

Group Picture

Pauline Oliveira, Top Row
12th from left, MacGregor
Elementary School, Houston, Texas
1939

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Many Strands

From a Sound Journal

Sept. 29, 1972 Bob Brown brought a Javanese Gamelan from Cal Arts for our World Music Seminar. The music is gentle, caressing and floating. An opposite to the Balinese Gamelan which is strident and arousing. I listened and slowly sank into a delicious trance which is like light sleep, although the music is very much present in this altered state of awareness. When the piece ended, I "woke up" marvelously refreshed after the end of a long, hard day at the end of a long, hard first week of school.

Oct. 8 - Walking along the sidewalk at Cal State University L.A. recently, I heard a rustling. I saw some leaves whirled by the wind against the sidewalk. The sound continued as my ears and eyes traveled to a rustling fountain, the ultimate destination of the sound of the rustling leaves. Wind merged with water.
Unity through variety - variety through unity.

Elements: Similarity of the sounds (unity), the transient swirling of the leaves, the static nature of the fountain (variety), the direction of the moving sound (variety). How can unity dominate without destroying variety and vice versa? How can the two principles illuminate each other?

(Like two mirrors) held opposite, reflecting each other)

A MAN'S VOICE PIERCING
THROUGH THE AIR,
THE NORTHERN STARS ECHO
A BEATING FULLING BLOCK

BASHO: THE NARROW

(Philosophical reflection)

ROAD TO THE DEEP NORTH

HARDLY A HINT
OF THEIR EARLY DEATH,
CICADAS SINGING
IN THE TREES.

IBID.

Oct. 12. Everything has to do with music.

Elephant Ears!

Oct. 23 From the Tibetan Book of the Dead: Evans-Wentz
"Tibetan lamas, in chanting their rituals, employ seven (or eight) sorts of musical instruments: big drums, cymbals (commonly of brass) conch shells, bells (like the hand bells used in Christian Mass service), timbrels, small clarionets (sounding like Highland bag pipes), big trumpets, human thigh bone trumpets. Although the combined sounds of these instruments are far from being melodious, the lamas maintain that they psychically produce

in the devotee an attitude of deep veneration and faith, because they are the counter-parts of natural sounds which one's own body is heard producing when the fingers are put in the ears to shut out external sounds. Stopping the ears thus, there are heard, a thudding sound, like that of a big drum being beaten, a clashing sound, as of cymbals, a swooping sound as of a wind moving through a forest - as when a conch shell is blown; a ringing as of bells, a sharp tapping sound, as when a timbrel is used; a moaning sound, like that of a clarinet, a bass moaning sound, as if made with a big trumpet and a shriller sound as of a thigh bone trumpet.

Not only is this interesting as a theory of Tibetan music, but it gives a clue to the esoteric interpretation of the symbolical natural sounds of Truth which are said to proceed from or to be, the intellectual faculties within the human mentality."

Oct. 23 Visiting NMCE rehearsal this morning:
 (NEW MUSIC CHORAL ENSEMBLE, directed by Kenneth Gaburo
 as part of Project for Music Experiment) The entrance-
 vibrations - Identity search, role and game
 playing, not fitched but some yaw and maw.
 Clean up the space. Hey! Linda, you missed
 a lot of cigarette ashes over by my chair.
 It's time to begin. WHERE IS GABURO!?

Shall we begin something? (after all there are visitors present. Strangers too.) Milling around. I meditate. The annex resounds. Gaburo arrives. Atención.

The Threshold Exercise
What is the threshold of audibility? For whom?
Transmit at the threshold. Feed back. O.K.
I am sitting nicely, on the way to THETA. Head jerk. Am awake. Head jerk. How does our automatic gain control work?

THRESHOLD

THRESHOLD

THRESHOLD

SSSSSSS OMMMMMM LLLLLLLL - - - - -

The threshold changes with environmental inclusion/intrusion. Masking phenomenon. Damping factor, standing waves. Hey! cut through all that.

SOFTER S OFTER SSS OFTER S OF TER

How did I know the piece was over? How did they know? Second time it happened again. I knew because my eyes opened. They knew because they stopped.

You must become the receiver ~~to~~ in order to transmit at the threshold of audibility. You must become the transmitter in order to receive at the threshold

of audibility . you need Confucian commitment to
THE RULE.

Instruction Piece No. 2 for NMCE: Sit in a circle. Smoke. Make all thought or activity secondary to the act of smoking. Perceive the smoke and the act of smoking during the entire burning of the cigarette or cigarettes.

Oct. 24 Lester Ingber (Karate Master and Theoretical Physicist) pointed out yesterday morning, that in order to examine a minute lapse in attention, that the probe, attention, must focus to a smaller point than the lapse in attention. This is true because one needs a probe which is smaller than the area to be examined. If attention can be focused to the fine point necessary, then the smaller mass (fine focussed attention) is attracted to the larger mass. (Lapse in attention) instead of vice versa.

In order to take in a large area one must learn to defocus the eyes. Clarity of detail is sacrificed for the quantity or overall view. Defocussing also rests the eyes. What is the reaction time, I wonder, between focus and defocus? The range? From micro vision to macro vision? From external to internal? Can one observe the switching function from external to internal? How about defocussing the ears? How fine is the focus needed to comprehend intelligence or information? How

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to listen to music as a whole, time becoming space? This happens as an internal phenomenon. Mozart heard in a flash a whole composition. So do I when lucky. Then the hard work of "unraveling." Sometimes not so easy. (How to bypass blocks?)

In playing Stravinsky, one must exchange probes (time units) in order to perform the rhythms correctly. i.e. ♩ then ♩ or ♩, ♩ is the smallest unit. One must switch from feeling ♩'s to feeling ♩'s. What is the reaction time?

Oct. 27

Stuart Dempster's Concert: A new musician this time and I have known him for 15 years. He was always good. Could play anything. Two years ago he was excellent, an absorbing performer but today Dempster is in a new realm. It is easy to exclaim about dynamic range; it is wide and superb, facility is remarkable, accuracy near perfect, articulation incredible, all these things and more, but the total picture is inexplicable. Dempster is out of the way, long live the true Stu! I suspect that his devotion to the DIDJIDOO, an Australian meditation instrument played by the Aborigines, YOGA, Bates Eye exercises and Adele Davis' vitamin regimen is playing a large role in his transformation. Thank you Stu for a tremendous send off for us

at UCSD.

Nov. 3.

Tsun-yuen Lui in a recital for Pi Pa and Chin.
 We are indeed fortunate. The Buddhas carved on
 the ends of the tuning pegs of the Pi Pa were
 all four smiling. What a follow up to Dempster!
 Mr. Lui, I dreamed your concert over again
 last night. You were a magical figure in the
 dream as you were in reality. ~~The Chinese~~
 Cool: ~~the figure~~

The Chinese Cool:

The figure sits quietly, robed and relaxed, poetic
 jointed fingers. The music flows through the
 instrument, speaking subtly, passionately. It is
 pictorial, like calligraphy. Each sound, its own life,
 kaleidoscopic images. A broad pallette, scaled to
 a meditative range. Would that I could hear with
 your ears while you are playing. This music is
 as much for the player as the listener, a dynamic
 difference in projection between West and East.
 The listener must project into the music rather
 than vice versa as in the Western Court tradition.
 The amplification was necessary. What a pleasure
 it must be, to be able to hear at the scale of
 the dynamic range of the chin in an open environment.
 Have you heard a pin drop lately?

The Yaqui Indian Cool:

"How can I stop talking to myself?" "First of all you must use your ears to take some of the burden from your eyes. We have been using our eyes to judge the world since the time we were born. We talk to others and to ourselves mainly about what we see. A warrior is aware of that and listens to the world; he listens to the sounds of the world." Don Juan

Journey to Ixtlan: Carlos Castaneda

"Our normal waking consciousness, rational consciousness as we call it, is but one special type of consciousness, whilst all about it, parted from it by the filmiest of screens, there lie potential forms of consciousness entirely different." William James.

Nov. 10. Freedom of motion is a primary need.

Marjorie Barston from Lincoln, Nebraska.

She was an assistant to F.M. Alexander (The Resurrection of the Body), famous during the 20's for Alexander technique; exercises for realigning the body to its natural position.

Ms. Barston's message was very simple: "Freedom of motion is the nearest we get to relaxation." She worked with our students, easing the head away from the body saying "lead with the head easing upward, the body will follow."

Her hands are magical heaters. I felt them on my neck for hours afterward. "What are you doing which you don't need to do? A fixator which is immobile (your body's playing position) will tend to do that to your music." As she moved people's heads and stretched their arms while they were playing, dramatic changes occurred in tone quality for the better. "You need, not a position but a relationship."

Dec. 9 Dr. Manfred Clynes has been here the past two weeks ^{under the auspices of Project for music experiment.} He has a book forthcoming on Bio-medical Engineering (concerning the measurement of emotion) which is not to be missed. He is a marvelous musician, as well as physiologist, at Rockland Hospital. Besides explaining his Sentic Cycles, a training method for the direct expression and measurement of emotion, he has been provoking us with statements like: "The last quartets of Beethoven are psychedelic; intended to trigger internal states rather than outward physical responses. Beethoven was interested in Eastern Philosophy during the third period." (Clynes also has visited Goethe's house in Germany which is fainted according to Goethe's theory of colours. Goethe was a man who lived according to his theories.)

Dec. 20 On the way to Berkeley. Looking forward to meeting with composer Anna Lockwood, face to face after several years of correspondence.

Dec. 24 Anna Lockwood has several pianos, including a grand, planted just so in her garden at Gatehouse Cottage, Essex, Ingatestone, England. They have been there for a year and a half. One is planted so a tree, as it grows through it, will eventually carry the piano up into the air. At intervals, Anna goes to the garden and records the same passage on each piano. They are being tuned by the elements. They still play. (How will she eventually reach that piano in the tree? An up in the air cadence?)

Anna is also collecting a river archive. She is receiving recordings of different rivers of the world from friends and cooperative people from everywhere. She intends to play this collection in sequence when she has enough. Send her a river. (For best results make a long recording, close miked)

Anna is a very special woman. It was like meeting a long lost sister.

Feb. 9 Vivian Fine appeared and was truly fine. She teaches at Bennington College, Vermont. Beside composing she is a terrific pianist. Her own music rings with authenticity (CMI Recordings) She was a pupil of

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Ruth Crawford Seeger (a remarkable composer who died too young), thus unlike most of us females, had a model and never considered herself ^{consciously or unconsciously} unnatural_m for writing music. Her composition comes out of the tradition of Cowell and Sves. She delivers that music extremely well as a pianist. She related her experience of the 30's and reminded us that there were not many composers around in those days. Then, they all knew each other. She mentioned the "Boulangerie" and how Ruth Crawford was a member of the early Avant Guard. Significant that there was at least one woman in that early group and that Nadia Boulanger, a woman, influenced so many of the American composers.

Feb. 10 Pandit Pran Nath with his disciple, Terry Riley, floating dreamily around the campus.

North Indian singing, very high spiritual discipline. Students in his seminar received a gift of inestimable value.

Project for Music Experiment (better known at UCSD as PME), funded by Rockefeller, directed by Rogers Reynolds, participants manifold.

Image: PME building (an ex-Marine Barrack bowling alley) floating gently skyward, vibrating madly while below Roger at his desk pedaling frantically to keep the whole thing aloft. Underneath the desk.

Karen Reynolds pedaling more frantically to keep Roger afloat.

PME staff, fellows and researchers have doubled the input at UCSD. By the ~~end~~ of second week of fall quarter the activity was at the level of the Spring peak last year. Tim and I wondered if we would collapse at the end of the first month. (Flash: illness was rampant during January-February including yours truly.)

Some of the activities: ^{Ken Gaburo's} NMCE IV, Seven members ~~and~~ rehearse daily, sensing, moving, vocalizing exploring linguistics musically. Researcher Arne Z¹⁰agl¹²off, Mime from Canada, offering seminar in choral movement.

^{To Tugboat}
INSERT PME Printed Brochures here on Computer Conference and on Psychoacoustics and perception.
etc.

Feb. 10 My affair with Beethoven continues. First I see him in drag on the cover of the February issue of Hi Fidelity magazine. Humph!, the editors are off as usual, everyone knows by now that he was really a Lesbian.

But to top it off, in December, I visited my former horn teacher Earl Saxton. As I approached his house, I heard a familiar tune but a very startling timbre to say the least: fascinated, I tried to comprehend this strangely beautiful version of the second movement of the Pathétique Sonata. Inside, Earl solved the mystery for me: 400 horns at some horn players convention wailing away on this arrangement. He promised me a dub of the tape too! What a sound! 400 horns. What ambience.

What sound is most familiar to you?

Lester Ingber - Karate Master - "Something like, Buhhh --, an internal sound I listen to during meditation."

Max Matthews - Bell Labs - "I guess --, the violin. No, the human voice may be much more familiar."

Debra Gentner - Psychology - "Some one's voice I guess."

Jean Charles Francois - Frenchman "My own talking"

Chris Wells - Computer Science - "The song I sing to myself when I'm just day dreaming."

- Vladimir Vozz - Composer - " My breathing "
- Alan Johnson Administrative Asst. " My smoking "
- Heidi Von Gunden - Composer " My name "
- Steve Gerber - Composer " My son talking "
- Barbara Alvarez - Herself " KABC "
- James Campbell - Professor " A pure 3rd, 5:4 ratio.
I can pick that out in an instant. "
- Louise Wiggins - Secretary " Probably my daughter's voice. "
- Bonnie Barnett - Associate " The sound of my blood
flowing through my veins. Whom! whom! whom! "
- Srene Solomon - Secretary " The telephone ringing. "
- Warren Bust - Composer - " Frequency modulation. "
- Charlie White Composer ^{PME} " The sound of my car. "
- hed Sublette - Composer " A high frequency ~~sound~~ tone which
is the hum of my nervous system. "
- Srene Jackson - Student of Culture " Me. "
- John Krjell - Composer - " The sound of my mind
working. "
- Larry Livingston - Clarinet " Inside drumming "
- Edwin Gordon - famous muse - " My own voice, I guess. "
- Elinor Barron - Teucadain " ooh, you can't ask me
that! "
- Alvin Lucier - The only talking machine of its kind - " My
speech. "
- Ed Kobrin - Computer ² PME " It's actually a long story.
The lady upstairs flushing the toilet. It sounds
like Mt. Vesuvius erupting " P.O. " Have
you been to Mt. Vesuvius? " " No, but I have
a concept in of what it sounds like! "

- Ron Robby Cellist - "Strangely enough it's probably auto-mobiles."
- Lon Brun - Bassoon PME "The sound of the ocean, I guess."
- Fred Mayer - Composer - "I can't answer! I don't know!"
"The sound of my ~~steel~~ steel drums."
- Tai Hsiang Yi - Violin PME "Every sound"
^{Composer and}
- Al Mercari - Guitar "All the sounds"
- Gary Yoder - PME "My own voice and birds."
- Mel Warner - Clarinet PME "I can't think of a sound that's most familiar to me!!"
- Linda Vickerman - Singer - PME "A sound I hear in the air, the movement of air I hear when I'm not distracted."
- Susan Palmer - Composer "The sound of my breathing and other general body hum drum sounds."
- Phil Larson - Switzer PME "The opening of beer cans"
- Jack Leung - Composer "Thank you."
- Jack Pasless - Same. "The toilet flushing"
- Howard Crook - The Star - PME "A bird in the morning."

From Music and Your Emotions: Twilight: "What could be more unique or more individual than what one person says he experiences? This is what is meant by subjectivity. This is the same error the scientist refers to as 'the error of subjectivity'."

possible
"It does not require much study to see the ~~possible~~ error that may be committed in the complete acceptance of one person's experience"

as typical of other person's experiences "

" Individuals differ in the way they experience the world around them. They have no control over these discrepancies, which are basically involuntary."

Vis a Vis Heisenberg's principle:

" If we cannot accept with certitude any single person's observation of a relatively simple and objective phenomenon, because he is likely to be at variance with some other observer, what shall we make of the tremendous variability which meets us when we examine many person's observations of the way in which they react to music or even to a simple tone? "

MATERIALS EFFECTS LISTENERS OBJECTIVES

" Pythagoras was of the opinion that music contributes greatly to the health if used in an appropriate manner."

What Music ???!

The trouble with music therapy, the field, is ~~that~~ the assumption that music is something existing outside the individual and was created (not is) by elite individuals to be imposed on persons as empty receptacles. The ultimate therapy would

be to reconnect the individual with his/her own music well springs. Draw the music out. Value his/her sounds. Especially the ones lost or subjugated as a result of ~~of~~ language.

" God made a statue of clay in his own image, and asked the soul to enter into it; but the soul refused to be imprisoned, for its nature is to fly about freely and not to be ~~imprisoned~~ limited or bound to any sort of capacity. The soul did not wish in the least to enter this prison. Then God asked the angels to play their music, and as the angels played the soul was moved to ecstasy, and through that ecstasy, in order to make the music more clear to itself, it entered this body. And it is told that Hafiz said, 'People say that the soul, on hearing that song, entered the body, but in reality the soul itself was song' "

Hafiz, Sufi Poet of Persia.

PME Concert 1

10 February 1973

Music of the Sixties. The pieces all seemed short. Yuji Takahashi playing piano fiendishly. Evita (1963) has fiendish piano part. Edwin London conducting the strolling brass. Lond.

Difficult. Moving. An assigned ordering, engaging the players in concentration to a point. With my eyes closed, the movement of the brass was a subtle nuance. The space reflecting faithfully, cancelling (from my position) any high contrast in the sounds from the varying positions of the instruments. Yuzi with taped fingers to support his Olympian playing. My eyes slowly open to witness the cadence. (How did my eyes know?) Early death.

"Eonta is a kind of homage to Parmenides"
Jannis Xenakis

Music for Solo Performer (1965) Alvin Lucier
Elmer Barron - Alpha source. As John Mizelle simply and carefully applied the electrodes to Mrs. Barron's head, the audience became unusually quiet and attentive. Since the procedure is unfamiliar at a concert, expectancy is replaced by fascination. This is a theatrical constant in the previous performances that I witnessed in the sixties, with Lucier performing. The drama intensified, the lights were low and Murphy's law went into effect. (If anything can go wrong it will.)

Director Reynolds "As you know this is the Project for Music Experiment and sometimes experiments fail. Bear with us and we will find the problem." More drama as 4 technicians fume, fume and pore over the recalcitrant equipment. (The problem was not in the equipment, but

existed as a result of an inadvertent act. Some
 one plugged something else into a critical circuit
 unknowingly causing harm. A common realization
 of Murphy's Law which complements
 Erickson's Law "The damn thing doesn't work!"
 The audience waits, rains beat beautifully and
 furiously on the roof. Ms. Barron never
 abandons her meditative state, calm
 awareness, in order to generate Alpha, a
 brain wave of 7 to 13 Hz. Alpha is a correlate
 of receptivity. The skill of the performer lies
 in the ability to keep generating Alpha bursts
 and to increase the amplitude of the bursts.
 (Yogi's can generate continuous Alpha after
 years of autogenic training.) This skill is in
 inverse proportion to manipulation and usually
 vanishes with ~~regular~~ visualization. When the
 piece began again, Ms. Barron had maintained
 her cool and one could hear the result of her
 Alpha which caused speakers to resonate in-
 struments such as drums, cymbals etc. Un-
 fortunately, after all was working the technician
 stopped the piece too soon. He had obviously not
 remained calm and aware but had lapsed into
 Beta, a higher frequency correlate of judgmental
 activity. Early death.

"From the beginning, I was determined to make a live
 performance work despite the delicate uncertainty of
 the equipment, difficult to handle either under

controlled laboratory conditions. I realized the value of the EEG situation as a theater element and knew from experience that live sounds are more interesting than taped ones. I was also touched by the image of the immobile if not paralyzed human being who, by merely changing states of visual attention, can activate a large configuration of ^{communication} equipment with what appears to be power from a spiritual realm. I found the Alpha's quiet thunder extremely beautiful and instead of spoiling it by processing, chose to use it as an active force in the same way one uses the power of a river."

Kevin Lucier

In Memoriam - Esteban Gomez (quartet) 1964
 Trumpet - Ed Haskins, Trombone, John Wiggello, Clarinet
 Melvin Warner, Baritone, Phil Larson.

"Esteban Gomez is concerned with very subtle and gradual deviations from a 'reference sonority', within which the individual instruments are not distinguishable" Robt. Ashley

Beauty died an early death. Why not a whole evening or long sleeping bags and provisions. Camp with it for 3 days. We all deprive ourselves. Do you remember how long your attention span was as a child?

"For the listener as well as for the performer everything depends on attentiveness, on experiencing the subtle shifts between unanimity and dissent"

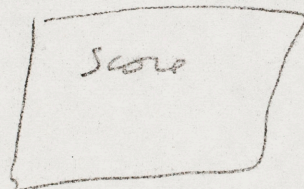
Robt. Ashley

Have you forgotten that attention is not a matter of reduction? Have you so little that you pay it rather than give it?

String Quartet No. 2 (1963-64) Michael Von Biel
 Jim Stark, Tai Hsuing Li, Violins, Ed Kobrin, Viola
 Elinor Barron, Cello.

Complex spectra. Busy. Players tensely engaged.

TYPIST
 Insert score
 from program



"The piece is involved with the maximum articulation and stirring up of the given materials under a certain local performance situation." m. von Biel. The local performance condition in this case involved low level amplification in order to distribute the materials more clearly throughout the space. The complexity of the sound gamut is characteristic of the Sixties and interpreted often by virgin ears as loud. It is complex but not loud. Loudness is illusory when the ear is attempting to analyze and integrate a wide band sound. Fine performance. Seven minutes. Early death.

Bridges I (1968) Yuji Takahashi
 Electric Keyboard Yuji Takahashi, Amplified
 Cello drone Elvior Barron.

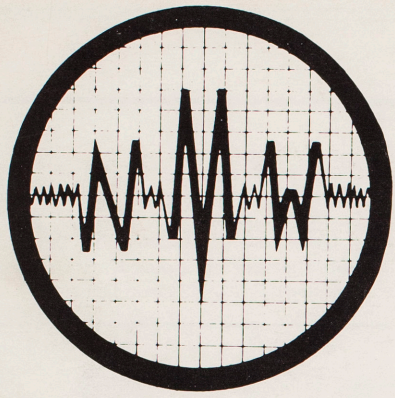
Insert Bridge of Königsberg diagram (next to Takahashi's picture
 in program) here please.

The electronic sound had a watery flow and never changed its timbral character. Thus one's attention could flow with the sound as it moved in detail dynamically and in location. The amplified cello drone with microtonal changes inserted timbral relief. As I sank further under, it all stopped too soon! early death.

"Bridges I deals with melodic intervals. There are 15 pitches and several rules of transitions. Pitches are thought of as landmarks. Intervals are streets which determine your travel from one to another. This is also the basic image of the Persian Dastgah system. Their seven modes are named after ancient cities, and music is metaphorical travel among them. In mathematics, the theory of graphs deals with similar situations. The initiator of this theory, Leonhard Euler, arrived at the idea in solving the problem of the seven bridges of Königsberg (Kaliningrad). Euler concluded that it is impossible to find a path crossing

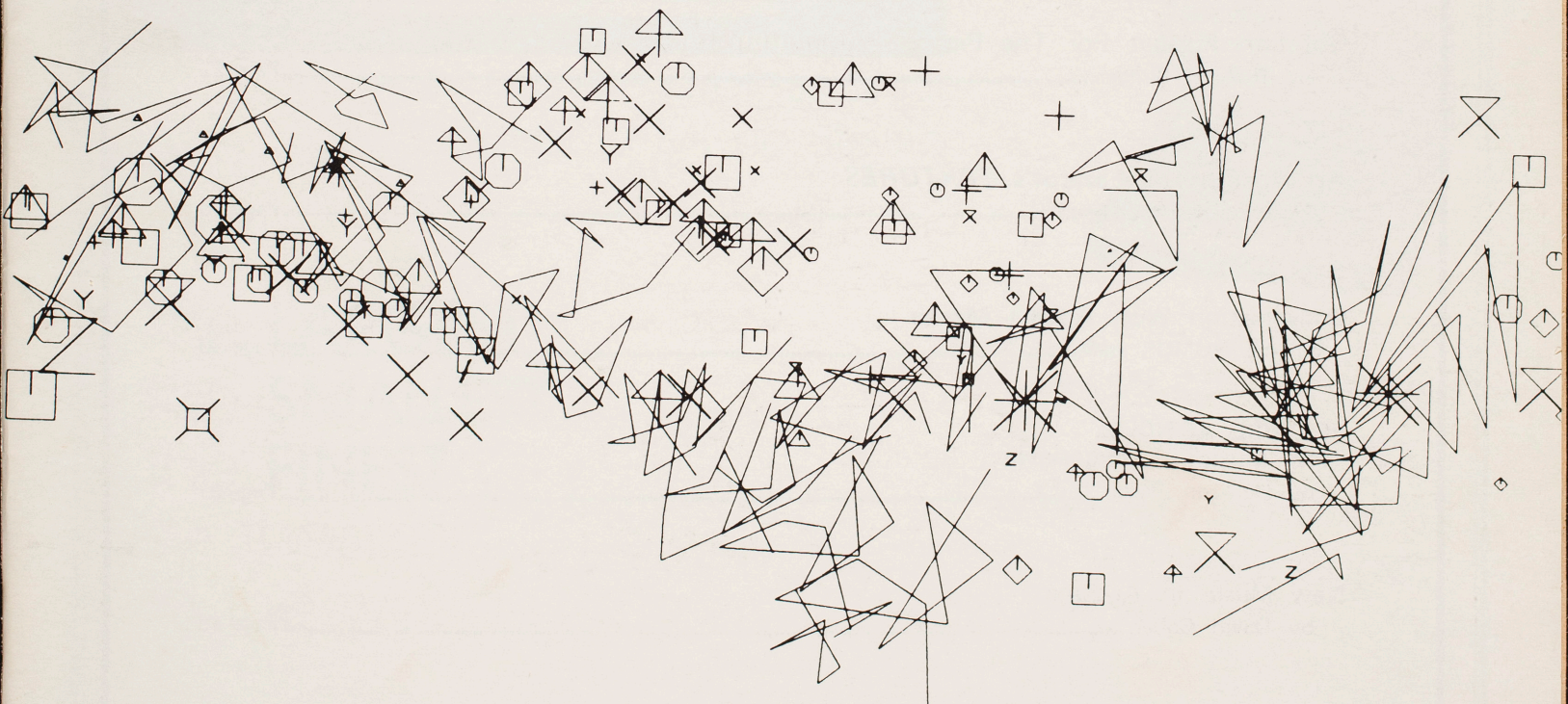
each of these seven bridges once and only once. To prove this, however, it was necessary for him to develop what later became the theory of graphs. It is this theory that I have applied to the construction of sequences of pitches. The scope of its possible application is not limited to any particular system, temperamental, tonal or modal, however, the same theory could equally well be applied to timbres, sound sources in space - to any collection of modes and connecting paths. Such an abstraction seems to derive its power from mechanisms already implanted in our brains." Yuji Takahashi

MUSIC OF THE SIXTIES . EARLY DEATH



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feature:



valen

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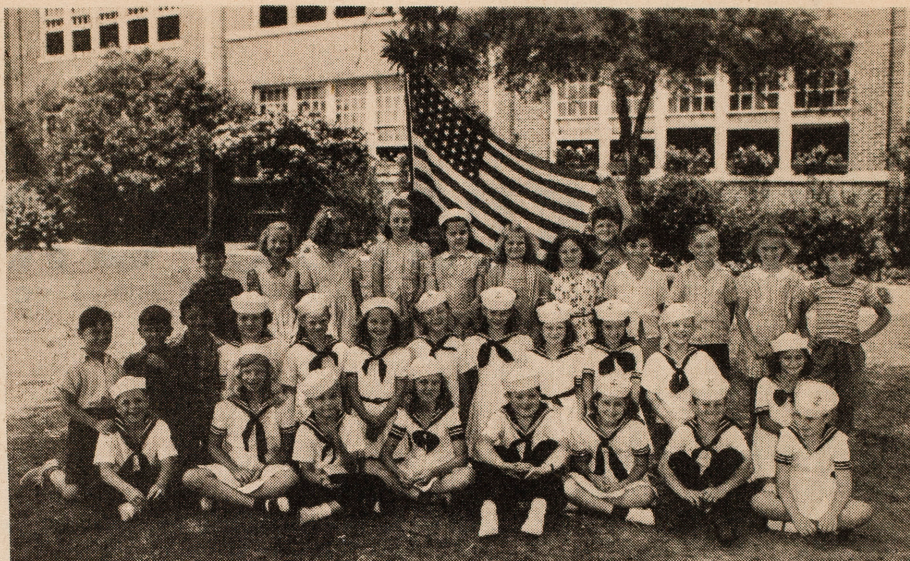
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Front Cover: *MUTATIS MUTANDIS* (Composition No. 12 for Interpreters) by Herbert Brun.
Ink graphic drawn by a plotter under control of a computer programmed by the composer.

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Write to Pauline Oliveros, Music Dept.,
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92037, for a resumé, if you are
interested.



Pauline Oliveros, top row, 12th from left, MacGregor Elementary School, Houston, Texas, 1939.

Many Strands

by Pauline Oliveros

From a Sound Journal

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Oct. 8: Walking along the sidewalk at Cal State University, L. A., recently, I heard a rustling. I saw some leaves whirled by the wind against the sidewalk. The sound continued as my ears and eyes traveled to a rustling fountain, the ultimate destination of the sound of the rustling leaves. Wind merged with water.

Unity through variety—variety through unity.

Elements: Similarity of the sounds (unity), the transient swirling of the

leaves, the static nature of the fountain (variety), the direction of the moving sound (variety). How can unity dominate without destroying variety and *vice versa*? How can the two principles illuminate each other? (Like two mirrors held opposite, reflecting each other.)

A man's voice piercing
Through the air,
The northern stars echo
A beating fulling block.

—Basho:

The Narrow Road to the Deep North
(Philosophical reflection)

Hardly a hint
Of their early death,
Cicadas singing
In the trees.

—Ibid.

Oct. 12: Everything has to do with music.

Elephant Ears!

Oct. 23: From the *Tibetan Book of the Dead*, Evans-Wentz. "Tibetan

lāmas, in chanting their rituals, employ seven (or eight) sorts of musical instruments: big drums, cymbals (commonly of brass), conch shells, bells (like the hand bells used in Christian Mass service), timbrels, small clarionets (sounding like Highland bagpipes), big trumpets, human thigh-bone trumpets. Although the combined sounds of these instruments are far from being melodious, the lāmas maintain that they psychically produce in the devotee an attitude of deep veneration and faith, because they are the counterparts of natural sounds which one's own body is heard producing when the fingers are put in the ears to shut out external sounds.

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trumpet; and a shriller sound as of a thigh-bone trumpet. Not only is this interesting as a theory of Tibetan music, but it gives a clue to the esoteric interpretation of the symbolical natural sounds of Truth, which are said to proceed from or to be the intellectual faculties within the human mentality."

Oct. 23: Visiting NMCE rehearsal this morning (New Music Choral Ensemble, directed by Kenneth Gaburo as part of Project for Music Experiment). The entrance—vibrations—identity search, role and game playing, not pitched but

some yaw and maw. Clean up the space. Hey! Linda, you missed a lot of cigarette ashes over by my chair. It's time to begin. WHERE IS GABURO!?? Shall we begin something? (After all, there are visitors present. Strangers, too.) Milling around. I meditate. The annex resounds. Gaburo arrives. *Atención.*

The Threshold Exercise

What is the threshold of audibility? For whom? Transmit at the threshold. Feed back. O.K. I am sitting nicely, on the way to Theta. Head jerk. Am awake. Head jerk. How does our automatic gain control work?

to comprehend intelligence or information? How to listen to music as a whole, time becoming space? This happens as an internal phenomenon. Mozart heard in a flash a whole composition. So do I when lucky. Then the hard work of "unravelation." Sometimes not so easy. (How to bypass blocks?)

In playing Stravinsky, one must exchange probes (time units) in order to perform the rhythms correctly; i.e., ♪ then ♪ or ♪, ♪ is the smallest unit. One must switch from feeling ♪'s to feeling ♪'s. What is the reaction time?

Oct. 27: Stuart Dempster's Concert: A new musician this time and I have known him for 15 years. He was always good. Could play anything. Two years ago he was excellent, an absorbing performer; but today Dempster is in a new realm. It is easy to exclaim about dynamic range. It is wide and superb, facility is remarkable, accuracy near perfect, articulation incredible ... all these things and more, but the total picture is inexplicable. Dempster is out of the way—long live the true Stu!

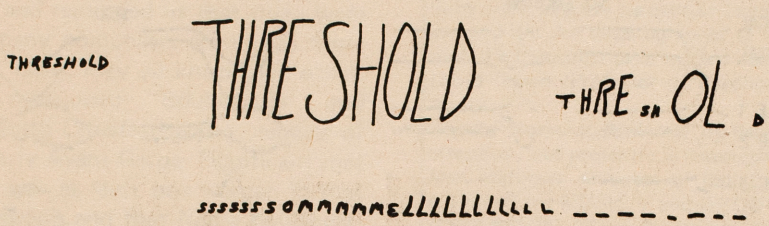
I suspect that his devotion to the Djiridoo (an Australian meditation instrument played by the aborigines), Yoga, Bates Eye Exercises, and Adele Davis' vitamin regimen is playing a large role in his transformation. Thank you, Stu, for a tremendous send-off for us at U.C.S.D.

Noy. 3: Tsun-Yuen Lui in a recital for Pi Pa and Chin. We are indeed fortunate. The Buddhas carved on the ends of the tuning pegs of the Pi Pa were all four smiling. What a follow-up to Dempster!

Mr. Lui, I dreamed your concert over again last night. You were a magical figure in the dream as you were in reality.

The Chinese Cool:

The figure sits quietly, robed and relaxed, poetic pointed fingers. The music pours through the instrument, speaking subtly, passionately. It is pictorial, like calligraphy. Each sound, its own life, kaleidoscopic images. A



The threshold changes with environmental inclusion/intrusion. Masking phenomenon.

Damping factor, standing waves. Hey! Cut through all that!

SOFTER S OFTER SSS OFTER S OF TER

How did I know the piece was over? How did they know? Second time it happened again. I knew because my eyes opened. They knew because they stopped.

You must become the receiver in order to transmit at the threshold of audibility. You must become the transmitter in order to receive at the threshold of audibility. You need Confucian commitment to THE RULE.

Instruction Piece No. 2 for NMCE: Sit in a circle. Smoke. Make all thought or activity secondary to the act of smoking. Perceive the smoke and the act of smoking during the entire burning of the cigarette or cigarettes.

Oct. 24: Lester Ingber (Karate Master and Theoretical Physicist)

pointed out yesterday morning that in order to examine a minute lapse in attention, that the probe, attention, must focus to a smaller point than the lapse in attention. This is true because one needs a probe which is smaller than the area to be examined. If attention can be focused to the fine point necessary, then the smaller mass (fine focused attention) is attracted to the larger mass (lapse in attention) instead of vice versa.

In order to take in a large area, one must learn to de-focus the eyes. Clarity of detail is sacrificed for the quantity or overall view. De-focusing also rests the eyes. What is the reaction time, I wonder, between focus and de-focus? The range? From micro-vision to macro-vision? From external to internal? Can one observe the switching function from external to internal? How about de-focusing the ears? How fine is the focus needed

broad palette, scaled to a meditative range. Would that I could hear with your ears while you are playing. This music is as much for the player as the listener, a dynamic difference in projection between West and East. The listener must project into the music rather than *vice versa*, as in the Western tradition. The amplification was necessary. What a pleasure it must be to be able to hear at the scale of the dynamic range of the Chin in an open environment! Have you heard a pin drop lately?

The Yaqui Indian Cool:

"How can I stop talking to myself?" "First of all, you must use your ears to take some of the burden from your eyes. We have been using our eyes to judge the world since the time we were born. We talk to others and to ourselves mainly about what we see. A warrior is aware of that and listens to the world; he listens to the sounds of the world."

—Don Juan
Journey to Ixtlan:
Carlos Castaneda.

"Our normal waking consciousness, rational consciousness, as we call it, is but one special type of consciousness, whilst all about it, parted from it by the filmiest of screens, there lie potential forms of consciousness entirely different."

—William James.

Nov. 10: Freedom of motion is a primary need. Marjorie Barstow from Lincoln, Nebraska. She was an assistant to F. M. Alexander (*The Resurrection of the Body*), famous during the '20's for Alexander technique; exercises for realigning the body to its natural position. Ms. Barstow's message was very simple: "Freedom of motion is the nearest we get to relaxation."

She worked with our students, easing the head away from the body saying, "Lead with the head easing upward, the body will follow." Her hands are magical heaters. I felt them on my neck for hours afterward. "What are you doing which you don't need to do? A fixture which is immobile (your body's playing

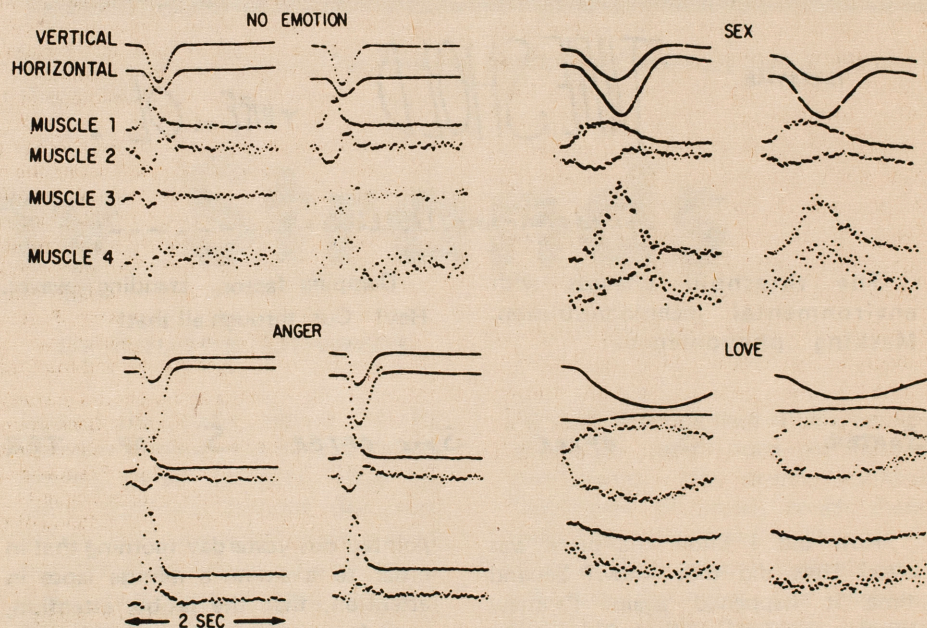
position) will tend to do that to your music."

As she moved people's heads and stretched their arms while they were playing, dramatic changes occurred in tone quality for the better. "You need, not a position, but a relationship."

Dec. 9: Manfred Clynes has been here the past two weeks under the auspices of Project for Music Experiment. He has a book forthcoming on Bio-medical Engineering (concerning the measurement of emotion), which is not to be missed. He is a marvelous

musician as well as physiologist at Rockland Hospital.

Besides explaining his Sentic Cycles, a training method for the direct expression and measurement of emotion, he has been provoking us with statements like, "The last quartets of Beethoven are psychedelic, intended to trigger internal states rather than outward physical responses. Beethoven was interested in Eastern Philosophy during the third period." (Clynes also has visited Goethe's house in Germany, which is painted according to Goethe's theory of colours. Goethe was a man who lived according to his theories.)



CLYNES: Recordings of sentic form as vertical and horizontal components of finger pressure, where an individual attempts to make a physical gesture corresponding to a pure emotional state.

Dec. 20: On the way to Berkeley. Looking forward to meeting with composer Anna Lockwood, face to face after several years of correspondence.

Dec. 24: Anna Lockwood has several pianos, including a grand, planted just so in her garden at Gatehouse Cottage, Essex, Ingatestone, England. They have been there for a year and a half. One is planted so a tree, as it grows through

it, will eventually carry the piano up into the air. At intervals, Anna goes to the garden and records the same passage on each piano. They are being tuned by the elements. They still play. (How will she eventually reach that piano in the tree? An up-in-the-air cadence?)

Anna is also collecting a river archive. She is receiving recordings of different rivers of the world from friends and cooperative people from everywhere. She intends to play this collection in sequence when she has enough. Send her a river. (For best

results, make a long recording, close-miked.)

Feb. 9: Vivian Fine appeared and was truly fine. She teaches at Bennington College, Vermont. Besides composing, she is a terrific pianist. Her own music rings with authenticity (CRI Recordings). She was a pupil of Ruth Crawford Seeger (a remarkable composer who died too young), thus unlike most of us females, had a model and never considered herself unnatural, consciously or unconsciously, for writing music. Her composition comes out of the tradition of Cowell and Ives. She delivers that music extremely well as a pianist.

She related her experience of the '30's and reminded us that there were not many composers around in those days. Then, they all knew each other. She mentioned "Boulangerie" and how Ruth Crawford was a member of the early Avant Gardé. Significant that there was at least one woman in that early group and that Nadia Boulanger, a woman, influenced so many of the American composers.

Feb. 10: Pandit Pran Nath with his disciple, Terry Riley, floating dreamily around the campus. North Indian singing, very high spiritual discipline. Students in his seminar received a gift of inestimable value.

Image: PME Building (an ex-Marine barrack bowling alley) floating gently skyward, vibrating madly while below Roger at his desk pedaling frantically to keep the whole thing aloft. Underneath the desk Karen Reynolds pedaling more frantically to keep Roger aloft.

PME staff, fellows, and researchers have doubled the input at U.C.S.D. By the second week of fall quarter the activity was at the level of the spring

peak last year. Lin and I wondered if we would collapse at the end of the first month. (Flash! Illness was rampant during January-February, including yours truly.)

Some of the activities: Ken Gaburo's NMCE IV—seven members rehearse daily, sensing, moving, vocalizing, exploring linguistics musically. Researcher Arne Zazlove, mime from Canada, offering seminar in choral movement.

PSYCHOACOUSTICS AND PERCEPTION

Monday through Friday, February 26-March 2, 1973

PME Conference participants include:

Reinier Plomp: Deputy Director of the Institute for Perception, TNO, Soesterberg, the Netherlands, and Head of its Psychoacoustics and Speech Analysis Branch.

Fred Wightman: An Assistant Research Psychologist in UCSD's Department of Psychology, has done work in pitch perception both in the Netherlands and at UCSD.

James Fish: An oceanographer at the Naval Undersea Center, San Diego, is working primarily with the bioacoustics of marine mammals.

David Green: Professor of Psychology at UCSD has been concerned recently with temporal acuity.

Donald Norman: Professor of Psychology at UCSD, has worked in the areas of memory and attention, and presently is investigating the mechanism of question answering.

Max Mathews: Director of Bell Laboratories Acoustical and Behavioral Research Center and author of the MUSIC V and GROOVE programs.

DISCUSSION: "Pitch Perception as a Problem" Reinier Plomp, Fred Wightman

ILLUSTRATED LECTURE: "An Introduction to Marine Bioacoustics" James Fish

SEMINAR: "Tonal Consonance & Dissonance" Reinier Plomp

PANEL DISCUSSION: "Topics in Psychoacoustics and Perception" David Green, M. V. Mathews, Donald Norman, Reinier Plomp

SEMINAR: "Violin Resonances and the Electric Violin" M. V. Mathews

SEMINARS: "Timbre as a Multi-dimensional Attribute of Complex Sounds" Reinier Plomp

Session 1: "General Background"

Session 2: "Current Developments"

LECTURE: "Smoothing of Low Frequency Tones" M. V. Mathews

GENERAL DISCUSSION: All Participants

ILLUSTRATED SEMINAR: "A Catalog of Computer Sounds" M. V. Mathews

PME CONFERENCE

* * *

COMPUTER PROGRAMMING IN MUSIC

Wednesday and Thursday, February 14-15, 1973

PME Conference participants include:

M. V. Mathews is Director of Bell Laboratories' Acoustical and Behavioral Research Center and the author of the MUSIC V and GROOVE programs.

Yuji Takahashi is a composer and performer long associated with the use of computer programming for composition and sound synthesis.

John Gray has worked in Stanford University's Artificial Intelligence Center during the past two years and has had an integral role in the development of timbric and sound localization work there.

Edward Kobrin is a Fellow of the Project for Music Experiment and developer, with Jeff Mack, of the Hybrid II 16-channel system.

INTRODUCTIONS & INQUISITION

ILLUSTRATED LECTURE: "The Hybrid Computer Operating System, or "If You Give Me \$30,000, I'll Have A Second Brain"—Edward Kobrin

DISCUSSION

LECTURE/DEMONSTRATION: "The Computer Generation & Graphic Representation of Instrumental Timbres"—John Gray

DISCUSSION

ILLUSTRATED LECTURE: "An Introduction to Computer Music"—M. V. Mathews

SEMINAR: "Towards a Real Time Performance Computer"—M. V. Mathews

DISCUSSION

ILLUSTRATED LECTURE: "Programmed Creation: Composing As a Numerical Game"—Yuji Takahashi

DISCUSSION



project for music experiment: conference

Project for Music Experiment (better known at U.C.S.D. as PME), funded by Rockefeller, directed by Roger Reynolds, participants manifold.

Feb.10: My affair with Beethoven continues. First I see him in drag on the cover of the February issue of *Hi Fidelity* magazine. Hmph! The editors are off as usual; everyone knows by now that he was really a Lesbian.

But to top it off, in December I visited my former horn teacher, Earl Saxton. As I approached his house, I heard a familiar tune but a very startling timbre, to say the least. Fascinated, I tried to comprehend this strangely beautiful version of the second movement of the *Pathétique Sonata*. Inside, Earl solved the mystery for me: 400 horns at some horn players' convention wailing away on this arrangement. He promised me a dub of the tape, too! What a sound! Four hundred horns. What ambience.

* * *

What sound is the most familiar to you?

Lester Ingber, Karate Master: "Something like, 'Buhhh—,' an internal sound I listen to during meditation."

Max Mathews, Bell Labs: "I guess..., the violin. No, the human voice may be much more familiar."

Dedre Gentner, Psychology: "Someone's voice, I guess."

Jean Charles Francois, Frenchman: "My own talking."

Chris Wells, Computer Science: "The song I sing to myself when I'm just day-dreaming."

Vladimir Voos, Composer: "My breathing."

Alan Johnson, Administrative Assistant: "My smoking."

Heidi Von Gunden, Composer: "My name."

Steve Gerber, Composer: "My son talking."

Barbara Alvarez, Herself: "KABC."

James Campbell, Professor: "A pure 3rd, 5:4 ratio. I can pick that out in an instant."

Louise Wiggins, Secretary: "Probably my daughter's voice."

Bonnie Barnett, Associate: "The sound of my blood flowing through my veins. Whom! Whom! Whom!"

Irene Solomon, Secretary: "The telephone ringing."

Warren Burt, Composer: "Frequency modulation."

Charlie White, Composer, PME: "The sound of my car."

Ned Sublette, Composer: "A high-frequency tone which is the hum of my nervous system."

Irene Jackson, Student of Culture: "Me."

John Mizelle, Composer: "The sound of my mind working."

Larry Livingston, Clarinet: "Inside drumming."

Edwin London, Famous Muse: "My own voice, I guess."

Elinor Barron, Leucadian: "Ooooh, you can't ask me that!"

Alvin Lucier, The Only Talking Machine Of Its Kind: "My speech."

Ed Kobrin, Computer, PME: "It's actually a long story. The lady upstairs flushing the toilet. It sounds like Mt. Vesuvius erupting." P.O.: "Have you been to Mt. Vesuvius?" "No, but I have a conception of what it sounds like!"

Ron Robboy, Cellist: "Strangely enough, it's probably automobiles."

Ron Grun, Bassoon, PME: "The sound of the ocean, I guess."

Fred Mayer, Composer: "I can't answer! I don't know! The sound of my steel drums."

Tai-hsiang Li, Composer and Violin, PME: "Every sound."

Al Merian, Guitar: "All the sounds."

Gary Yoder, PME: "My own voice and birds."

Mel Warner, Clarinet, PME: "I can't think of a sound that's most familiar to me!"

Linda Vickerman, Singer, PME: "A sound I hear in the air, the movement of the air I hear when I'm not distracted."

MATERIALS EFFECTS LISTENERS OBJECTIVES

"Pythagoras was of the opinion that music contributes greatly to the health if used in an appropriate manner."

What music???

The trouble with music therapy, the field, is the assumption that music is something existing outside the individual and *was* created (not *is*) by elite individuals to be imposed on persons as empty receptacles. The

Susan Palmer, Composer: "The sound of my breathing and other general body hum-drum sounds."

Phil Larson, Singer, PME: "The opening of beer cans."

Jack Leung, Composer: "Thank you."

Jack Pasless-Samme: "The toilet flushing."

Howard Crook, The Star, PME: "A bird in the morning."

* * *

From *Music and Your Emotions*, Liveright: "What could be more unique or more individual than what one person says he experiences? This is what is meant by subjectivity. This is the same ogre the scientist refers to as the "error of subjectivity."

"It does not require much study to see the possible error that may be committed in the complete acceptance of one person's experience as typical of other persons' experiences."

"Individuals differ in the way they experience the world around them. They have no control over these discrepancies, which are basically involuntary."

Vis-à-vis Heisenberg's Principle: "If we cannot accept with certitude any single person's observation of a relatively simple and objective phenomenon, because he is likely to be at variance with some other observer, what shall we make of the tremendous variability which meets us when we examine many persons' observations of the way in which they react to music or even to a simple tone?"

ultimate therapy would be to re-connect the individual with his/her own music well springs. Draw the music out. Value his/her sounds. Especially the ones lost or subjugated as a result of language.

"God made a statue of clay in his own image, and asked the soul to enter into it: but the soul refused to be imprisoned, for its nature is to fly about freely and not to be limited or bound to any sort of capacity. The

soul did not wish in the least to enter this prison. Then God asked the angels to play their music, and as the angels played the soul was moved to ecstasy, and through that ecstasy, in order to make music more clear to itself, it entered this body. And it is told that Hafiz said, 'People say that the soul, on hearing that song, entered the body, but in reality the soul itself was song.' "

—Hafiz, Sufi, Poet of Persia.

* * *

PME Concert 1 — 10 February 1973
Music of the Sixties: The pieces all seemed short. Yuji Takahashi playing piano fiendishly. *Eonta* (1963) has fiendish piano part. Edwin London conducting the strolling brass. Loud. Difficult. Moving. An assigned ordering, engaging the players in concentration to a point. With my eyes closed, the movement of the brass was a subtle nuance. The space reflecting faithfully, cancelling (from my position) any high contrast in the sounds from the varying positions of the instruments. Yuji with taped fingers to support his Olympian playing. My eyes swung open to witness the cadence. (How did my eyes know?) Early death.

"*Eonta* is a kind of homage to Parmenides."

—Iannis Xenakis.

Music For Solo Performer (1965): Alvin Lucier, Elinor Barron—Alpha source. As John Mizelle simply and carefully applied the electrodes to Ms. Barron's head, the audience became unusually quiet and attentive. Since the procedure is unfamiliar at a concert, expectancy is replaced by fascination.

This is a theatrical constant in the previous performances that I witnessed in the sixties with Lucier performing. The drama intensified, the lights were low and Murphy's law went into effect. (If anything can go wrong, it will.)

Director Reynolds: "As you know, this is the Project for Music Experiment and sometimes experiments fail. Bear with us and we will find the problem." More drama as four technicians fuss, fume, and pore over the recalcitrant equipment. (The

problem was not in the equipment, but existed as a result of an inadvertent act. Someone plugged something else into a critical circuit unknowingly, causing hum. A common realization of Murphy's Law, which complements Erickson's Law: "The damn thing doesn't work.")

The audience waits; rains beat beautifully and furiously on the roof. Ms. Barron never abandons her meditative state, calm awareness, in order to generate Alpha, a brainwave of 7 to 13 hg. Alpha is a correlate of receptivity. The skill of the performer lies in the ability to keep generating Alpha bursts and to increase the amplitude of the bursts. (Yogis can generate continuous Alpha after years of autogenic training.) This skill is in inverse proportion to manipulation and usually vanishes with visualization.

When the piece began again, Ms. Barron had maintained her cool and one could hear the result of her Alpha, which caused speakers to resonate instruments such as drums, cymbals, etc. Unfortunately, after all was working, the technician stopped the piece too soon. He had obviously not remained calm and aware but had lapsed into Beta, a higher frequency correlate of judgmental activity. Early death.

"From the beginning I was determined to make a live performance work, despite the delicate uncertainty of the equipment, difficult to handle even under controlled laboratory conditions. I realized the value of the EEG situation as a theater element and knew from experience that live sounds are more interesting than taped ones. I was also touched by the image of the immobile if not paralyzed human being who, by merely changing states of visual attention, can activate a large configuration of communication equipment with what appears to be power from a spiritual realm. I found the Alpha's quiet thunder extremely beautiful and instead of spoiling it by processing, chose to use it as an active force in the same way one uses the power of a river."

—Alvin Lucier.

In Memoriam—Esteban Gomez (quartet) (1964). Trumpet, Ed Harkins; Trombone, John Mizelle; Clarinet, Melvin Warner; Baritone, Phil Larson.

"*Esteban Gomez* is concerned with very subtle and gradual deviations from a 'reference sonority,' within which the individual instruments are not distinguishable."

—Robert Ashley.

Beauty died an early death. Why not a whole evening or bring sleeping bags and provisions? Camp with it for three days. We all deprive ourselves. Do you remember how long your attention span was as a child?

"For the listener as well as for the performer, everything depends on attentiveness, on experiencing the subtle shifts between unanimity and dissent."

—Robert Ashley

Have you forgotten that attention is not a matter of seduction? Have you so little that you pay it rather than give it?

String Quartet No. 2 (1963-64). Michael Von Biel, Jim Stark, Tai-Hsiang Li—Violins; Ed Kobrin—Viola; Elinor Barron—Cello. Complex spectra. Busy. Players tensely engaged.

"The piece is involved with the maximum articulation and stirring up of the given materials under a certain local performance situation."

—M. von Biel.

The local performance condition in this case involved low-level amplification in order to distribute the materials more clearly throughout the space. The complexity of the sound gamut is characteristic of the Sixties and interpreted often by virgin ears as loud. It is complex but not loud. Loudness is illusory when the ear is attempting to analyze and integrate a wide-band sound. Fine performance. Seven minutes. Early death.

Bridges I (1968): Yuji Takahashi. Electric Keyboard—Yuji Takahashi; Amplified Cello—Elinor Barron.

Michael Von Biel: *String Quartet No. 2*

The electronic sound had a watery flow and never changed its timbral character. Thus one's attention could flow with the sound as it moved in detail dynamically and in location. The amplified cello drone with microtonal changes inserted timbral relief. As I sank further under, it all stopped too soon! Early death.

"Bridges I deals with melodic intervals. There are 15 pitches and

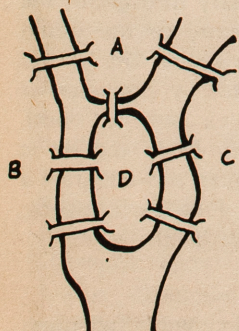
several rules of transition. Pitches are thought of as landmarks. Intervals are streets which determine your travel from one to another. This is also the basic image of the Persian *Dastgah* system. Their seven modes are named after ancient cities, and music is metaphorical travel among them.

In mathematics the theory of graphs deals with similar situations. The initiator of this theory, Leonhard

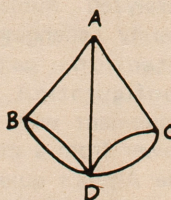
Euler, arrived at the idea in solving the problem of the seven bridges of Königsberg (Kaliningrad). Euler concluded that it is impossible to find a path crossing each of these seven bridges once and only once. To prove this, however, it was necessary for him to develop what later became the theory of graphs.

It is this theory that I have applied to the construction of sequences of pitches. The scope of its possible application is not limited to any particular system, temperamental, tonal or modal; however, the same theory could equally well be applied to timbres, sound sources in space, to any collection of modes and connecting paths. Such an abstraction seems to derive its power from mechanisms already implanted in our brains."

-Yuji Takahashi



The Pregel runs across Königsberg and surrounds Kneiphof. There are seven bridges. Is a walker able to cross every bridge once and only once?



Supply a set of rules for the given pitches of transition from one to another. Discover various paths following the rules.

Yuji Takahashi: *Bridges I*

MUSIC OF THE SIXTIES. EARLY DEATH.