

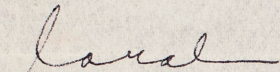
SAN DIEGO: DEPARTMENT OF MUSIC  
LA JOLLA, CALIFORNIA

August 11, 1970

LIZ MCGRAW  
University Library

Just a note to tell you we appreciate receiving copies of catalog cards on new recordings in the library. Pauline Oliveros is watching them closely this summer in preparation for her Electronic Music Survey course for winter quarter, so keep them coming!

Many thanks!



Carol Sazama  
x2093

Carol: Everything listed in the Schwann catalog in its section on "electronic music" has been ordered. Most of it has already arrived, and much of it has been catalogued. I feel sure that all will be on the shelf in plenty of time for Prof. Oliveros' class. Catalog card production will lag behind the processing of the records, so I won't be able to send you your copies of the cards until some time after the records are available. If this is inconvenient, I'm sure John Haak could assemble the recordings of Electronic music as they come to him so that they could be available. I'll get the cards to you as soon as possible. This move and vacations are slowing things up a bit.

Liz

- 1 Introduction - Natural Sounds - Primitive Environmental Instruments  
 Tibetan Music - Japanese - Shakuhachi  
 Beethoven - Battle of Wellington weekly Prof Quiz
- 2 Electronic Instruments - Theremin  
 Spellbound Concerto  
 Dark Shadows  
 Kay Kayser - Voice modifier Sonovox
- 3 John Cage  
 Amores
- 4 Pierre Schaeffer - Domain Musicale  
 Luc Ferrari
- 5 Stockhausen Radio Cologne  
 Orange das Jungen Liede
- 6 Milan Radio  
 Cage - Berio - Cathy Berberian  
 Fontana mix
- 7 Columbia Princeton  
 Ussachevsky - Davidovsky  
 Lanning
- 8 SFTMC  
 Sender Subotnick O.
- 9 Once Group  
 muma - Ashley  
 Sonic Arts Group  
 Lucier - Behrman
- 10 Tudor - Cage - Cunningham  
 Buchla - Moog - Arp  
 Illinois -  
 Brun - Hiller -  
 Stanford -  
 Computer  
 Chowning - Smith  
 UCSD Composers  
 Toronto  
 Japan - Poland  
 EXPO 70

Christian Wolff "New + Electronic Music"  
 Audience Vol II no 3  
 1958

make discography for each composer  
 " reference for each " "

Time each selection

- 1 {  
 Pousseur - Trois Visages de Liège<sup>(1961)</sup> (des Reihe 4 1958)  
 Stockhausen - Gesänge das Junge Lude<sup>(1956)</sup> (Perspectives of N.M. 1:19-20) Fall 1962  
 Berio - Homage a Joyce (1958) Momenti 1960  
 Boulez  
 hono - La Fabrica illuminata or Intolleranza<sup>1964</sup> 1960  
 Maderna - Hyperion 1964 Des Reihe IV 1958  
 musica su due dimensioni 1951

- 2  
 improvisations on magnetic tape  
 O. Sala - Trautonium Gravesamer Blätter 23/24:42, 1962  
 Battle of Wellington  
 Spellbound Concerto Theremin  
 Whales John Dinnwiddie Sonar Multiplexer Vortex  
 Gibbons PG 39 Source 6 hancarrow

- 3  
 Olivier Messiaen Le Carre Dripody  
 Pierre Henry [Article pg 38-42 by Roger Maren - Reporter Oct 6 - 1955]  
 Pierre Schaeffer Edgardo Canton - Voix Sonores 1966  
 Luc Ferrari Usage V 1959  
 Yannis Xenakis  
 Jean Baronnet + Francois Dufrene U 47 1960

- 4 {  
 Gyorgy Ligeti Artikulation (1958)  
 Mauricio Kagel Transición I (1957)  
 G.M. König Essay (1958)  
 Bo Nilsson Audio gramme (1958)  
 Herbert Eimert Selection I (1959)

- 5 {  
 Varese Poeme Electronique Deserts Verbal pg 83 Silence also Enchiron The Composer  
 Luening Gargoyles  
 Ussachevsky Incl Powell  
 Davidovsky Synchronisms

- 6  
 Subotnick - Wild Bull or Touch Don Erb  
 Sender Desert Ambulance Richard Mayfield  
 Allen Bryant - Pitchout  
 Mumma Mesa source 3 pg 51 The Dresden Sinterleaf Steve Reich  
 Ashley Wolfman + 4th - 6 July La Monte Young Terry Riley

7  
Jan 24 { Erickson  
Gaburo  
Reynolds  
Turetzky

E. Krenek - Ogdon  
Quintana  
Brandini  
G. Krenek  
Bachla Puci

8 { Strange Barron  
Buell Wong  
Walker Vooz  
McCarthy Baer  
Mizelle

9 { Martirano La GA or Underworld 1965  
Brin Futility 1964 Phil Winton  
Hiller Elect. Study #7 Peroration (U of S Tech report No. 6)  
Tenny

Source #3 pg 18

10 { Sonic Arts Group  
Lucier North American Time Capsule see elect. music review  
Behrman Source #3 pg 51-52 1928 Wave train + Run Through  
Cage Fontana mix 1958 11:39 Imaginary Landscapes #1 Variations II 1939  
Tudor Rain forest Solo for voice 2  
Bandoneon  
9 evenings

Jan 10 → Williams mix 1952 1ST TAPE PIECE MADE IN THIS COUNTRY  
"History of Experimental music in the US" pg 67-76  
SILENCE

Performance Criteria

control of  
pitch - time

Timbral

Technical

"Sound is primary"

Signal - noise Ratio

Frequency Response

Amplitude Response

Location

Col

M14938

Stranger To Your Ears

James Fassett

if scores are available see that library has them encourage performances of his works.

Translations of French + German record jackets

3 dubs of each piece | 1 random excerpt

Make discography and bibliography for each composer + year composed

Time each piece for listening list

Date

see that library has all.

### Outline for Music 114B - Survey of Electronic Music Literature

2 lecture hours - 1 discussion hour - 1 optional listening hour. Class members will be expected to identify by ear 4 different pieces each week. The test will be given at the beginning of the discussion hour.

All materials indicated below will be available in the library. Grades will be based on the listening tests, 2 papers and a final examination. One paper must discuss Electronic Music, <sup>materials,</sup> systems and techniques the other an in depth study of 1 composer <sup>or group</sup> selected from this outline. This paper must deal with the music of the composer <sup>or group</sup> specifically.

#### Historical antecedents - Environmental Sound - Electronic Musical Instruments

- Jan 3
- 1 Beethoven <sup>check library</sup> Wellington's Victory op 91 Switched on Bach
  - Coulan Hancock → Player Piano music Das Rheingold - Wagner
  - Lar Monte Young <sup>check library</sup> Spellbound Concerto 1 + Music from The Forbidden Planet <sup>check library</sup>
  - Whales Satie <sup>title?</sup> music for orch + typewriters
  - Gibbons - San Diego Zoo Collected by P. Olverson | Ballet + Mechanical Geo. Antheil
  - Hugh LaCaine Dripsody
  - References Sonar Multiplexus Source #6 pg 39 John Dinwiddie
  - A Bibliography of Electronic Music Lowell Cross
  - Electronic Musical Instruments Harvard Dictionary of Music - Apel
  - Electronic Music - Ibid
  - new and Electronic Music - Audience Vol II no 3 1958 Christian Wolff
  - What Electronic Music Is + How It Is Made - E. Krenek Exploring Music Pub - Oct. House

- Jan 10
- 2 John Cage - Edgard Varese - Yannis Xenakis
  - Cage - Williams Mix (1952) 1st Tape piece made in this country
  - Imaginary Landscapes #1 (1939)
  - Variations II David Tudor
  - Varese - Poeme Electronique
  - Xenakis - Orient - Occident
  - (References) Silence John Cage - Conn Wesleyan
  - History of Experimental Music in the U.S. pg 67-76

Scores for all Cage pieces

Varese by E. Erickson The Composer

Jan 17 3. Musique Concrete Groupe de Recherches musicales  
~~Domaine musicale~~ RTF

Pierre Henry - Voile de Orpheus

Pierre Schaeffer - ?

Luc Ferrari Visage II 1959 or Etude aux Sons Tendus

Jean Baronnet + Francois Dufrene U 47 1960

References - Article pg 38-42 by Roger Mason The Reporter Oct 6 1955

Jan 24 4 UCSD Composers and Performers

Robert Erickson

Roger Reynolds Traces

Kenneth Gaburo

Burt Tuzetzky

5 Columbia Princeton Electronic Music Center

Otto Luning - Gargoyles

Vladimir Ussachevsky - Piece for Tape Recorder 1955

Milton Babbitt - Ensembles for Synthesizer

Mario Davidovsky - Synchronisms

Radio Wlogne and Milan Studio

6 Henri Pousseur - Trois Visages de Liege 1961 (der Reihe 4 1958)

Karlheinz Stockhausen Gesänge des Jungelands 1956 (Perspective of M. 19-20 Fall 1962)

Luciano Berio - Momenti 1960

Bruno Maderna - Continuo (der Reihe 4 1958)

notes on a Piece for  
Tape Recorder - Problems  
of Modern Music  
edited by P. Lang



Radio Cologne

- 7 Gyorgy Ligeti - Artikulation 1958  
Mauricio Kagel - Transición I 1957  
G.M. König - Essay 1958  
Herbert Eimert - Selection I 1959

San Francisco T.M. Center and Once Group

- 8 Morton Subotnick - The Wild Bull or Touch  
Ramon Sender - Desert Ambulance 1964  
Gordon Mumma - Dresden Interleaf  
Robert Ashley - Wolfman

1.

University of Illinois

9. Sal Martirano La GA

Herbert Brown Futility  
Lejaren Hiller Electronic Study #7 Revocation (U. of I. Tech Report #6)  
James Tenney - ?

10. Sonic Arts Group. Musica Elettronica Viva

Alvin Lucier - North American Time Capsule  
David Behrman - Wave Train Source #3 pg 51-52 pg 28  
#4  
Allen Bryant - Pitch Out - Source Score + recording  
Terry Riley - Mescaline Mix  
Steve Reich - Violin Phase

~~Not sure if any of these are for sale~~

in  
file cat.

Otto Henry  
Jewell Cross  
Illinois } all articles collected for  
research library (as well as 114B)  
even foreign lang. & Eng. translations  
if available

- check current (Aug or Sept '70) BMI Journal  
for its Discography of Electronic Music

- new releases:

Xenakis - Electro-Acoustic Music

H 71246 Nonesuch

Raudal, Vercoe & Dodge - Computer Music

H 71245 Nonesuch

Stockhausen, Beethausen (Nonesuch)

- scores ~~for~~ by:

Messiaen

Milhaud

Honegger

Andre Jolivet

Calvin Hampton

} include electronic  
musical instruments  
(e.g. Ondes Martenot)  
available recordings?  
scores?

- scores &/or info available (?) for:

Hindemith

Joel

} 1930 concerts for variable  
speed phonographs

- films: ask Bill & Priscilla

Forbidden Planet - Louis & Belle Barron

No Exit - Ussachevsky

films by Norman McLaren

Mancipelli films - Ashley i/o Mumma

- Equatorial by Varèse

check score

2 Theremin circuits supposedly

- books to be bought by library:

~~see~~ see Pauline's list

I

Contract for grades

Syllabus put together by Lin

Listening period on Monday - Library listening

Student work

Whale songs

Environment with transmission medium not available usually (Sirens Sailors Sea)

Whale song in dome at Osaka

(Abstract expressionism like micro world) electronic the aural micro world.

Frequency Spectrum

Music as a muscle trip  
mechanical instruments

Trends - Natural sounds fan harmonicon Wellington

Electronically generated sounds

amplified sounds

Bio music & drones

Tape

Collage - Extramusical sounds - quotations

programmatic - Romantic

II

Friday

first quiz

on end week

(Monday)

1 week not count

(listening)

Wong

Barron

Buel

Voors

Knigle

Strange

Rittenbach

Liebig

Gamper

Dripsody

Golivet

1ST MVT.

Nancarrow entrance music

switched on Bach comparison - according to  
Stuckenschmidt "first reaction of listener to electronic music is one of  
puzzlement for he lacks point of comparison" - - - - - vocal & instrumental.

Tape technique of Dripsody

Electronic musical instrument Ondes Martenot

Synthesizer vs orchestra (ideal)

Automatons Nancarrow

Dimwiddey Sonar score

[Aesthetic problem]

"music conceived purely for the electronic sound generator and which for realization does not require, indeed excludes human interpreters." Stuckenschmidt pg 11 Der Reihe

Emmet opposed "composition + interpretation by association and reference."

"The aesthetics of electronic music stipulate elimination and selection of material. The new means of production are not to be misused; they are not to emulate ~~what~~ that which can be effected equally well or better by traditional means. So, the natural is abolished. Vocal and instrumental forms are eliminated, tonality, functional harmony, simple polyphony + symmetrical rhythms are suspended."

"Total control"

"Elimination of performers"

(Short meeting of T.A.s)

III

Nature of discussion groups  
you come prepared

Reading material  
Lectures

Ballet + Mecanique Geo. Antheil 1901-1959  
original title Message to Mars. 1925

Orson Wells and Radio show mass scare

3000 people "came to see, not to hear at Carnegie Hall  
unfortunate publicity. Mechanical dance literally  
Mechanism like to day fascination with electronics  
misleading associations.

first perf. Paris Salon 8 g. ps. recuss. xyls etc

Pg 185 "At the first chord of Ballet M, the roof nearly  
lifted ~~off~~ from the ceiling! A number of persons instantly  
fell over from the gigantic concussion! The remainder  
of our guests squirmed like sardines in a can.

Carnegie Hall 1927 pa. magg. increased no. of pianos  
sound of airplane prop. organ front.

Futurists

Publicity seekers smuggled in real airplane prop. which  
was supplemented by propeller sound machine.  
because prop could not be turned fast enough to cause  
around.

Tuning in to sustained states - Young - Drift Study  
modify time sense expansion  
opposite Antheil - MacCarrow

## Questions for Discussion

1. What characteristics enable you to aurally identify the listening assignments?
2. Mid term paper
3. Krenk - (Musique Concrète) as developed by the group in Paris - "these experiments have little in common with music as an art aiming at the organization of tones."

## IV

Cage Xenakis Varese

Jan 11 1971

Wong

Story of Clocks in Pieces of Eight

Faith in mechanical

Cage problem with exact tape cutting - (pg. 85 Silence)

lg 50 of syllabus mechanical

pg 51 Sounds coming into their own

Systems involving chance

I Ching

"where do we  
go from here"Towards Theater. "We have eyes as well as ears and it  
is our business while we are alive to use them."

Varese organized sound

1922

Xenakis - Mathematician - "computer generated random  
statistical patterns - bunches of unpredictable events  
sprayed over given field." (Saltzman) Studied with Messiaenmaterials with statistical properties  
density change

gradual transformation within a cloud of events

Stochastic music

Stochastic = of or pertaining to a process involving a  
randomly determined sequence of observations each of  
which is considered as a sample of one element from a  
probability distribution. Stochastic variation implies  
randomness as opposed to a fixed rule or relation in  
passing from one observation to the next in order.

## V

Jan 13

multiple tracks

Basic manipulations

Musique  
Concrete

{	Xenakis - Electro-acoustic Music
	Varese - Organized Sound
	Cage - Music for Magnetic Tape

Tape Speed change - mixing  
and splicing

6

Musique Concrete originated in France

Vocalise Henry Sound of voice singing ah.

In the future Musique Concrete will renounce the effects that arise fortuitously from the nature of the instruments and make less use of the devices which distort natural sounds.

1948 P. Schaeffer record grooves (concrete objects) ordinary music created abstractly + written in symbols.

Wobble 800  
Highly Magnified

sound objects (Varese connected by melody - Cage)

Systems without psychological impulse including homemade sound objects. Boulez serialized sound objects.)

Varese 1922 "What we want is an instrument that will give us a continuous sound at any pitch. The composer and the electrician will have to labor together to get it."  
(Feedback) tube available 1906 (audion)

Messiaen  
Boulez

Categories Electronic Music

generation - transformation - manipulation (manual) + automatic  
<sub>highly amplified</sub> <sub>5</sub> MONTAGE

Pure - sound objects of <sup>non</sup> electronic origin mixed media  
live<sup>3</sup> - environment. Computer generated

conventional instruments 70-80 pitch level, to 50 to 15k  
time + dynamics

Debussy "emanation of dissonance"

Bizoni "uninterrupted continuity" of musical material.

"Electronic music eliminates the performer" (no longer true)

## Discussion 1

Vocabulary of piece (Sound Sources)

Shape or Form

Foreground + Background

Rhythm

Imagery

Drama

Density

no. of events

⑦ Announce concerts Reynolds + Ruberman

Categories reviewed with additional environment

- 1 Tape music
- 2 Electronic music
- 3 Live electronic music
- 4 Mixed media
- 5 Computer
- 6 Electronic environment



calculation  
digital Babbitt <sup>1916</sup> - Pitch-tune org

Usoachewsky - Luening 1900 Tape music

Imagination  
analogue Davidovsky - 1934 electronic media mix instrumental  
integration

Columbia-Princeton Studio  
established 1959

Inevitable discrepancies  
in tune relationship  
live perf. + tape

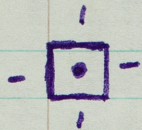
thus Synchronisms

notes on record jacket  
about pitch organization

Argument with Cage (+ his followers)

RCA Synthesizer pg 7 BMI Journal

Why not more effective on synthesizer?



Intro to Stock.

Backward Tape - Erickson

Don Crayton

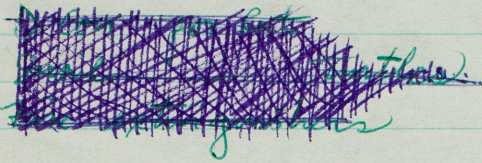
Extension of Varèse School

Totally determined music - serialism

Schoenberg - Stravinsky

Stockhausen - Cage

} turnabout



music, the word, is derived from the Greek μουσική  
It embraced all the Arts over which the 9 muses presided.  
It was concerned with development of the mind i.e. character  
building, as opposed to the body (gymnastics). Besides  
the singing & setting of Lyric Poetry it included mathematics  
astronomy, poetry, literature, reading & writing.  
Harmony - meant the art of arranging sounds for  
the purpose of creating a definite aesthetic impression.

"The Siamese use 2 scales of which not a single note within  
the octave can be accounted for by any known principle."

Pythagoras 6th c BC - Pythagorean system mistuned 3 + 6

En Br.  
Pg 74  
music.

"With harmony music assumes the existence of a  
kind of space in 3 dimensions, none of which can  
subsist without at least implying the others."

"Greek music represents an organization of the rise and  
fall of the voice, no doubt as elaborate & artistic as  
the organization of verse, no doubt powerful in height-  
ening the emotional & dramatic effect of words & actions,  
but in no way essential to the understanding or  
the organization of the works which it adorned."

Music 114B

A Survey of Electronic Music Literature  
Pauline Oliveros

2 lecture periods  
1 discussion period  
1 optional listening period

Class members will be expected to identify by ear, 4 different pieces each week on a test given each discussion hour. Grades will be based on the listening tests, 2 papers, and a final examination.

One paper must discuss electronic music materials, systems and techniques; the other paper will be an in depth study of one composer or group selected from the course content. (This paper must deal with the music of the composer or group specifically)

SYLLABUS-MUSIC 114B

X (2)

Week #1: Jan 4

Historical Antecedents-Environmental Sound-Electronic Musical Instruments

Beethoven-Wellington's Victory of '91  
Switched on Bach  
Conlan Nancarrow-Player Piano Music  
Wagner-Das Rheingold  
Spellbound Concerto  
Forbidden Planet sound track  
LaMonte Young  
whale songs  
Satie-Music for Orchestra and Typewriters  
(Oliveros)-San Diego Zoo gibbons  
Geo. Antheil-Ballet Mechanique  
Hugh LeCaine-Dripsody

Readings

Cross, Lowell, "Electronic Music: 1948-1953"  
Krenek, Ernst, "What Electronic Music Is and How It Is Made"  
Luening, Otto, "Unfinished History of Electronic Music"

Week #2: Jan 11

John Cage-Edgar Varese-Yannis Xenakis

Cage-Williams Mix (1952)  
Imaginary Landscapes #1 (1939)  
Variations II (David Tudor)  
Varese-Poeme Electronique  
Xenakis-Orient-Occident

Readings

Reynolds, Roger, "Interview with John Cage"  
Schuller, Gunther, "Conversation with Varese"  
Varese and Xenakis, "The Philips Pavilion"  
"Williams Mix," notes on Cage's score  
Cage, John, "History of Experimental Music in the U.S."  
pp 67-76 of Silence

Week #3: Jan 18

Musique Concrete-Groupe de Recherches Musicales-RTF

Pierre Henry-Tam Tam III  
Pierre Schaeffer-Le Voile d'Orphee  
Luc Ferrari-Etude aux sons tendus  
Jean Baronnet & Francois Dufrene-U 47 (1960)

Readings

Maren, Roger, The Reporter, pp 38-42

Week #4: Jan 25

UCSD Composers

Robert Erickson-9 1/2 for Henry (Wilbur & Oroville)  
Roger Reynolds-Ping  
Kenneth Gaburo-Lemon Drops  
Pauline Oliveros-I of IV

Readings

Bio-Bibliographies of each

Week #5: Feb 1

Columbia-Princeton Electronic Music Center

Otto Luening-Gargoyles  
Vladimir Ussachevsky-Piece for Tape Recorder (1955)  
Milton Babbitt-Ensembles for Synthesizer  
Mario Davidovsky-Synchronisms

Readings

Lang, "Notes on a Piece for Tape Recorder"  
Interview with Milton Babbitt

Week #6: Feb 8

Radio Cologne-Milan Studio

Henri Pousseur-Trois Visages de Liege (1961)  
Karlheinz Stockhausen-Gesang der Junglinge (1956)  
Luciano Berio-Momenti (1960)  
Bruno Maderna-Continuo

Readings (Week 6)

"Concept of Unity in Music," Perspectives of New Music, pp 19-20  
Pousseur, Henri, "Calculation & Imagination "

Week #7: Feb 15

Radio Cologne

Gyorgy Ligeti-Artikulation (1958)  
Mauricio Kagel-Transicion I (1957)  
G.M. Koenig-Essay (1958)  
Herbert Eimert-Selection I (1959)

Readings

Eimert, Herbert, "What is Electronic Music?"  
Ligeti, Gyorgy, "Three Aspects of New Music"

Week #8: Feb 22

San Francisco Tape Music Center-Once Group

Morton Subotnik-The Wild Bull  
Ramon Sender-Desert Ambulance (1964)  
Gordon Mumma-Dresden Interleaf  
Robert Ashley-Wolfman

Readings

Mumma, Gordon, letter to Charles Buel  
Sender, Ramon, "The S.F. Tape Music Center-A Report"  
Subotnik, Morton, "Extending the Stuff Music is Made Of"

Week #9: Feb 29

University of Illinois

Sal Martirano-L's GA  
Herbert Brun-Futility (1964)  
Lejaren Hiller-Electronic Study #7  
James Tenney-Ergodos

Readings

Hiller, Lejaren, "Electronic Music at the Univ of Illinois"

Week #10: March 1

Sonic Arts Group-Musica Electronica Viva

Alvin Lucier-North American Time Capsule (1967)  
David Behrman-Wave Train  
Allen Bryant-Pitch Out  
Terry Riley-Mescaline Mix  
Steve Reich-Violin Phase

Readings

Lucier, Alvin, "The Making of NATC"  
The Magic Theater, re: Riley  
Reich, Steve, letters to Pat Strange



CLUSTER I - RESERVE MATERIALS

Cage, John, A Year From Monday  
Silence  
Notations

Contemporary Newsletter (Music)

Cross, Lowell, Bibliography of Electronic Music

Cybernetics Serendipity, The Computer and the Arts

Gravesano Review

Harrison & Rimmer, European Musical Instruments

Lang, Problems of Modern Music

Lang & Brodar, Contemporary Music in Europe

LeCorbusier, Le Modulere I and Le Modulere II

Lefkoff, G., Computer Applications in Music

Lincoln, Henry, The Computer and Music

Madsen, C., Experimental Research in Music

Mathews, Max, Technology of Computer Music

Krenek, E., Exploring Music

Orcus Papers - articles on music

Source magazine, vols. 3, 4, 6

von Foerster, H., Music by Computers

Winternitz, Musical Instruments and Their Symbolism in Western Art

Xenakis, Y., Musiques Formelles

scores to compositions

## GENERAL REFERENCES

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- David, E.E., Jr., M.V. Mathews, and H.S. McDonald, "Experiments with Speech Using Digital Computer Simulation," Bell Telephone Technical Publications Monograph 3405.
- Deither, J., "Electronic Music from Japan," Musical America, 81 (6) 45, 1961.
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- Douglas, A., The Electronic Music Instrument Manual, 3rd edition, Sir Isaac Pitman and Sons, Ltd., London, 1957.
- Douglas, A., The Electrical Production of Music, MacDonald and Co., London, 1957.
- Dudley, H., "Remaking Speech, J. Acoustical Society of America, 2:165, 1939.
- Forte, A., "Review of Music Since Debussy: A View of Contemporary Music, by Andre Hodeir, translation by Noel Burch, Grove Press, Inc., New York, 1961," J. Music Theory, 5:144, 1961.
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- Fucks, W., "Musical Analysis by Mathematics, Random Sequences, Music and Accident," Gravesaner Blatter, 23/24:146, 1962.
- Fucks, W., "Mathematical Theory of Word Formation," in C. Cherry, ed., Information Theory, 3rd London Symposium, 1955, Butterworth Scientific Publications, 1955.
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JOHN CAGE: (Week #2)

Aria with Fontana Mix (1958) - Mainstream MS 5005;  
Time S 8003  
Fontana Mix (1958) - Turnabout TV 34046 S  
Fontana Mix-Feed - Columbia MS 7139; Mass Art M 133  
Cartridge Music (1960) - Mainstream MS 5015; Time S 8009  
HPSCHD (1969) - Nonesuch H 71224  
Indeterminacy - Folkways FT 3704  
Solos for Voice (1966) - Odyssey 32160156  
Variations II (1961) - Columbia MS 7051; Jornadas de  
Musica Experimental JME ME 1-2  
Variations IV (1965) - part I Everest 3132  
part II Everest 3230  
Williams Mix (1952) - Avakian JCS-1  
Atlas Eclipticalis (1957) - Deutsche Grammophon DGG 137009  
Winter Music & Cartridge Music (1957) - DGG 137009

EDGAR VARESE:

Deserts (1954) - Columbia MS 6362  
Poeme Electronique (1958) - Columbia MS 6146

YANNIS XENAKIS:

Analogique A + 3 - Philips (Eur) 835487 AY  
Concrete P.H. - same as above  
Diamorphoses - Boite a musique BAM LD 070  
Orient-Occident (1960) - Limelight LS 86047  
ST/10=1.080262 - Angel S 36656  
Polla ta Dhina (1962) - same as above  
Morisma-Asmorisma (1962) - Angel S 36650  
ST/4  
Nomos Alpha - Angel S 36650  
Eonta - Vanguard VCS 10030  
Electro-Acoustic Music - Nonesuch H 71246

PIERRE HENRY: (Week #3)

Apocalypse de Jean - Philips 837923/25  
Tam Tam III - same as above; DUC 8  
Batterie fugace - same as above  
Musique sans titre - Ducretet-Thomson DUC 8  
Cinq histoires etranges - same as above  
Musique et Modernite - Radiodiffusion-Television Francaise  
Entite - Limelight LS 86048  
La mariage de la feuille et du cliche - DR 30 SL  
La reine verte - Unidisc STE 30 3005; Limelight LS 86065  
L'Evangile selon St. Jean - Unidisc PM 30 Jn 01-07  
L'Evangile selon St. Luc - Unidisc PM 30 Lc 09-17

(Week #3)

L'Evangile selon St. Marc - Unidisc PM 30 Mc 27-33  
L'Evangile selon St. Matthew - Unidisc PM 30 Mt 19-25  
L'Homme du XXLe Siecle - Unidisc EX 33 145  
Le Martyre de Polycarpe et Ignace d'Antioche -  
Unidisc UD 25123  
L'occident est bleu - L'An 56 - Discolivre  
Ma faim et vous - Unidisc EX 33 195  
Malefices - Philips (Eur) 432762 BE  
Mass for Today (1955) - same as above; Limeligh 86065  
Orphe - Philips (Eur) 835484 LY  
Saint-Exupery - Unidisc UD 25 103 M  
Spatiodynamismes I & II - Edition du Griffon  
Tam Tam IV - DUC 9  
Astrologie - " "  
Antiphonie - " "  
Vocalises - " "  
Variations for a Door and a Sigh - Limelight LS 86059  
Le Voyage - same as above

PIERRE SCHAEFFER:

Etude aux animes - BAM LD070  
Etude aux allures - BAM LD 070  
Etude aux objets - Philips (Eur) 835487 AY  
Flute Mexicaine  
Etude aux torniquets  
Etude aux chemins de fer  
Etude pthetique - DUC 8  
Interlude (Phedre) - Groupe de Recherches Musicales de  
L'ORTF GRC 9071  
Les Paroles degelees  
L'oiseau RAI - Radiodiffusion-TV Francaise  
Objets lies - Candide CE 31025  
Le Voile d'Orphee- Suprphon DV 6221

PIERRE HENRY & PIERRE SCHAEFFER:

Bidule en Ut - DUC 8  
Symphonie pour un homme seul (1949-50) - DUC 9

LUC FERRARI:

Compose-Composite - Philips (Fr) 836894 DY  
Etude aux sons tendus (1959) - BAM LD 070  
Etude aux accidents (1959) - same as above  
Tautologos I - BAM 5072; Gravesaner Blatter EP ML 48  
Tautologos II - BAM LD 070  
Tete et queue de dragon - Candide 31025; Philips (Eur)  
835487 AY  
Visage V (1959) - Limelight LS 86047

FRANCOIS DUFRENE & JEAN BARONNET:

U 47 - Limelight LS 86047

GROUPE DE RECHERCHES MUSICALES:

Musique Concrete - BAM LD 070

ROBERT ERICKSON: (Week #4)

Ricercar a 3 - Ars Nova AN 1001 ACA

KENNETH GABURO:

Exit Music I: The Wasting of Lucrectzia - Nonesuch H-7199  
Exit Music II: Fat Millie's Lament - same as above  
Antiphony III: (Pearl White Moments) (1944) - same as above  
Antiphony IV: (Poised) (1969) - same as above  
Lemon Drops - Heliodor HS 25047  
For Harry - same as above

OTTO LUENING: (Week #5)

Gargoyles (1962) - Columbia MS 6566  
Synthesis for orchestra and electronic sound - CRI 219 USD  
Fantasia for organ - CRI 219 USD  
Lyric Scene - Desto DC 6466  
Fantasy in Space - same as above; Folkways FX 6160  
Prelude to Hymn Tune (1937) - Desto DC 6429  
Legend - Desto DC 6466  
Symphonic Fantasy (1924)  
Kentucky Rondo - CRI 103  
Two Symphonic Interludes - Desto DC 6429  
Low Speed  
Invention in Twelve Tones  
Moonflight - Desto DC 6466

VLADIMIR USSACHEVSKY:

Creation-Prologue - Columbia MS 6566  
Metamorphosis (1957) - Orpheus SN-3  
Linear Contrasts (1958) - same as above  
Improvisations #4711 (1958) - same as above  
Of Wood and Brass - CRI S-227  
Wireless Fantasy - CRI S-228 USD  
Piece for Tape Recorder (1955) - CRI 112  
Sonic Contours - Desto DC 6466; Folkways FX 6160  
Transposition - Folkways 6160  
Reverberation - " "  
Composition - " "  
Underwater Waltz - " "

OTTO LUENING & VLADIMIR USSACHEVSKY: (Week #5)

A Poem in Cycles and Bells - CRI 112  
Suite from King Lear - same as above  
Concerted Pieces - CRI (# unknown)

MILTON BABBITT:

Composition for Synthesizer (1964) - Columbia MS 6566  
Ensembles for Synthesizer - Columbia MS 7051  
Philomel (with John Hollander) - Acoustic Research Record  
All Set - Columbia C-2-S 831

MARIO DAVIDOVSKY:

Electronic Study #1 (1964) - Columbia MS 6566  
Study #2 (1962) - Orpheus SN-3  
Three Synchronisms for solo instruments and electronics  
(1963, 1964, 1965) - CRI SD-204

HENRI POUSSEUR: (Week #6)

Electre - Universal Edition UE 13500  
Jeu de Miroirs de Votre Faust - Wergo WER 60026  
Rimes pour differentes sources sonores - RCA Victrola  
VICS 1239  
Scambi (1958) - Limelight LS 86048  
Trois Visages de Liege (1961) - Columbia MS 7051

KARLHEINZ STOCKHAUSEN:

Gesang der Junglinge... (1956) - DGG 138811; DGG LP 16133  
or DGG 17243 LPE  
Hymnen (1968) - DGG 139421/2  
Kontakte - DGG 13881; Candide CE 31022  
Mikrophonie I (1964) - Columbia MS 7355  
Mikrophonie II (1965) - " " "  
Momente (1963) - Nonesuch H-71157  
Prozession (1967) - Candide CE 31001  
Solo fur Melodie-Instrument mit Ruckkopplung (1968) -  
DGG 137005  
Studie I (1951) - DGG 16133 or DGG 17243 LPE  
Studie II (1952) - DGG LPEM 19322; DGG LP 16133 or DGG  
17243 LPE  
Telemusik (1967) - DGG 137012  
Mixtur - DGG 137012  
Stockhoven/Beëthausen

LUCIANO BERIO:

Differences (1958-1960) - Mainstream MS 5004; Time S 8002  
Momenti (1960) - Limelight LS 86047

Mutazoni - RAI (Fonit)  
Perspectives - Compagnia generale del disco ESZ-3  
Visage (1961) - Turnabout TV 34046 S; Columbia OS-3320  
Rounds with Voice - Mainstream MS 5005  
Omaggio a Joyce - Turnabout 34177

BRUNO MADERNA:

Continuo (1958) - Limelight LS 86047  
Musica su due dimensioni (II) - ESZ-3  
Notturmo - RAI (Fonit)

GYORGY LIGETI: (Week #7)

Artikulation (1958) - Limelight 86048

MAURICIO KAGEL:

Phantasie for organ with obbligati - DGG 137003  
Transicion I (1958-1960) - Limelight LS 86048  
Transicion II (1958-1959) - Mainstream MS 5003; Time S 8001  
Music for Renaissance instruments - DGG 137006

G.M. KOENIG:

Klangfiguren II - DGG LP 16134; DGG 17243 LPE

HERBERT EIMERT:

Elektronische Musik (lecture)  
Variante einer Variationen von Anton Wevern  
Zu Ehren von Igor Stravinsky - Wergo WER 60006  
Epitaph fur Aikichi Kuboyama  
Sechs Studien - WER 60014  
Etude uber Tongenische  
Funf Stucke  
Glockenspiel - DGG LP 16132; DGG 17242 LPE  
Selection I (1959) - Limelight LS 86048

MORTON SUBOTNIK: (Week #8)

Electronic preludes, interludes to "2001" - Columbia MS 6167  
(1968)  
Silver Apples of the Moon - Nonesuch H-71174  
Touch - Columbia MS 7316  
The Wild Bull - Nonesuch H-71208

GORDON MUMMA:

Mesa (1966) - Odyssey 32160158  
Music from the Venezia Space Theater - Advance FGR-5

(Week #8)

Peasant Boy - ESP Disk 1009  
The Dresden Interleaf, 13 Feb 1945 - Jornadas de Musica  
Experimental JME ME 1-2

ROBERT ASHLEY:

Untitled Mixes - ESP Disk 1009  
Wolfman - ESP Disk 1009; Source I

SALVATORE MARTIRANO: (Week #9)

L's GA - Polydor 24-5001  
Underworld - Heliodor HS 25047

HERBERT BRUN:

Futility - Heliodor HS 25047  
Anapigraphe - Amadeo AVRS 5006  
Klange unterwegs - " "

LEJAREN HILLER:

Computer Cantata (w/ Robert Baker) - Heliodor HS 25053  
Machine Music - Heliodor HS 25047  
Peroration (Electronic Study #7) - JME ME 1-2  
Avalanche - Heliodor 2549006  
Suite for two pianos and tape - Heliodor 2549006  
Computer Music for tape and percussion - same as above

JAMES TENNEY:

Noise Study - Decca DL 79103

ALVIN LUCIER: (Week #10)

North American Time Capsule (1967) - Odyssey 32160156  
Berando1 Music  
Organ Music for David Tudor

DAVID BEHRMAN:

Wavetrain - Source I

ALLEN BRYANT:

Pitch Out - Source 2  
Live Electronic Music Improvised (MEV) - Mainstream 5002

TERRY RILEY:

A Rainbow in Curved Air - Columbia MS 7315  
Poppy No Good and the Phantom Band - Columbia MS 7315



(Week #10)

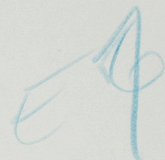
Reed Streams - Mass Art M-131

STEVE REICH:

Come Out (1966) - Odyssey 32160160  
It's Gonna Rain - Columbia MS 7265  
Violin Phase - Columbia MS 7265

COMPUTER MUSIC:

Computer Music (Randal, Vercoe, Dodge) - Nonesuch H 71245



Music 114B

A Survey of Electronic Music Literature  
Pauline Oliveros

- 2 lecture periods
- 1 discussion period
- 1 optional listening period

Class members will be expected to identify by ear, 4 different pieces each week on a test given each discussion hour. Grades will be based on the listening tests, 2 papers, and a final examination.

One paper must discuss electronic music materials, systems and techniques; the other paper will be an in depth study of one composer or group selected from the course content. (This paper must deal with the music of the composer or group specifically)

~~requirements. All materials  
beginning of each discussion period - on the listening  
pieces each week. The test will be given at the  
class members will be expected to identify by ear 4 different~~

~~2 lecture hours - 1 discussion hour - 1 optional listening hour~~

~~Music 114B -- Survey of Electronic Music Literature~~

SYLLABUS-MUSIC 114B

Week #1: Jan 4

Historical Antecedents-Environmental Sound-Electronic Musical  
Instruments

Beethoven-Wellington's Victory of '91  
Switched on Bach  
Conlan Nancarrow-Player Piano Music  
Wagner-Das Rheingold  
Spellbound Concerto  
Forbidden Planet sound track  
LaMonte Young  
whale songs  
Satie-Music for Orchestra and Typewriters  
(Oliveros)-San Diego Zoo gibbons  
Geo. Antheil-Ballet Mechanique  
Hugh LeCaine-Dripsody

Readings

Cross, Lowell, "Electronic Music: 1948-1953"  
Krenek, Ernst, "What Electronic Music Is and How It Is Made"  
Luening, Otto, "Unfinished History of Electronic Music"

Week #2: Jan 11

John Cage-Edgar Varese-Yannis Xenakis

Cage-Williams Mix (1952)  
Imaginary Landscapes #1 (1939)  
Variations II (David Tudor)  
Varese-Poeme Electronique  
Xenakis-Orient-Occident

Readings

Reynolds, Roger, "Interview with John Cage"  
Schuller, Gunther, "Conversation with Varese"  
Varese and Xenakis, "The Philips Pavilion"  
"Williams Mix," notes on Cage's score  
Cage, John, "History of Experimental Music in the U.S."  
pp 67-76 of Silence

Week #3: Jan 18

Musique Concrete-Groupe de Recherches Musicales-RTF

*Tape Tape III*  
Pierre Henry-Voile d'Orphee  
Pierre Schaeffer-Etude ~~aux chemins de fer~~  
Luc Ferrari-Etude aux sons tendus  
Jean Baronnet & Francois Dufrene-U 47 (1960)

Readings

Maren, Roger, The Reporter, pp 38-42

Week #4: Jan 25

UCSD Composers

Robert Erickson-9 1/2 for Henry (Wilbur & Oroville)  
Roger Reynolds-Ping  
Kenneth Gaburo-Lemon Drops  
Pauline Oliveros-I of IV

Readings

Bio-Bibliographies of each

Week #5: Feb 1

Columbia-Princeton Electronic Music Center

Otto Luening-Gargoyles  
Vladimir Ussachevsky-Piece for Tape Recorder (1955)  
Milton Babbitt-Ensembles for Synthesizer  
Mario Davidovsky-Synchronisms

Readings

Lang, "Notes on a Piece for Tape Recorder"  
Interview with Milton Babbitt

Week #6: Feb 8

Radio Cologne-Milan Studio

Henri Pousseur-Trois Visages de Liege (1961)  
Karlheinz Stockhausen-Gesänge das Jungelinde (1956)  
Luciano Berio-Momenti (1960) *der*  
Bruno Maderna-Continuo

Readings (Week 6)

"Concept of Unity in Music," Perspectives of New Music, pp 19-20  
Pousseur, Henri, "Calculation & Imagination "

Week #7: Feb 15

Radio Cologne

Gyorgy Ligeti-Artikulation (1958)  
Mauricio Kagel-Transicion I (1957)  
G.M. Koenig-Essay (1958)  
Herbert Eimert-Selection I (1959)

Readings

Eimert, Herbert, "What is Electronic Music?"  
Ligeti, Gyorgy, "Three Aspects of New Music"

Week #8: Feb 22

San Francisco Tape Music Center-Once Group

Morton Subotnik-The Wild Bull  
Ramon Sender-Desert Ambulance (1964)  
Gordon Mumma-Dresden Interleaf  
Robert Ashley-Wolfman

Readings

Mumma, Gordon, letter to Charles Buel  
Sender, Ramon, "The S.F. Tape Music Center-A Report"  
Subotnik, Morton, "Extending the Stuff Music is Made Of"

Week #9: Feb 29

University of Illinois

Sal Martirano-L's GA  
Herbert Brun-Futility (1964)  
Lejaren Hiller-Electronic Study #7  
James Tenney-Ergodos

Readings

Hiller, Lejaren, "Electronic Music at the Univ of Illinois"

Week #10: March 1

Sonic Arts Group-Musica Electronica Viva

Alvin Lucier-North American Time Capsule (1967)  
David Behrman-Wave Train  
Allen Bryant-Pitch Out  
Terry Riley-Mescaline Mix  
Steve Reich-Violin Phase

Readings

Lucier, Alvin, "The Making of NATC"  
The Magic Theater, re: Riley  
Reich, Steve, letters to Pat Strange

Pauline

SYLLABUS

Week #1: Jan. 4

Historical Antecedents-Environmental Sound-Electronic Musical Instruments

Beethoven-Wellington's Victory of '91  
Switched on Bach  
Conlan Nancarrow-Player Piano Music  
Wagner-Das Rheingold  
Spellbound Concerto  
Forbidden Planet sound track  
LaMonte Young  
whale songs  
Satie-Music for Orch & typewriters  
(Oliveros)-San Diego Zoo gibbons  
Geo. Antheil-Ballet Mechanique  
Hugh LeCaine-Dripsody

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*ELECTRONIC MUSIC 3 1948-1953 Lowell Cross  
UNFINISHED HISTORY OF ELECTRONIC MUSIC DTD LVENING*

John Dinwiddie, "Sonar Multiplexes," Source, #6, p. 39.  
Ernst Krenek, "What Electronic Music Is and How it is Made,"  
Exploring Music.  
C. Wolff, "New and Electronic Music," Audience, vol V, no. 3,  
1958.  
Willi Apel, "Electronic Music," and "Electronic Musical  
Instruments," Harvard Dictionary of Music.  
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Week #2: Jan 11

John Cage-Edgar Varese-Iannis Xenakis

Cage-Williams Mix (1952)  
Imaginary Landscapes #1 (1939)  
Variations II (David Tudor)  
Varese-Poeme Electronique  
Xenakis-Orient-Occident

References

(John Cage)  
Cage, John, "A Few Ideas About Music and Films," Film Music Notes,  
X, 3 (Jan-Feb 1951), 12. FilmCulture, 29 (Summer 1963), 35.  
" ", "For More New Sounds," Modern Music, XIX, 4 (May-June 1942),  
243.  
Four Musicians at Work, (Feldman, Boulez, Cage, Wolff),  
trans/formation, I, 3 (1952), 168.

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LP and jacket notes
- "Far-out at the Philharmonic: bangs and gurgles," Time,  
Feb 14, 1964, 79.
- Gross, C., "There's been nothing since the classics (?);  
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April 1964, 1.
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- LaRue, Jan, "Of mikes and men--John Cage again," Audio,  
XLVII, 11, (Nov 1963), 64.
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York Philharmonic Orchestra," Newsweek, Feb 17, 1964, 88.
- Steinem, G., "Music, music, music, music," Show, Jan 1964, 59.
- Tomkins, Calvin, "Profiles: John Cage-figure in an imaginary  
landscape," The New Yorker, XL, 41 (Nov 28, 1964), 64.
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Oct 1, 1964, 225.
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Electronique, Paris, Editions de Minuit, 1958.
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Electronic Poem," Arts and Architecture, LXXV, 11 (Nov 1958)  
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IX, 24 (jan 15, 1966), 2.
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- Schonberg, Harold, "Maverick, revolutionary and father to a  
generation," (obituary), The NY Times, Nov 14, 1965, sec 2, 11.
- Schuller, Gunther, "Conversation with Varese," Perspectives  
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- Wilkinson, Marc, "An introduction to the music of Edgar Varese,"  
Score, 19 (mar 1957), 5.
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(Iannis Xenakis)

Slonimsky, Nicolas, "New Music in Greece," Lang & Broder  
Contemp Music in Europe, p 225. Musical Quarterly, 1,  
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"Who is Yannis Xenakis?," Gravesano Review, 1962, 185/186.

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Bois, Mario, Iannis Xenakis, the man and his music, in lib.

Xenakis, Achorripsis in lib.

" , Orient-Occident ??

for Week 2:

also--pp67-76 of Hist of Experimental Music in the U.S. ??

Week #3: Jan 18

Pierre Henry-Voile d'Orphee - nothing in library on him  
Pierre Schaeffer *ETUDE AUX CHEMINS DE FER*  
Luc Ferrari-Visage V (1959) or Etude aux sons tendus  
Jean Baronnet & Francois Dufrene-U 47 (1960)

References

Maren, Roger, The Reporter, Oct 6, 1955, pp 38-42.

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(Pierre Schaeffer)

A la recherche d'une musique concrete, Paris, Editions du Seuil (1952)

Traite des objets musicaux, Paris, Editions du Seuil, 1966.

Week #4: Jan 25

Robert Erickson *9 1/2 FOR HENRY (AND WILBUR AND ORVILLE)*  
Roger Reynolds *PING*  
Kenneth Gaburo *LEMON DROPS*  
~~Bert Turetzky~~  
PAULINE OLIVEROS *I OF IV*

Week #5: Feb 1

Otto Luening-Gargoyles - no score  
Vladimir Ussachevsky-Piece for Tape Recorder (1955) -no score  
Milton Babbitt-Encsembles for Synthesizer - no score  
Mario Davidovsky-Synchronisms -no score

References

Lang, "Notes on A Piece for Tape Recorder," Problems of Modern Music

see following pages for references

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Baruch, Gerth-Wolfgang, "Was ist Musique concrete?," Melos, XX Jan 1953, 9.

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(Otto Luening & Vladimir Ussachevsky)

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Dec 15, 1955, 21.

(Vladimir Ussachevsky)

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rescues -electronic music recital," Variety, May 22, 1963, 56.

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(Milton Babbitt)

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3, 1964, 382.

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Musical Quart, 1, 1962, 93.

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(Columbia-Princeton Electronic Music Center)

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May 1959, 30.

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center," Revue Belge de Musicologie, XIII, 1-4 (1959), 129.

Week #6: Feb 8

Radio Cologne-Milan Studio

Henri Pousseur-Trois Visages de Liege (1961)  
K. Stockhausen-Gesänge des Jungelinde (1956)  
Luciano Berio-Momenti (1960)  
Bruno Maderna-Continuo

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(Karlheinz Stockhausen)

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Week #7: Feb 15

Radio Cologne

Gyorgy Ligeti-Artikulation (1958)  
Mauricio Kagel- Transicion I (1957)  
G.M. Konig-Essay (1958)  
Herbert Eimert-Selection I (1959)

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Week #8: Feb 22

San Francisco Tape Music Center-Once Group

Morton Subotnik-~~The Wild Bull~~ or Touch  
Ramon Sender-Desert Ambulance (1964)  
Gordon Mumma-Dresden Interleaf  
Robert Ashley-Wolfman

References

Source

Wolfman

ELECTRONIC MUSIC      SUBOTNIK  
REPORT                  RAMON SENDER  
LETTER TO BOEL      GORDON MUMMA

Week #9: Feb 29

University of Illinois

Sal Martirano-L's GA  
Herbert Brun-Futility  
Lejaren Hiller-Electronic Study #7  
James Tenney- ERGODOS ?

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Week #10: March 1

Sonic Arts Group - Musica Electronica Viva

Alvin Lucier-North American Time Capsule  
David Behrman-Wave Train  
Allen Bryant-Pitch Out  
Terry Riley-~~Mescaline Mix~~ RAINBOW IN CURVED AIR  
Steve Reich-Violin Phase

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