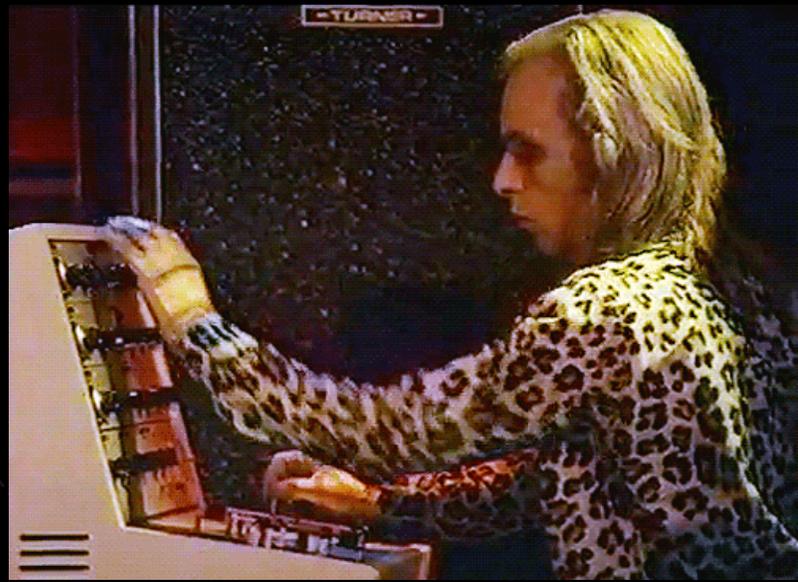
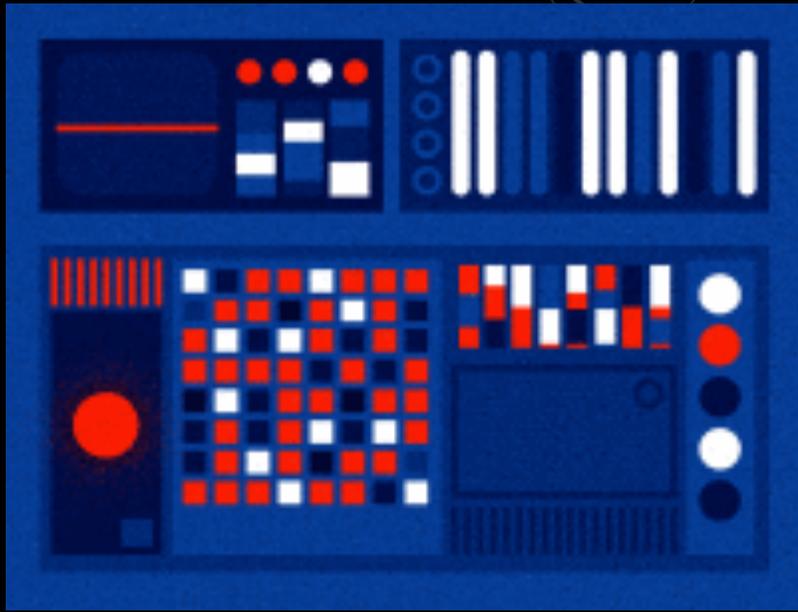
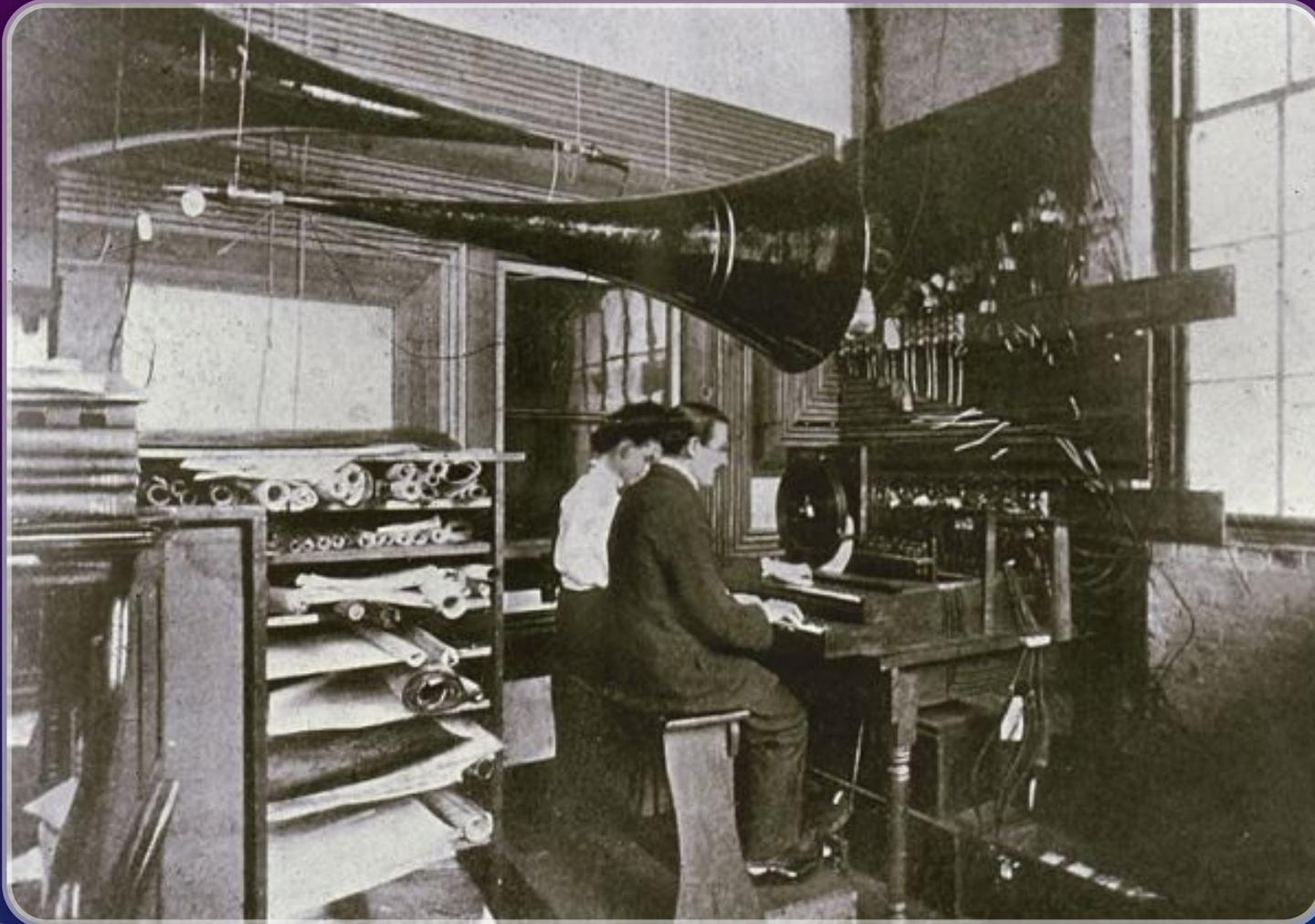


The background features a dark blue gradient with a complex pattern of overlapping circles and arcs. A prominent circular scale is visible on the left side, with numerical markings from 140 to 260. The scale is composed of concentric circles and radial lines, with some segments highlighted in a lighter blue. The overall aesthetic is technical and abstract, suggesting a focus on precision and experimentation.

EXPERIMENTAL MUSIC IN FIXED MEDIA COMPOSITIONS LECTURE-RECITAL

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

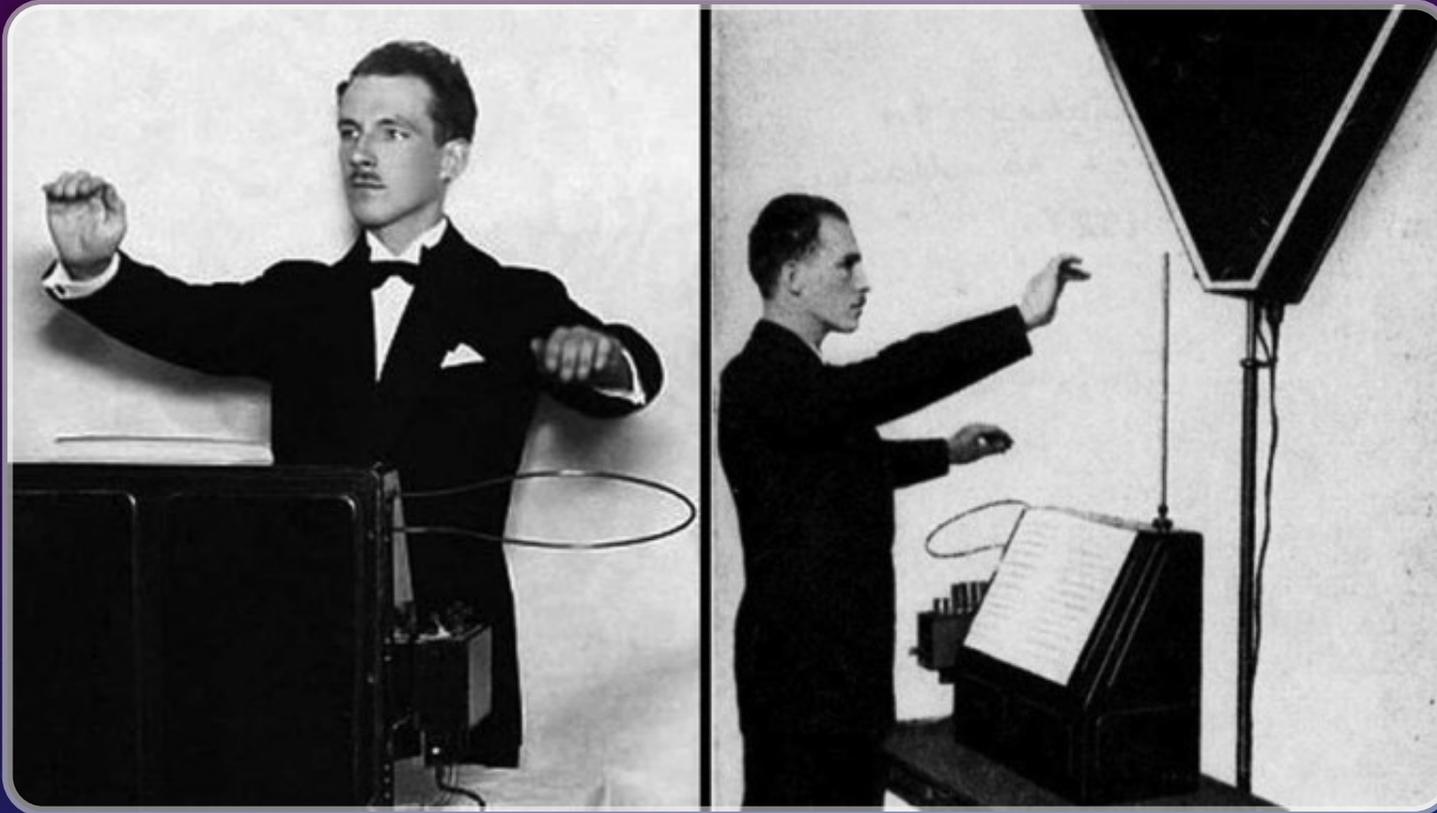




HISTORY

- 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

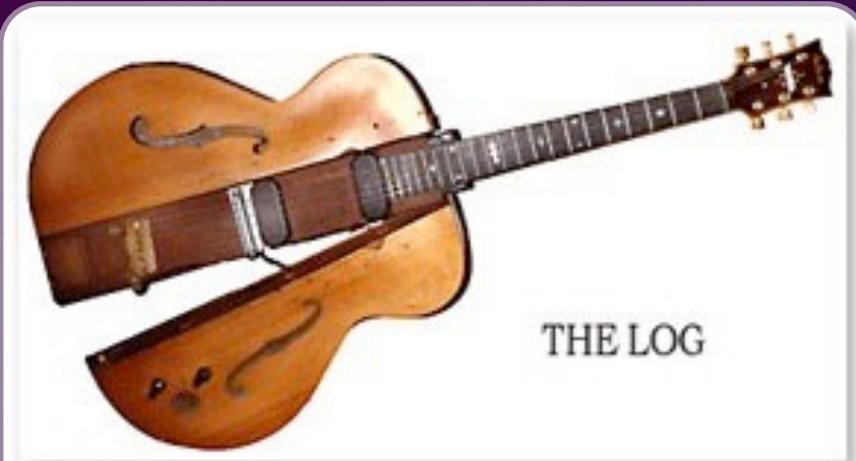


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MAGNETAPHON TAPE RECORDER

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

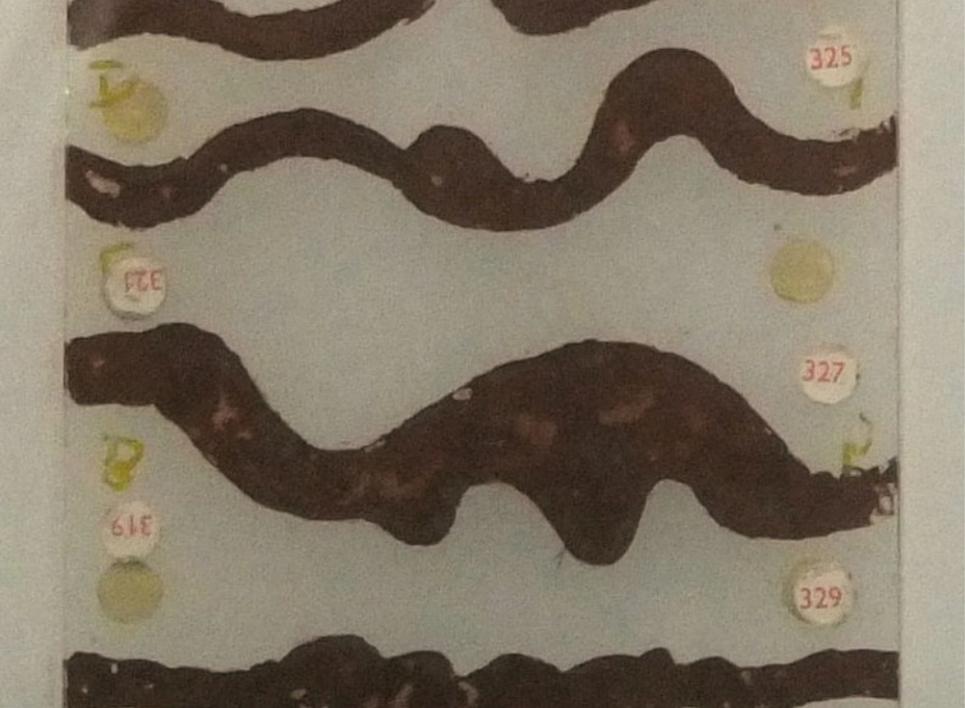
Looping → Replay of fragmented sounds

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 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.

Musical score for Tape (approximate notation) and Viola, measures 48-54. The tempo is marked "Andante con rubato molto" with a metronome marking of $\text{♩} = c. 48-54$. The score includes dynamic markings *mf* *lamentoso*, *pp*, and *mf*. The instruction "drammatico ed energico" is written above the Viola part.

2.

Musical score for Tape and Viola, measures 132-139. The tempo is marked "Molto più mosso (ma sempre con rubato)" with a metronome marking of $\text{♩} = 132$. The score includes dynamic markings *mf* and *mf con energia*.

3.

Musical score for Tape and Viola, measures 60-63. The tempo is marked "Andante" with a metronome marking of $\text{♩} = c. 60$. The score includes dynamic markings *p* and *pp*.

4.

Musical score for Tape and Viola, measures 160-167. The tempo is marked "Prestissimo" with a metronome marking of $\text{♩} = 160$. The score includes dynamic markings *p* and *pp*, and the instruction "sul G".

5.

Musical score for Tape and Viola, measures 48-54. The tempo is marked "Tempo di andante" with a metronome marking of $\text{♩} = c. 48$. The score includes dynamic markings *mf*, *p*, *dim.*, and *ppp*. The instruction "f" is written above the Viola part.

Handwritten musical score, page 4. The score is in 3/8 time and features a complex rhythmic pattern with many triplets and sixteenth notes. The dynamics range from *pp* to *mf*. The tempo is marked *mf (drammatico)*. There are several handwritten annotations, including circled notes and arrows pointing to specific measures. The page number "4" is in the top left corner.

Handwritten musical score, page 6. The score is in 3/8 time and features a complex rhythmic pattern with many triplets and sixteenth notes. The dynamics range from *pp* to *mf*. The tempo is marked *a tempo* and *poco meno*. There are several handwritten annotations, including circled notes and arrows pointing to specific measures. The page number "6" is in the top left corner.

Handwritten musical score, page 12. The score is in 3/8 time and features a complex rhythmic pattern with many triplets and sixteenth notes. The dynamics range from *pp* to *mf*. The tempo is marked *Andante* with a metronome marking of $\text{♩} = c. 60$. There are several handwritten annotations, including circled notes and arrows pointing to specific measures. 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:

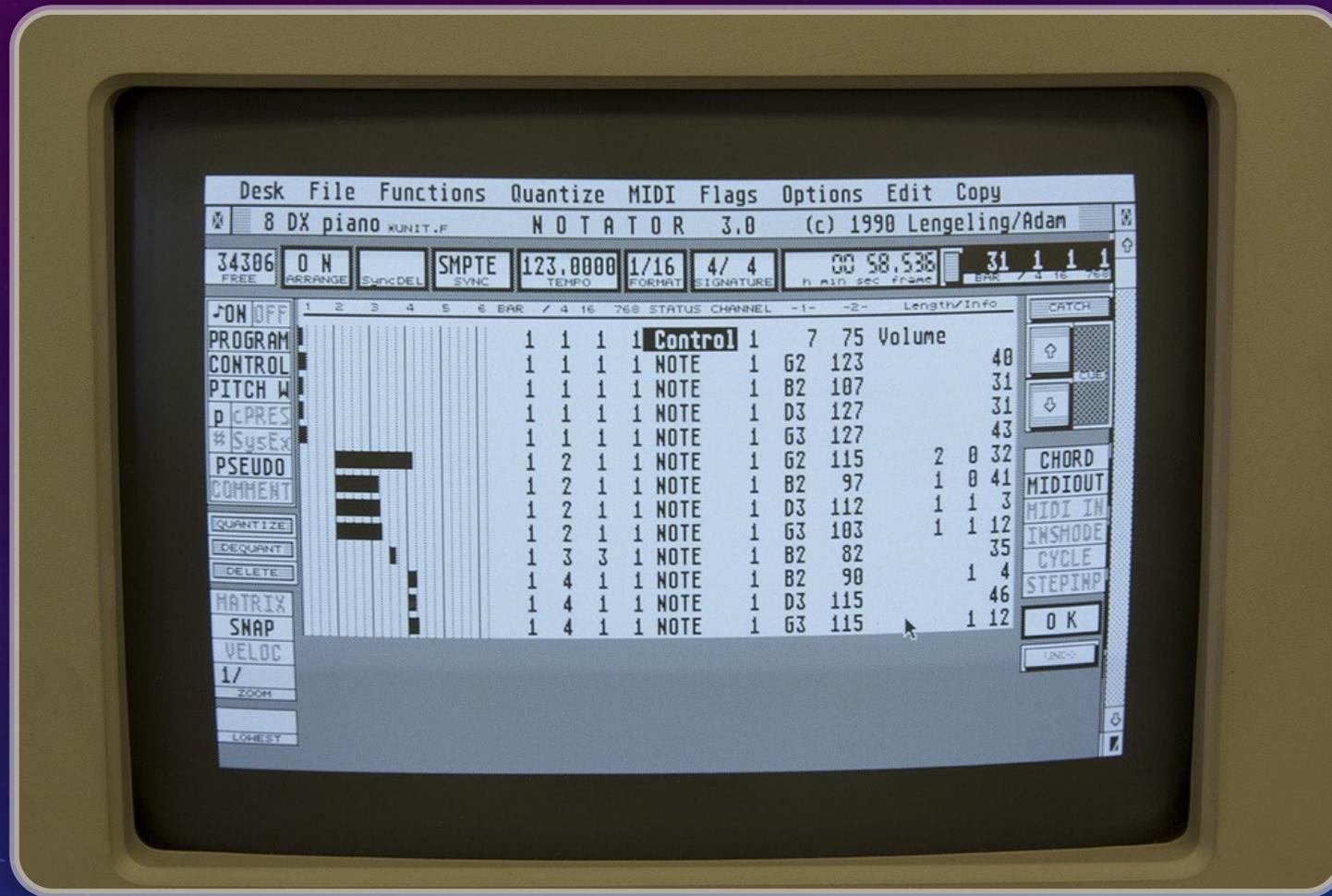
- the personal computer
- Digital music and the compact disc
- MIDI Protocol

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



AUTHENTIC COPY IF STAMP IS GREEN.

Handwritten musical score for Recorder, Violin, and Cello. The score is divided into two systems. The first system includes measures 10 and 11, and the second system includes measures 19, 20, 21, and 22. The Recorder part is in treble clef, Violin in treble clef, and Cello in bass clef. The tempo is marked $\text{♩} = 69$. The score features various time signatures: $\frac{2}{4}$, $\frac{3}{16}$, $\frac{2}{16}$, $\frac{3}{16}$, $\frac{2}{16}$, $\frac{2}{4}$, $\frac{3}{16}$, $\frac{2}{8}$, $\frac{3}{16}$, $\frac{2}{16}$, $\frac{3}{16}$, $\frac{2}{16}$, $\frac{4}{24}$, and $\frac{3}{24}$. Dynamics include f , mf , and mp . There are two boxed measure numbers: 10 and 20. Three purple arrows point to specific notes in the Recorder, Violin, and Cello parts.

NADIR

Score

CHRISTOS ANTILIS "NADIR", VIOLA

COMPOSER
FACSIMILE

AUTHENTIC COPY IF STAMP IS GREEN

Handwritten musical score for Viola Part of "Nadir" by Christos Antilis. The score is in 3/16 time and consists of six systems of staves. It includes various musical notations such as notes, rests, and dynamic markings. Several measures are circled in red: measure 24 in the second system, measures 24 and 24 in the third system, and measure 24 in the fourth system. The score also features tempo markings like "meno mosso" and "ritardando".

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

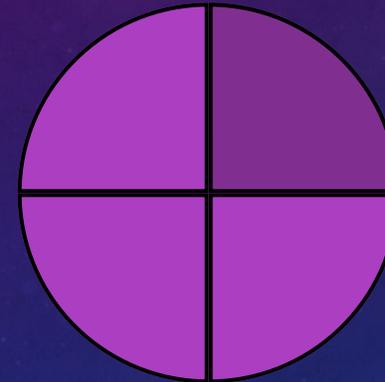
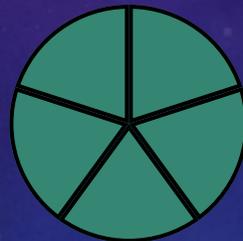
10 → Eighth quintuplets

12 → Eighth triplets

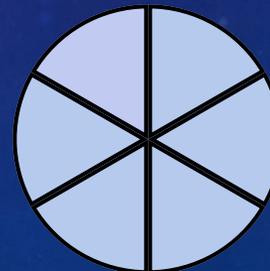
20 → Sixteenth quintuplets

24 → Sixteenth triplets

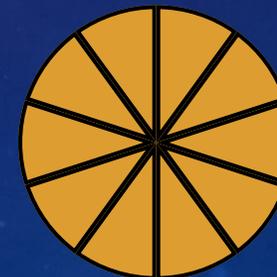
Denominator 5



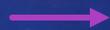
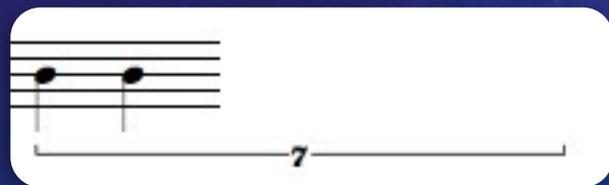
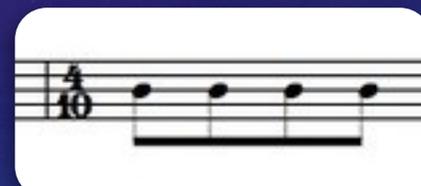
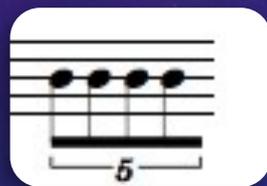
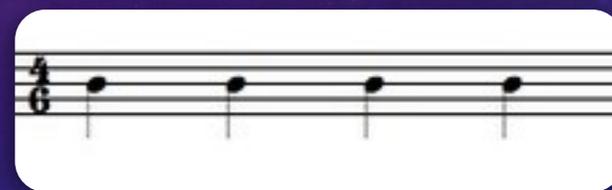
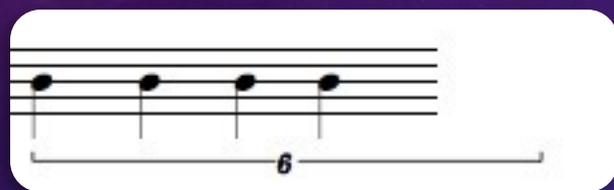
Denominator 6



Denominator 10



NON-DYADIC TIME SIGNATURES



String Quartet No. 2

Musical score for String Quartet No. 2, measures 115-128. The score is in 3/8 time and features a dynamic marking of *fff* (fortissimo). The tempo is marked as $\text{♩} = 160$ (overpowering) and $\text{♩} = 128$ (war-like). The score shows a complex rhythmic structure with various time signatures and a prominent use of triplets.

Nadir

Musical score for String Quartet No. 2, measures 129-140. The score is in 3/8 time and features a dynamic marking of *mp* (mezzo-piano). The tempo is marked as $\text{♩} = 100$ and $\text{♩} = 140$. The score shows a complex rhythmic structure with various time signatures and a prominent use of triplets. Red boxes highlight specific measures in both staves.

METRIC MODULATION

NON-DYADIC TIME SIGNATURES

The background is a dark blue gradient with a field of small white stars. Overlaid on this are several technical diagrams in a lighter blue color. On the right side, there is a large circular diagram with concentric circles and radial lines, resembling a scale or a dial, with numbers from 80 to 210. Below it is another circular diagram with dashed lines and arrows. On the left side, there are smaller circular diagrams, some with arrows indicating direction.

NADIR FOR FLUTE, VIOLA AND DIGITAL AUDIO (1988)

Christos Hatzis