfway between the perfect fourth and the tritone. Again, the difference can be tested by playing the 11th harmonic on the low C string of the cello to produce an F-quartertone-sharp.

The most important thing to keep in mind is that the goal of these microtones is often to realize acoustically consonant harmonies; if the performer can recognize their role in the harmony, this will ensure optimal tuning of the microtones.

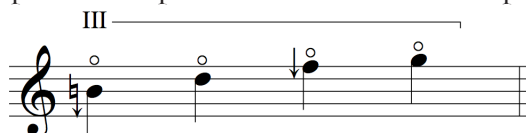
natural harmonics:

Natural harmonics are notated in two different ways, depending on the context

1. For the second through fifth partial, diamond noteheads show where to touch the string along with a roman numeral indicating the string.



2. For the first harmonic at the octave as well as harmonics beyond the 5th, a small circle above the sounding pitch is provided along with the roman numeral string indication. The reason that these higher harmonics have been notated in this fashion is because they sound cleaner if played high up on the string near the bridge but notating them thusly is problematic. The following example shows a possible series of harmonics played on the fourth string of the cello.



bow placement indications:

ord. - ordinario position

s.t. - sul tasto - (Bow over the end of the fingerboard.)

a.s.t. - alto sul tasto - (Bow 5-7 centimetres up the fingerboard.)

p.s.t. - poco sul tasto - (Bow slightly towards the fingerboard from ordinario position.)

s.p. - sul ponticello - (Bow close to the bridge.)

a.s.p. - alto sul ponticello - (Bow so that part of the hair is on the bridge and part is on the string, thereby producing a quiet but harsh sound. This technique will often silence the fundamental pitch of the string.)

p.s.p. - poco sul ponticello - (Bow slightly closer to the bridge than ordinario position.)

bowing technique indications:

norm. - Use a normal bow technique.

flautando - Fast, low pressure bowing.

half c.l.t. - half col legno tratto - Rotate the bow so that the wood of the bow is scraping the string along with some of the bow hair.

vibrato indications:

vib. - with some vibrato

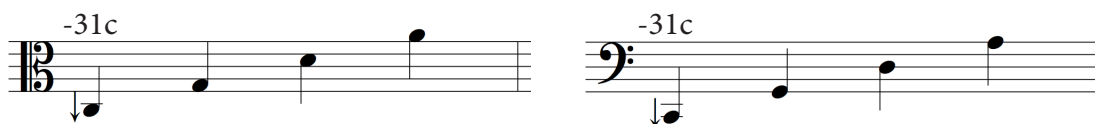
s.vib. - no vibrato

m.vib. - with a lot of vibrato

slow, wide vib. - a slow and wide vibrato, up to a quarter-tone of bending

scordatura:

The low C strings of the cello and viola should be retuned to a sixth-tone flat C. This note should match the 7th harmonic on the D string, which is 31 cents low. I would advise tuning the viola C string to match the harmonic played by the cello on the D string followed by the cello tuning to the viola's retuned C string. The scordatura parts are not transposing; What is written is what is heard.



Arrythmia was commissioned for the *2012 Finale National Composition Contest*, a program of the American Composer's Forum, with funding provided by MakeMusic, Inc. Premiered by JACK Quartet.

Arrhythmia

for the JACK quartet

Taylor Brook

$\text{♩} = 72$ $\text{♩} = 54$

Violin 1

Violin 2

Viola
IV = C ↓

Cello
IV = C ↓

$\text{♩} = 72$ $\text{♩} = 54$

Vln. 1

Vln. 2

Vla.

Vlc.

2

IV III II I

s.p.

ord.

p.s.p.

Vln. 1

Vln. 2

Vla.

Vlc.

mp *p* *mf* *mp*

f *mf* *mp*

mf *p* *mf* *mp*

mf *p* *mf* *mp*

12

ord. vib. s.vib. ord. vib. flautando p.s.t. norm. ord.

mf *f* *mp < f* *mf* *f* *p* *mf* *f* *mf*

s.p. ord. vib. s.vib. flautando p.s.t. norm. ord.

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

s.t. ord. vib. s.vib. flautando p.s.t. norm. ord.

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

ord. vib. s.vib. flautando p.s.t. norm. ord.

mf *f* *mp < f* *mf* *f* *mp* *f* *mf*

3

(♩ = ♩) ♩ = 54

(♩ = ♩) ♩ = 72

Vln. 1

Vln. 2

Vla.

Vlc.

fp *f* *p* *f* *ff*

fp *f* *p* *f* *ff*

fp *f* *p* *f* *ff*

fp *f* *p* *f* *ff*

4

29

poco rit. (♩ = 42) *poco accel.* (♩ = 54)

s.p. → s.t. slow, wide vib. ord. vib.

Vln. 1 *mf* *mp* *mf* *p* *f* *pp*

Vln. 2 p.s.p. → s.p. ord. V slow, wide vib. s.t. s.vib. 3 3 3 3 *ppp* *p* *pp* *mf* *pp* *p < mf > p* *p < mp > p* *< mp > p* *< mp > p*

Vla. p.s.p. → s.p. ord. II III 6 slow, wide vib. s.t. s.vib. 3 3 3 3 *ppp* *p* *pp* *mf* *pp* *p < mf > p* *mp > p < mp > p < mp > p*

Vcl. strum (laissez vibrer) I II *mp* *mf > p* *mp* *p* *mf*

(♩ = 72)

32

vib. → s.vib.

Vln. 1 *mf* *mp* *ppp* *pp* *mp* *pp*

Vln. 2 ord. 3 6 3 V *pp* *mp* *pp*

Vla. s.p. → ord. s.t. *pp* *f* *pp* *p*

Vcl. II → vib. → s.vib. II *mf* *mp* *f* *pp*

35

s.t. ord. → s.p. ord. → s.p.

Vln. 1 *mp* *ppp* *ppp* *mp* *ppp* *mf* *p* *mf* *p*

Vln. 2 s.t. ord. → s.p. ord. → s.p. *mp* *ppp* *ppp* *mp* *ppp* *mf* *p* *mf* *p*

Vla. pizz. arco p.s.p. → ord. m.vib. s.vib. → s.p. *pp* *f* *mp* *f* *f* *f* *mp*

Vcl. pizz. (laissez vibrer) I II III I II arco → s.p. *p* *mf* *mp* *f* *mp* *mf* *p* *mf* *p*

38

Vln. 1 *pp* *m.s.p.* *IV* *poco accel.*

Vln. 2 *pp* *m.s.p.* *IV* *poco accel.*

Vla. *ord.* *ff* *p.s.p.* *f* *s.p.* *mf* *ord.* *fff* *f* *ff* *f*

Vlc. *pizz.* *mp* *mp*

42

Vln. 1 *pp* *mp* *pp* *pp* *mp* *pp* *pp* *mp*

Vln. 2 *pp* *mp* *pp* *pp* *mp* *pp* *pp* *mp*

Vla. *ff* *f* *ff* *ff* *p* *f* *ff* *p*

Vlc. *mf* *pp* *mp* *pp* *pp* *mp*

rit. *♩ = 84* *♩ = 66*

s.vib. *ord.* *s.t.* *ord.* *s.t.* *ord.* *s.t.*

m.vib. *s.p.* *s.vib.* *s.t.* *ord.*

arco *ord.* *s.t.* *ord.* *s.t.* *ord.* *s.t.*

45

Vln. 1 *pp* *f* *p* *f* *p* *f* *p*

Vln. 2 *pp* *f* *p* *f* *p* *f* *p*

Vla. *f* *ff* *p* *f* *ff* *p* *f* *ff*

Vlc. *pp* *f* *p* *f* *p* *f* *p*

ord. *s.t.* *ord.* *s.t.* *ord.* *s.t.* *ord.* *s.t.* *ord.* *s.t.*

48 s.t. → ord.

Vln. 1 *mf* > *p* *mf* *p* *ff* *mp* *pppp*

Vln. 2 s.t. → ord. *p* < *mf* > *p* *mf* *p* *ff* *mp* *pppp*

Vla. *pp* *mp* *pp* < *mp* > *pppp* a.s.t.

Vcl. s.t. → ord. *p* < *mf* > *p* *f* *p* *ff* *mp* *pppp*

51 ord. pizz. *pp* < *p* > half c.l.t. arco *pp* *p* *pp* p.s.t. *pp* *p* *pp* *pp* norm. *pp* *p* *pp* ord. *pp* *mp* *pp*

Vln. 2 *p* ord. *mp* *p* *mp* *p*

Vla. half c.l.t. ord. < *p* > p.s.t. *mp* *pp* *ppp* *mp* *pp* *ppp* *pp*

Vcl. ord. pizz. half c.l.t. arco *pp* < *p* > p.s.t. *mp* *pp* *ppp* *mp* *pp* *ppp* *pp*

55 *mp* *pp* *pp* *mp* *pp* p.s.t. *pp* *p* *pp* *pp* *pp* *pp*

Vln. 2 *mp* *ppp* *mp* ord. *pp* *pp* *pp* *f* *pp* *pp* *pp*

Vla. *mp* *pp* *mp* *pp* *mp* *pp* *ppp* *mp* *pp* *ppp*

Vcl. *mp* *pp* *mp* *pp* *mp* *pp* *ppp* *mp* *pp* *ppp*

poco accel. → $\text{♩} = 84$

59

Vln. 1 *ff* *p.s.p.* *s.p.* *pp* *p* *pp* *pp* *p* *pp*

Vln. 2 *ff* *s.p.* *m.s.p.* *ord.* *pp* *mp* *pp* *mp* *mf*

Vla. *ff* *norm. p.s.p.* *s.p.* *mp* *ppp* *mp* *ppp*

Vcl. *ff* *norm. p.s.p.* *pizz. s.t.* *mp*

62

Vln. 1 *pp* *p* *pp* *ord. II I* *pp* *p* *pp* *ord. II III II* *pp* *p*

Vln. 2 *pp* *mp* *p* *vib.* *pp* *mp* *s.vib.* *pp* *mp*

Vla. *mp* *ppp* *ord. II* *mp* *pp* *mp* *pp*

Vcl. *mp* *pp* *arco ord. II* *mp* *pp* *mp* *pp*

65

Vln. 1 *pp* *mp* *pp* *mp* *pp* *f* *p*

Vln. 2 *pp* *mp* *pp* *III* *slow, wide vib. (on b-flat)* *fp* *f* *ffp*

Vla. *mp* *pp* *half c.lt. s.t.* *norm. s.t.* *s.p.* *ord.* *f* *p*

Vcl. *mp* *pp* *half c.lt. s.t.* *pizz. ord.* *mp* *mf* *f*

68

Vln. 1 *ff* *f* *p* *mp* *p* *mp* *p* *mp* *p* *mp* *p*

Vln. 2 *ff* *mp* *p* *mp* *p* *mp* *p* *mp* *p* *mp* *p*

Vla. *ff* *f* *p* *ff* *mp* *p* *mp* *p*

Vlc. *ff*

71

Vln. 1 *mp* *p* *mp* *p* *mp* *p* *mp* *p* *mp* *p* *mp* *p*

Vln. 2 *mp* *p* *mp* *p* *mp* *p* *mp* *p* *mp* *p* *mp* *p*

Vla. *mp* *p* *mp* *p* *mp* *p* *mp* *p* *mp* *p* *mp* *p*

Vlc. ord. *s.p.* ord. *s.p.* ord. *s.p.*

rit. (allargando)

74

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

Vln. 2 *mf* *p* *mf* *p* *mf* *p* *f* *p* *f* *p* *f* *p* *ff* *p* *ff* *mp*

Vla. *mf* *p* *mf* *p* *mf* *p* *f* *p* *f* *p* *f* *p* *ff* *p* *ff* *mp*

Vlc. ord. *s.p.* ord. *s.p.* *s.p.*

a tempo ♩ = 84

77

Vln. 1 *f* > *p* *f* > *p* *f* > *p* *p* < *mp* > *p*

Vln. 2 *f* > *p* *f* *mp* *f* *p* *f* *p* *mf* *mp*

Vla. *f* > *p* *f* > *p* *f* > *p* *mf* *p* *p* < *mp* > *p*

Vcl. *ord.* *p* *ff* *p* *f* > *p* *f*

vib. → *s.vib.*

p.s.t.

ord. IV

81

Vln. 1 *p* < *mp* > *p* *p* < *mp* > *p* *p* *mp* *p* *pp* *pp*

Vln. 2 *fp* *f* > *mp* *ff* *ppp* *ff* *p* *fp*

Vla. *p.s.t.* *p* < *mp* > *p* *p* < *mp* > *p* *p* *ord. IV V* *mp* < *p* *pp* *s.t.*

Vcl. *p* *mf* > *mp* *ord.* *f* > *p* *mf* > *mp* < *mf* >

vib. → *s.vib.*

p.s.t. III IV III II I

84

Vln. 1 *mp* *pp* *mp* *pp*

Vln. 2 *mf* *pp* *mp* *pp* *mf* *mp* *f* *p*

Vla. *mp* *pp* *mp* *pp* *mp*

Vcl. *mp* *f* *mp* *pp* *p* *mf* > *mp* *mf* *p* *mf* > *mp*

vib. → *s.vib.*

10

Vln. 1

Vln. 2

Vla.

Vlc.

ff *p* *mp* *pp* *mp* *pp*

vib. → s.vib.

92

Vln. 1

Vln. 2

Vla.

Vlc.

p *ppp* *p* *ppp* *mp* *mf* *mp*

mp *p* *mp* *p* *mp* *ppp*

ppp *p* *ppp* *p* *ppp* *p* *ppp* *norm. p.s.p.* *mp* *ff*

mp *p* *mp* *p* *mp* *p* *ppp*

rit. $\text{♩} = 108$ $\text{♩} = 84$

half c.l.t. *ord. norm.*

half c.l.t. *norm. p.s.p.*

95

Vln. 1

Vln. 2

Vla.

Vlc.

f *p* *f* *p*

p *f* *p*

mf *ff* *p* *mf* *p*

p *mf* *p*

s.t. *ord.* s.t.

s.t. *ord.* s.t.

s.t. *s.p.* s.t.

s.t. *s.p.* s.t.

99 ord. s.p. ord. s.p. ord. s.p.

Vln. 1 *f* *p* *f* *p* *f* *p*

Vln. 2 *f* *p* *f* *p* *f* *p*

Vla. *mp* *p* *mp*

Vlc. *mp* *p* *mp*

102 ord. p.s.p. ord. p.s.p.

Vln. 1 *mp* *pp* *mp* *pp* *mf* *p* *ff* *f* *mp* *f* *ff*

Vln. 2 *p* *mp* *pp* *mf* *p* *ff* *f* *mp* *p.s.p.* *f* *ff*

Vla. *pp* *mf* *p* *ff* *fp* *f*

Vlc. *p* *mf* *p* *mf* *fp* *f*

106 m.s.p. p.s.p. ord. s.p. ord. s.p.

Vln. 1 *ppp* *f* *ff*

Vln. 2 *ppp* *f*

Vla. *ppp* *p* *f* *ff* *mp*

Vlc. *p* *f* *ff* *mp*

12

109

Vln. 1

Vln. 2

Vla.

Vlc.

ord.

s.p.

(gliss trill note)

ff

mp

mf

ff

mf

ff

ff

mp

ff

mf

ff

poco rit.

♩ = 72

112

Vln. 1

Vln. 2

Vla.

Vlc.

vib.

s.vib.

ff

mf

pp

mp

p

mf

p

mf

p

mf

p

mp

s.vib.

vib.

s.vib.

vib.

s.vib.

f mp

f

p

mf

mp

f

p.s.p.

s.t.

a.s.t.

bow at the first partial (extremely sul tasto)

ff

mp

p

116

Vln. 1

Vln. 2

Vla.

Vlc.

vib.

s.vib.

s.vib.

vib.

s.vib.

p

f

mp

ff

mf

ffp

mp

f

mp

ff

mf

ffp

mf

ff

mf

ffp

vib.

s.vib.

mf

f

mp

f

mp

ff

mf

ff

mf

ffp

a.s.t.

vib.

ord.

s.vib.

f

mf

ffp

ff

120

Vln. 1 *ff ff mp ffp ff > mf ff*

Vln. 2 *ff ff mp ffp ff*

Vla. *ff ff mp ffp ff*

Vlc. *mf ffp ff mp ff > mf ff > mf ff > mf ff >*

125

Vln. 1 *mf ff > mf ff mf 3 6 ff f ff*

Vln. 2 *mf ff mf ff mf 3 6 ff f ff*

Vla. *mf ff > mf < ff > mf ff mf 3 3 ff >*

Vlc. *mf ffp < f > mf ff mf 3 3 ff >*

129

Vln. 1 *p < ff > p 3 6 6 ff 3 ffp 3 ff p.s.p. f ff > f*

Vln. 2 *p < ff > mf ff mp p.s.p. ord.*

Vla. *p < ff > p 3 6 6 ff 3 ffp 3 ff p.s.p. ord.*

Vlc. *p < ff > mf ff mp p.s.p. ord.*

133

Vln. 1 *ffp* *ff* *p* s.p. ord.

Vln. 2 *ffp* *ff* *p* s.p. ord.

Vla. *mp* *ff* *p* s.p. (repeat as fast as possible)

Vlc. *ffp* *ff* *p* s.p. ord.

137

Vln. 1 *ff* *mp* *fff* *f* *mp* *ppp* rit. poco a poco a.s.t.

Vln. 2 *ff* *mp* *p* *ff* *pp* *p* s.p. (repeat as fast as possible) ord. s.p. a.s.t.

Vla. *fff* *pp* *p* ord. s.p. a.s.t.

Vlc. *fff* *f* *mp* *ppp*

♩ = 52 (♩ = ♩) = 78

142 flautando a.s.t. norm. ord. ord.

Vln. 1 *ppp* *pp* *p* *mp* *f* *ppp* *p* *mp*

Vln. 2 *ppp* *p* *mp* ord. I I II I

Vla. *ppp* *p* *ppp* ord. I

Vlc. flautando a.s.t. norm. ord. I *ppp* *p* *ppp*

♩ = 72 slightly slower (A tempo prima)

149

Vln. 1: m.s.p. → ord. III II III II III II etc. 9 s.t. → ord. mp f mp f

Vln. 2: m.s.p. → ord. s.t. → ord. mp mf mp f

Vla.: s.t. ord. mp ff mp < ff f

Vcl.: s.t. ord. mp ff mp < ff f

153

Vln. 1: mf ff p mf p

Vln. 2: mf ff mp

Vla.: mf ff mp

Vcl.: III II I 6 s.p. mf p

156

Vln. 1: p.s.p. → ord. p f p mp pp mp ppp mf ff p

Vln. 2: 3 ff p mp ppp mp ppp mf ff p

Vla.: I II IV III II I ff mp p mf p mf ff

Vcl.: ord. II I II III 3 ff p mp p mf p mf ff

159

Vln. 1 *ff*

Vln. 2 *ff*

Vla. *pp* *ff*

Vlc. *pp* *ff*

161

Vln. 1 *ffp* *ff* *p*

Vln. 2 *ffp* *ff* *p*

Vla. *p*

Vlc. *p*

♩ = 54

half c.l.t. a.s.t.

s.p. ord.

164

Vln. 1 *mp* *f* *p* *mp* *p*

Vln. 2 *mp* *f* *p*

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

Vlc. *p* *mp* *f* *mp*

ord. norm. s.p. s.t.

half c.l.t. ord. s.p. s.t.

175

Vln. 1

Vln. 2

Vla.

Vlc.

ffp *ff*

ff *mf* *ff* *mf* *ff*

III I III
IV II II

rit. $\bullet = 52$

177

Vln. 1

Vln. 2

Vla.

Vlc.

mp *p* *mf* *p* *mf* *p* *mf*

p *ppp* *mf*

p *mp* *pp* *mp* *p* *mp* *ppp* *mf*

p *mf* *p* *mf* *p*

vib. s.vib. vib.

179

Vln. 1

Vln. 2

Vla.

Vlc.

p *mp* *pp* *mf* *pp* *mp* *pp* *mp*

p *ppp* *p* *mp* *p* *mp* *pp* *mp*

p *ppp* *mf* *ppp* *p* *mp* *p* *mp* *ppp* *mf* *pp* *mp*

mf *ppp*

s.vib. vib. s.vib. vib. s.vib.

s.p. ord. p.s.p. ord.

182

Vln. 1 *p* *mf* *vib.* *s.vib.* *p* *mp* *f* *p* *mp* *f*

Vln. 2 *p* *mf* *vib.* *s.vib.* *p* *mp* *f* *p* *mp* *f*

Vla. *p* *mf* *vib.* *s.vib.* *p* *mp* *f* *p* *mp* *f*

Vcl. a.s.t. retune *pppp* *f* (fingered) *s.t.* *pp* *p* *f* *mp*

185

Vln. 1 *p* *mf* *s.vib.* *vib.* *s.vib.* *p* *mp* *ppp*

Vln. 2 *p* *mf* *s.vib.* *vib.* *s.vib.* *p* *mp* *ppp*

Vla. *p* *mf* *s.vib.* *vib.* *s.vib.* *p* *mp* *ppp*

Vcl. *f* *p* *mf* *p* *mp* *ff* *slow wide vib.*