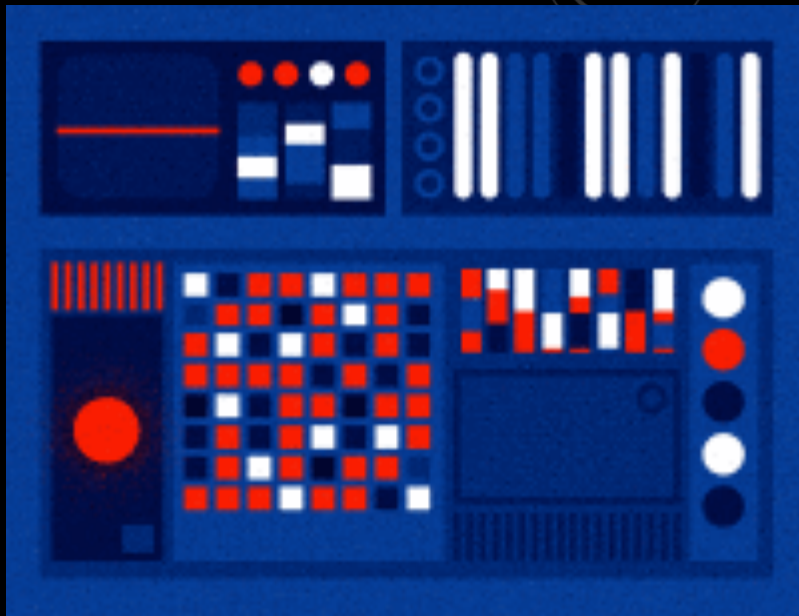


The background is a deep blue gradient with faint, white, concentric circular patterns and degree markings (40, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260) scattered across the left side. The text is centered on the right side.

EXPERIMENTAL MUSIC IN FIXED MEDIA COMPOSITIONS LECTURE-RECITAL

*Dr. Veronica Salinas Lopez, viola
Dr. Elizabeth Janzen, flute
Texas A&M University-Kingsville
Kingsville, TX*

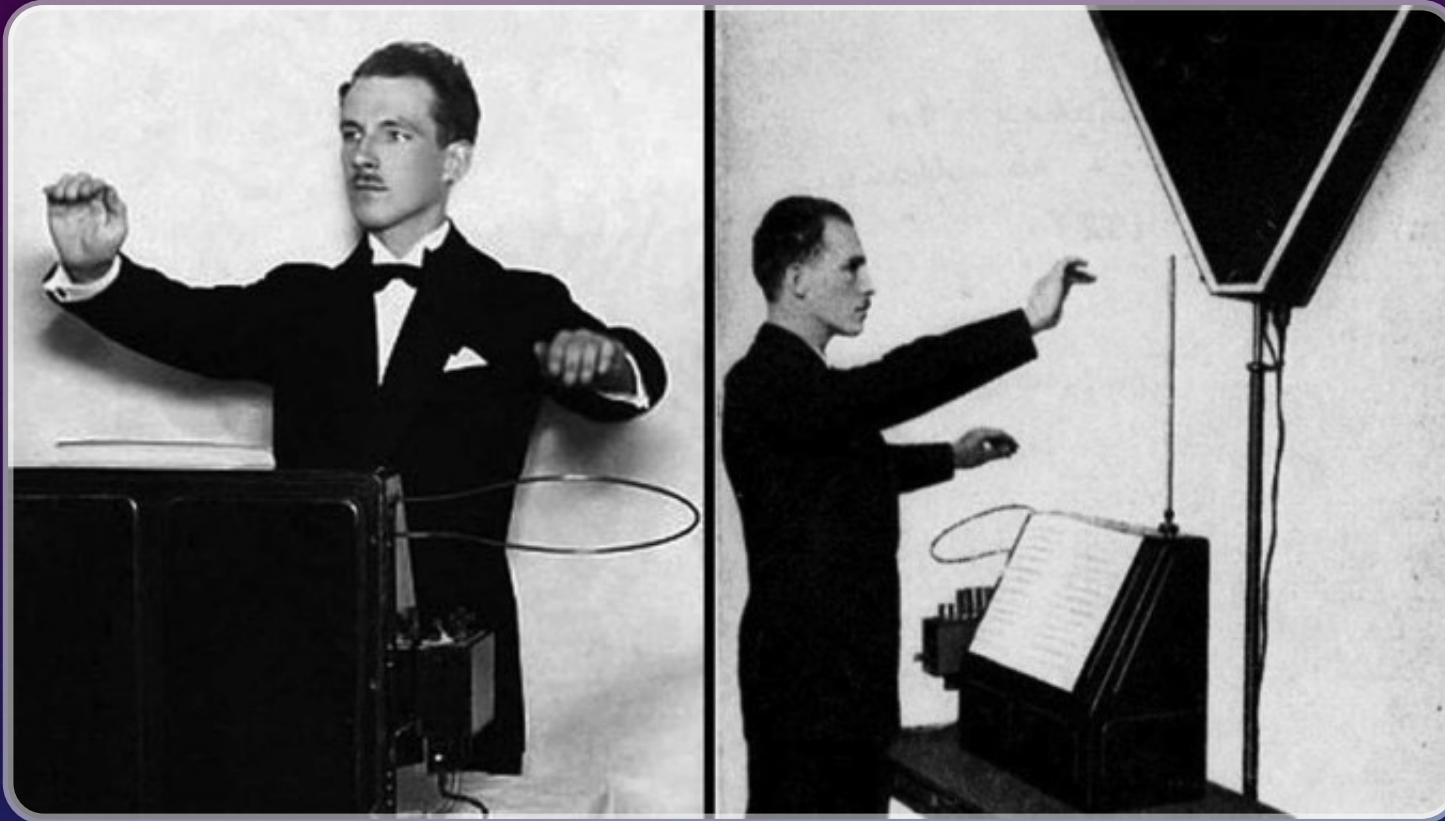




HISTORY

- 1906 - *Teleharmonium*, Thaddeus Cahill
Electronic impulses → Sound
- 1919 -Theramin, Leon Theramin
Two antennas → Control Pitch and Volume
- 1934 -Hammond Organ, Laurens Hammond
Rotary, motor-driven generators → Sound
- 1941 - *The Log Electric Guitar*, Les Paul
4/4 piece of wood with bridge, neck,
pick-up

HISTORY



- 1906 - Thaddeus Cahill's Teleharmonium
Electronic impulses → Sound
- 1919 - *Theramin*, Leon Theramin
Two antennas → Control Pitch and Volume
- 1934 - Hammond Organ, Laurens Hammond
Rotary, motor-driven generators → Sound
- 1941 - *The Log Electric Guitar*, Les Paul
4/4 piece of wood with bridge, neck, pick-up

HISTORY



- 1906 - Teleharmonium , Thaddeus Cahill
Electronic impulses → Sound
- 1919 - Theramin, Leon Theramin
Two antennas → Control Pitch and Volume
- 1934 - **Hammond Organ, Laurens Hammond**
Rotary, motor-driven generators → Sound
- 1941 - *The Log Electric Guitar, Les Paul*
4/4 piece of wood with bridge, neck,
pick-up



HISTORY

- 1906 - Teleharmonium , Thaddeus Cahill
Electronic impulses → Sound
- 1919 -Theramin, Leon Theramin
Two antennas → Control Pitch and Volume
- 1934 -Hammond Organ, Laurens Hammond
Rotary, motor-driven generators → Sound
- 1941 - *The Log Electric Guitar, Les Paul*
4/4 piece of wood with bridge, neck,
pick-up



MAGNETAPHON TAPE RECORDER

1940s Germany

MUSIQUE CONCRÈTE

1940S

PARIS, FRANCE



Pierre Schaeffer



Pierre Henry



"FOR THE FIRST TIME IN HISTORY
WE HAVE THE POSSIBILITY TO
MAKE THE SOUND BECOME FIXED
FOR A WHILE AND *WORK ON IT*.
TRADITIONALLY, SOUND WAS
CONSTANTLY MOVING.
ONCE IT WAS PRODUCED,
IT WAS GONE."

~KARLHEINZ STOCKHAUSEN

MUSIQUE CONCRÈTE PROCESS → "TAPE MUSIC"

Speed manipulation → Increase or decrease speed of sound

Directional manipulation → backwards or forward direction of sound

Cutting/Splicing → Changing the attack, decay

Looping → Replay of fragmented sounds

Juxtaposition → Combine two or more sounds to create length and complexity



DAPHNÉ ORAM

Pioneer of Musique Concrète



ORAMICS

Drawn Sound Technique

Shapes and designs drawn onto 35mm film strips that are read by photo-electric cells and transformed into sounds.



STILL POINT
FOR TURNTABLES, DOUBLE ORCHESTRA, AND 5
MICROPHONES

BBC PROMS "Pioneers of Sound"
July 23, 2018





THEA MUSGRAVE

Composer



FROM ONE TO ANOTHER I (1970) FOR VIOLA AND TAPE

10 minute work written in collaboration with Daphne Oram
Written for violist Peter Mark and the Monday Evening Concerts, LA

Tape source is live viola but treated electronically

Premiered 11/30/70 in Los Angeles, CA

From One to Another II (1980) for Viola and Orchestra

FROM ONE TO ANOTHER
for viola and tape

THEA MUSGRAVE

[illegible]

*Play with considerable rubato at tempo indicated. Exact synchronisation with tape only necessary where there are arrows.
Electronic Tape made in collaboration with Daphne Oram. Duration 10 minutes

For Peter Mark and Geoffrey Rutkowski

ELEGY

Thea Musgrave

Andante declamando *ad lib.* ma *J. c 60*

Violino I

Violino II

mf *p* *f* *mp* *f* *molto espr*

pizz *arcc*

ten *accel.* *in tempo*

② ③

AD LIB.: Play with considerable rubato and independently of each other, though remain within the tempo indicated. Synchronize exactly only after bar line or where there is an arrow.

Accidentals apply only to the note they precede except where one note, or a pair of notes, is immediately repeated. In measured passages accidentals apply for duration of bar following normal procedure.

FROM ONE TO ANOTHER I (1970)

“The tape is not simply an adaptation of what could be played live by a second viola... it retains just sufficient qualities of the original sound to match and blend with the live instrumentalist. For the whole idea is that the live viola closely interacts with what is on the tape. Hence the title.”

~*Thea Musgrave*

FORM

1.

TAPE
(approximate notation)

Andante con rubato molto $\text{♩} = c. 48-54$ *drammatico ed energico*

VIOLA

mf lamentoso *pp* *mf*

2.

10 5, 3⁴

$\text{♩} = 132$

mf

Molto più mosso (ma sempre con rubato)

mf con energia

3.

12

6.30

Andante $\text{♩} = c. 60$

p *pp*

4.

14

8.17

Prestissimo $\text{♩} = 160$

p *pp*

sul G

5.

dim.

Tempo di andante $\text{♩} = c. 48$

mf *p* *f*

Handwritten musical score, page 4. The score is written in treble and bass clefs. It features complex rhythmic patterns, including triplets and sixteenth notes. Dynamic markings include *mf*, *mf (drammatico)*, *p*, *cresc.*, and *f*. There are numerous handwritten annotations, including fingerings, slurs, and performance instructions like *mf* and *p*. The page number "4" is in the top left corner.

Handwritten musical score, page 6. The score continues with complex rhythmic patterns. Dynamic markings include *ppp*, *pp dolce flautando*, *pp*, *f*, *rit.*, *a tempo*, *sfz p*, and *cresc.*. There are many handwritten annotations, including fingerings, slurs, and performance instructions like *ppp*, *pp dolce flautando*, *pp*, *f*, *rit.*, *a tempo*, *sfz p*, and *cresc.*. The page number "6" is in the top left corner.

Handwritten musical score, page 12. The score continues with complex rhythmic patterns. Dynamic markings include *f*, *Andante*, *p*, *f sempre*, *cresc.*, *mf intenso*, *pp cresc.*, *rit.*, *a tempo*, *mf*, *sfz p < f*, and *cresc.*. There are many handwritten annotations, including fingerings, slurs, and performance instructions like *f*, *Andante*, *p*, *f sempre*, *cresc.*, *mf intenso*, *pp cresc.*, *rit.*, *a tempo*, *mf*, *sfz p < f*, and *cresc.*. The page number "12" is in the top left corner.

FROM ONE TO ANOTHER I (1970)

“It was very strange to play with a fixed tape and still have spontaneity. I allowed myself to go up to the edge of expression by exaggerating the phrases, since the tape’s sound was so much bigger and more varied than my own live tone.”

~Peter Mark



FROM ONE TO ANOTHER I (1970)

Thea Musgrave in Collaboration with Daphné Oram
Acoustic Source Recording, Peter Mark



CHRISTOS HATZIS

Composer

NADIR FOR FLUTE OR RECORDER, VIOLA AND DIGITAL AUDIO 1988

7-minute Electroacoustic Work

Nadir → Opposite to zenith; the lowest point; time of greatest depression

Inspired by the death of two close friends

Written in 1987-88 at the end of the Iran-Iraq War

Commissioned by The Canadian Electronic Ensemble

Premiered in April of 1988 in Toronto, Canada by Peter Hannon (rec), Douglas Perry (va)

ELECTROACOUSTIC MUSIC

Made with electronic technology

Advances in 1980:

- the personal computer
- Digital music and the compact disc
- MIDI Protocol

Focus was to create a “rhythmically tight” coordinated piece for both live performer and tape

Emphasis on unconventional time signatures for rhythmic instability

Predominantly Phrygian mode and rhythmic variety creates a Middle Eastern timbre

Rewritten in 1999 as the third movement of String Quartet No. 2: The Gathering



Handwritten musical score for Recorder, Violon, and Tuba. The score is divided into two systems. The first system has a tempo of 69 and a key signature of one flat. The second system has a tempo of 20. The Recorder part is in treble clef, Violon in bass clef, and Tuba in bass clef. The score includes various musical notations such as notes, rests, and dynamic markings (f, mf, mp, p). There are also handwritten annotations in red ink, including arrows pointing to specific notes and a box around the number 10.

NADIR

Score

CHRISTOS ANTONIS "NADIR", VIOLA

COMPOSER
FACSIMILE

AUTHENTIC COPY IF STAMP IS GREEN

Handwritten musical score for Viola Part of "NADIR" by Christos Antonis. The score is in 3/16 time, marked with a tempo of quarter note = 69. The score is written for Viola and includes various musical notations such as notes, rests, and dynamic markings. There are red circles highlighting specific measures: measure 24, measure 25, measure 26, and measure 30. The score is a facsimile of an authentic copy, as indicated by the stamp.

NADIR

Viola Part

NON-DYADIC TIME SIGNATURES

Uses Various Unconventional Time Signatures in variations of all triplet with the following denominators:

5 → Quarter quintuplets

6 → Quarter triplets

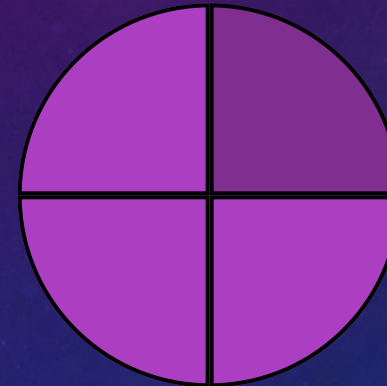
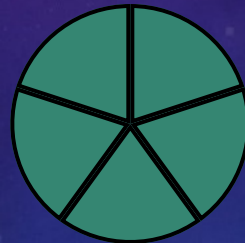
10 → Eighth quintuplets

12 → Eighth triplets

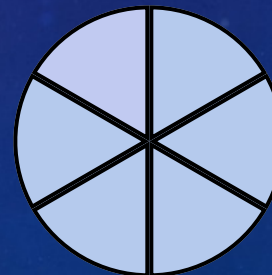
20 → Sixteenth quintuplets

24 → Sixteenth triplets

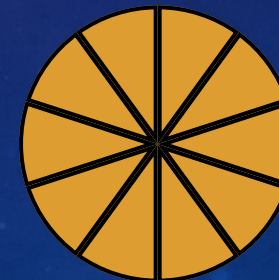
Denominator 5



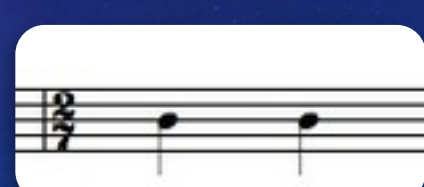
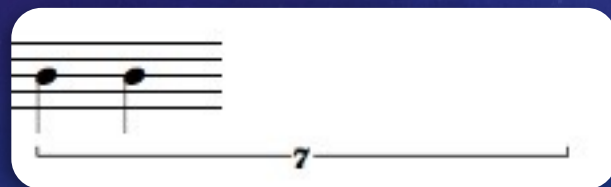
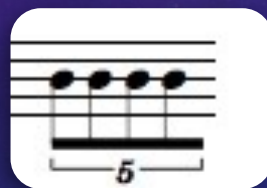
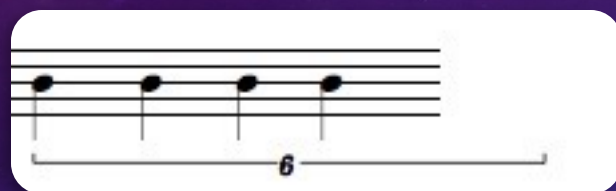
Denominator 6



Denominator 10



NON-DYADIC TIME SIGNATURES



String Quartet No. 2

$\text{♩} = \text{♩} (= 160)$ overpowering


$\text{♩} = \text{♩} (= 128)$ war-like



This musical score snippet shows measures 115 through 120 of a string quartet. The tempo is marked as $\text{♩} = \text{♩} (= 160)$ for the first part and $\text{♩} = \text{♩} (= 128)$ for the second part, indicating a metric modulation. The music is written for four staves in 3/8 time, with dynamic markings such as *ff* and *f*.

METRIC MODULATION

Nadir



This musical score snippet shows measures 1 through 10 of a piece titled 'Nadir'. The tempo is marked as $\text{♩} = \text{♩} (= 160)$ for the first part and $\text{♩} = \text{♩} (= 128)$ for the second part, indicating a metric modulation. The music is written for four staves in 3/8 time, with dynamic markings such as *ff* and *f*.

NON-DYADIC TIME SIGNATURES

NADIR FOR FLUTE, VIOLA AND DIGITAL AUDIO (1988)

Christos Hatzis