

Austin Franklin

Concentric Circles

for percussion, cello, piano, and reflexive electronics

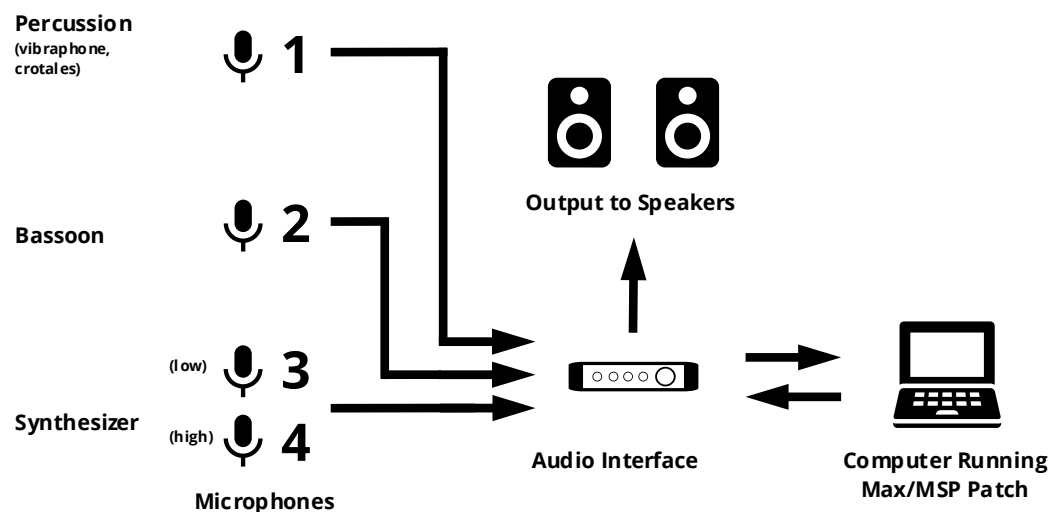
(2021)

Program Notes

Concentric Circles is a piece that explores overlapping patterns and cycles. It revolves around an initial harmonic progression that descends by step and is varied upon each repetition. Throughout the piece new patterns are introduced or layered on top of existing patterns. The electronics operate by analyzing and averaging data from all players simultaneously, among other processes. This creates new patterns and interactions between performers throughout the piece. These patterns evolve throughout the piece until they transform back into the opening statement.

Technical notes

Concentric Circles uses a Max MSP program (or patch) by which to process and transform the audio. The patch contains instructions on how to set up, operate, rehearse, and finally perform the piece. Please email me for the patch after purchasing, or if you have any questions directly at austinalexanderfranklin12@gmail.com. As for the technical requirements and equipment set up, please use the following configuration:



- A four-channel audio interface is required to perform the piece, and 4 large diaphragm microphones should be used for inputs if possible.
- Microphones should correspond to the input on the interface provided in the graphic above (1-4). Inputs 3 and 4 should be used on the low and high register of the piano, respectively.
- Microphone placement will generally work best closest to the instrument (or amp) but any position that captures the full range of the instrument is sufficient.
- An attempt should be made to place microphones in a position that does not capture other instruments or reduces the amount of bleed from other instruments as much as possible.
- Loudspeakers should be positioned in front of the ensemble to prevent feedback.

Performance notes

The electronic sounds used in the piece come solely from the live input to the microphone. There are no triggers for the individual sections, and no MIDI keyboard or instrument is required. Instead, the range of each instrument is divided into different sections that are processed independently from the others via specific musical parameters. The resulting sound is not notated in the score since it will sound different for repeat performances. The musical parameters and their general effects on the input are described as follows:

Percussion:

- The entire range of the crotales are processed using a variable delay and feedback.
- The entire range of the vibraphone is processed with two variable delay lines that are each pitch shifted up a perfect 5th and octave respectively. The register of the vibraphone determines what transposition is loudest (in the lower register the perfect 5th transposition is prominent, in the higher register the octave transposition is prominent).

Bassoon:

- Pitches above C4 are processed using a delay line that is pitch shifted up a 5th. Brightness, or “glitteryness” is also increased via down sampling on the signal. Loudness determines the length of the delay and the brightness of the signal.
- Pitches above G2 and below C4 are processed with two variable delay lines that are each pitch shifted up a perfect 5th and octave respectively. The register of the cello determines what transposition is loudest (in the lower register the perfect 5th transposition is prominent, in the higher register the octave transposition is prominent).
- Pitches below G2 are processed using a delay line and amplified. There are no controlling parameters for this register.

Synthesizer:

- Pitches above C5 (notated as harmonics in the score) are processed using a delay line that is pitch shifted up a 5th. Brightness, or “glitteryness” is also increased via down sampling on the signal.
- Pitches above G2 and below C5 are processed with two variable delay lines that are each pitch shifted up a perfect 5th and octave respectively. The register of the piano determines what transposition is loudest (in the lower register the perfect 5th transposition is prominent, in the higher register the octave transposition is prominent).
- Pitches below G2 are processed using a delay line and amplified. There are no controlling parameters for this register.

Unless explicitly mentioned above, the amount of processing is determined by the loudness of the individual performers within a particular register (described above) AND the average overall loudness of the ensemble. When all performers are playing at their loudest dynamic, the loudness of the electronics is at its maximum. When a single performer plays loudly while the rest of the ensemble is quiet, the amount of processing is minimal. Reverb decay time is also affected solely by the average loudness of the ensemble. Performers should pay special attention to their dynamics throughout the piece, specifically during moments where accents or “swells” are present and bring these out amongst the surrounding texture.

Concentric Circles was commissioned by Jacob Ottmer

Duration: ca. 10'00”

Concentric Circles

for percussion, cello, piano, and reflexive electronics

♩ = 135 Floating

Austin Franklin

Vibraphone

p pedal until A

Violoncello

p

Piano

p

pedal until A

Vib.

Vc.

Pno.

Vib. 

Vc. 

Pno. 

A

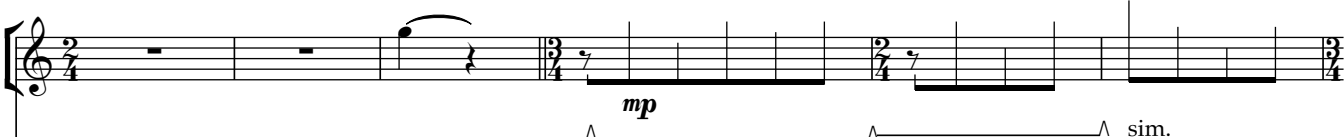
Play any note from the given chord on any beat without a notehead, using the stems register as a guide. Accented notes must stand out from the texture.


Ebm

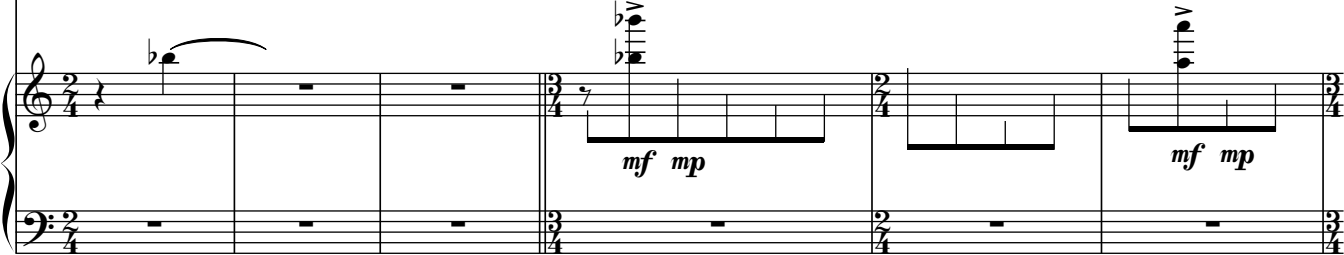
Bbm

Db+

Crotales 
mf

Vib. 
mp sim.

Vc. 
mp

Pno. 
mf mp sim.

F Am Gsus⁴ G Gm Dm

Crot.

Vib.

Vc.

Pno.

mf

mf mp

mf mp

F+ A C#m Bsus⁴ B Bm

Crot.

Vib.

Vc.

Pno.

mp

mf

mf mp

mf mp

mf mp

F#m A+ C#m Fm Eb

This musical system features five staves: Crotonal (Crot.), Vibraphone (Vib.), Violoncello (Vc.), Piano (Pno.), and a grand staff. The key signature changes from F#m to A+ to C#m to Fm to Eb. The time signature is 2/4. The Crot. part has a melodic line with accents. The Vib. part has a rhythmic pattern of eighth notes. The Vc. part has a bass line with a few chords. The Pno. part has a melody in the right hand with dynamics *mf* and *mp*.

B

This musical system features five staves: Crotonal (Crot.), Vibraphone (Vib.), Violoncello (Vc.), Piano (Pno.), and a grand staff. The key signature is Eb. The time signature is 2/4. The Crot. part has a melodic line with accents and triplets, with dynamics *mf*. The Vib. part has a rhythmic pattern of eighth notes with triplets. The Vc. part has a bass line with triplets. The Pno. part has a melody in the right hand with triplets and dynamics *mf*.

The first system of the musical score consists of four staves: Crot., Vib., Vc., and Pno. The Crot. staff features a rhythmic pattern of eighth notes with accents and triplets. The Vib. staff has a melodic line with triplets and a forte (*f*) dynamic marking. The Vc. staff has a bass line with triplets and a forte (*f*) dynamic marking. The Pno. staff has a treble clef with triplets and a forte (*f*) dynamic marking. The bass clef part of the Pno. staff is mostly silent.

The second system continues the musical score with four staves: Crot., Vib., Vc., and Pno. The Crot. staff continues with eighth notes and triplets. The Vib. staff has a melodic line with triplets and a forte (*f*) dynamic marking. The Vc. staff has a bass line with triplets and a forte (*f*) dynamic marking. The Pno. staff has a treble clef with triplets and a forte (*f*) dynamic marking. The bass clef part of the Pno. staff is mostly silent.

Crot.

Vib.

Vc.

Pno.

f

f

Crot.

Vib.

Vc.

Pno.

f



♩ = ♩

Play independently. Dashed lines between instruments indicate approximate synchronization. All note changes should occur within 3-6 seconds of each other. Accidentals apply to only the note they are on.

Crot.

Vib.
pp
pedal every change
f

Vc.
pp

Pno.
pp
pedal every change

Vib.
pp

Vc.
f *pp* *f*

Pno.
f *pp*

Vib. *f* *pp*

Vc. *pp*

Pno. *f*

D

Vib.

Vc. *f* *pp* *f*

Pno. *pp*

Musical score for page 9, featuring three staves: Vib. (Violin), Vc. (Viola), and Pno. (Piano). The Vib. staff begins with a melodic line in treble clef, marked with dynamics *f* and *pp*. The Vc. staff is in bass clef, marked *pp*, with some notes appearing later in the system. The Pno. staff is in grand staff (treble and bass clefs), marked with dynamics *f* and *pp*. Vertical dashed lines indicate structural divisions in the music.

Continuation of the musical score for page 9. The Vib. staff continues its melodic line, marked with dynamics *f*. The Vc. staff continues with a melodic line in bass clef, marked with dynamics *f* and *pp*. The Pno. staff continues with a melodic line in treble clef, marked *pp*. Vertical dashed lines indicate structural divisions in the music.

E

Vib. *pp*

Vc.

Pno. *f*

pp *f*

Vib. *f* *pp* *f*

Vc. *pp* *f* *pp*

Pno.

Musical score for page 11, featuring three staves: Vib. (Violin), Vc. (Viola), and Pno. (Piano). The Vib. staff begins with a *pp* dynamic and contains a melodic line with a dashed vertical line indicating a measure change. The Vc. staff has a *pp* dynamic, followed by a *f* dynamic, with a dashed vertical line between them. The Pno. staff starts with a *f* dynamic, then a *pp* dynamic, and ends with a repeat sign.

Musical score for page 11, continuing from the previous system. A boxed 'F' is positioned above the Vib. staff. The Vib. staff features a *f* dynamic, a *pp* dynamic, and another *f* dynamic, with a dashed vertical line at the end. The Vc. staff has a *pp* dynamic and another *pp* dynamic, with a dashed vertical line at the end. The Pno. staff has a *pp* dynamic and a repeat sign.

This system of music features three staves: Vib. (Vibraphone), Vc. (Violoncello), and Pno. (Piano). The Vib. staff is in treble clef with a key signature of two flats and a dynamic marking of *pp*. The Vc. staff is in bass clef with a key signature of two flats, starting with a dynamic of *f* that tapers to *pp*, then has a section of *pp* followed by a section of *f* that tapers to *pp*. The Pno. staff is in bass clef with a key signature of two flats, featuring a melodic line with dynamics of *f* and *pp*. Vertical dashed lines indicate structural divisions between measures.

This system continues the musical score for Vib., Vc., and Pno. The Vib. staff shows a melodic phrase starting with *f* and ending with *pp*. The Vc. staff is mostly silent, with a section of *pp* starting after a vertical dashed line. The Pno. staff continues its melodic line with dynamics of *f* and *pp*. Vertical dashed lines indicate structural divisions between measures.

rit.

Vib.

Vc.

Pno.

f

Detailed description: This block shows the first system of a musical score for three instruments: Vib. (Violin), Vc. (Violoncello), and Pno. (Piano). The Vib. part is in treble clef and features a melodic line with a slur and a repeat sign. The Vc. part is in bass clef and has a dynamic marking of *f* (forte) with a hairpin. The Pno. part is in grand staff (treble and bass clefs) and has a similar melodic line with a slur and a repeat sign. A dashed line indicates a ritardando (rit.) marking that spans across the measures.

G ♩ = 155 repeat 1-3x

Vib.

Vc.

Pno.

mf pedal freely

pizz.

mp

mf pedal freely

Detailed description: This block shows the second system of the musical score. The Vib. part is in treble clef, 4/4 time, with a melodic line marked *mf* (mezzo-forte) and 'pedal freely'. The Vc. part is in bass clef, 4/4 time, with a pizzicato (pizz.) marking and a dynamic marking of *mp* (mezzo-piano). The Pno. part is in grand staff, 4/4 time, with a melodic line marked *mf* and 'pedal freely', and a bass line with chords. The system concludes with repeat signs.

H

Musical score for the first system, measures 1-4. The score is for Crotchet, Vibraphone, Violoncello, and Piano. The time signature changes from 3/4 to 4/4. Dynamics include *mf*, *f*, *pizz.*, *mp*, and *ff*.

Musical score for the second system, measures 5-8. The score is for Crotchet, Vibraphone, Violoncello, and Piano. The time signature changes from 4/4 to 3/4. Dynamics include *mp* and *ff*.

I

Musical score for the first system, measures 1-4. The instruments are Crotales (Crot.), Vibraphone (Vib.), Violoncello (Vc.), and Piano (Pno.).

- Crot.:** Measure 1: Rest. Measure 2: Rest. Measure 3: Rest. Measure 4: Rest.
- Vib.:** Measure 1: Rest. Measure 2: Rest. Measure 3: Rest. Measure 4: *mf* no pedal
- Vc.:** Measure 1: Rest. Measure 2: Rest. Measure 3: Rest. Measure 4: *mf*
- Pno.:** Measure 1: *ff mp*. Measure 2: *ff mp*. Measure 3: *mp*. Measure 4: *ff*

Musical score for the second system, measures 5-8. The instruments are Crotales (Crot.), Vibraphone (Vib.), Violoncello (Vc.), and Piano (Pno.).

- Crot.:** Measure 5: Rest. Measure 6: Rest. Measure 7: Rest. Measure 8: Rest.
- Vib.:** Measure 5: *mf*. Measure 6: *mf*. Measure 7: Rest. Measure 8: Rest.
- Vc.:** Measure 5: Rest. Measure 6: Rest. Measure 7: Rest. Measure 8: *f* arco
- Pno.:** Measure 5: *ff mp*. Measure 6: *ff mp*. Measure 7: *f*. Measure 8: *f*

Crot.

Vib.

Vc.

Pno.

J

Crot.

Vib.

Vc.

Pno.

Musical score for Crot., Vib., Vc., and Pno. The Crot. part has dynamics *p*. The Vib. part has dynamics *mf*. The Vc. part has dynamics *mp*. The Pno. part has dynamics *ff*, *mp*, *ff*, and *mp*.

K

Musical score for Crot., Vib., Vc., and Pno. The Vc. part has dynamics *f* and *arco*. The Pno. part has dynamics *sub.f*. The score includes time signature changes from 4/4 to 3/4 and back to 4/4.

Crot.

Vib. *f*

Vc.

Pno.

Crot.

Vib. *mf cresc.*

Vc. *mf cresc.*

Pno. *mf cresc.*

L

Crot.

Vib. *ff*

Vc. *f*

Pno. *ff*

Crot. *ff* *gliss.* *f dim.*

Vib.

Vc. *f* *over pressure* *gliss.*

Pno. *f* *8vb*

Crot. *f dim.*

Vib.

Vc.

Pno.

(8)

Crot. *f dim.*

Vib.

Vc. *cresc.*

Pno. *cresc.*

(8)

M All instruments accel. independently until I. All metric modulations until N relate to the same tempo ($\text{♩} = 155$).

Musical score for the first system, featuring Crot., Vib., Vc., and Pno. staves. The Crot. staff has a dynamic marking of *ff*. The Vib. staff has a dynamic marking of *mf* and the instruction "no pedal". The Vc. staff has a dynamic marking of *ff*. The Pno. staff has a dynamic marking of *ff* and the instruction "no pedal". A measure number (8) is indicated below the Pno. staff. Vertical dashed lines indicate structural divisions in the score.

$\overset{\frown}{3}$
 $\text{♩} = \text{♩}$
(approx. $\text{♩} = 206$)

Musical score for the second system, featuring Vib., Vc., and Pno. staves. The Vib. staff has a dynamic marking of *mf*. The Vc. staff has a dynamic marking of *f* and the instruction "pizz.". The Pno. staff has a dynamic marking of *mp*. Vertical dashed lines indicate structural divisions in the score.

♩ = ♩
(approx. ♩ = 155)

Vib.

Vc.

f *mf*

Pno.

♩ = ♩
(approx. ♩ = 155)

Vib.

Vc.

arco

f

Pno.

f

Musical score for Vib., Vc., and Pno. The Vib. part is in treble clef, Vc. in bass clef, and Pno. in grand staff. Dynamics include *ff* and *f*. The Pno. part includes an 8vb marking and a fermata.

N ♩ = 155

Play each figure repeatedly and independently. Each instrument should cue when they change pattern, and there should be 5-8' between changes.

Musical score for Vib., Vc., and Pno. Each instrument has a melodic line with dynamics *ff* no pedal and *dim.*. The Pno. part includes a fermata.

slowly begin to ritard.

Vib. *f* slowly press pedal ----- *dim.*

Vc. slowly begin to ritard. *f* *dim.*

Pno. slowly begin to ritard. *f* *dim.*

slowly press pedal -----

Vib. *mf* *dim.*

Vc. *mf* *dim.*

Pno. *mf* *dim.*



20-25'

rit. ♪ = 95

Vib. *p* *pp*

Vc. *p* *pp*

Pno. *p* *pp*

pedal down

The image shows a musical score for three instruments: Vib. (Violin), Vc. (Violoncello), and Pno. (Piano). The score is divided into two sections by a vertical dashed line. The first section is marked 'rit.' and '20-25'' with a bracket above it. The second section is marked '♪ = 95'. The Vib. part starts with a whole note chord in the treble clef, marked *p*. The Vc. part starts with a whole note chord in the bass clef, marked *p*. The Pno. part starts with a whole note chord in the treble clef, marked *p*. At the end of the first section, there are 'pedal down' markings for all three instruments. At the beginning of the second section, there is a dynamic change to *pp* for all three instruments. The Vib. part has a slur over the notes. The Vc. part has a slur over the notes. The Pno. part has a slur over the notes. There are also some markings like 'b' and '7' in the second section.