Software for People
collected writings 1963-80

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With Gratitude

to those who came before me

to those who are with me and

to those who will come after me
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Introduction

During my career as a composer I have been called upon to address the music profession, students of various disciplines, the general public, and granting agencies. Although writing prose and speaking to groups was not easy for me, because of my devotion to music and other non-verbal forms I have felt responsible to answer when called upon.

I am publishing this collection of twenty-six articles partly to show the growth and change in my attitudes, interests and perceptions over the seventeen-year period represented by the work; I chose not to update, adjust or correct for my present views and concerns.

Finally, Software for People is an attempt to make a contribution not only to music theory and technique but also to contemporary musical issues and thought. I would be pleased if the professional musician, the person with formal musical training, or the artist of any other discipline would be informed by most of the articles.

Though I am primarily a composer, my time has been divided among many different professional activities. Since monetary gain has never been the underlying motivation for my work as a composer, I have had to earn my way as a private teacher of accordion and French horn, as a performer, an administrator, a university professor and with many odd musical jobs such as copying and orchestrating. I have lectured, toured, re-educated myself, administered programs and projects, and have participated in public service endeavors.
Very few composers of this age may devote themselves single-mindedly to composing without economic sacrifice. The first half of my thirty-year career was divided between composing and economic struggle. The second half of my career has been free of economic worry but divided between composing, teaching and administrating. Such divisions are both enriching and destructive to creative efforts. It is most important to maintain a sense of balance among creative, economic and spiritual activities. Diversity has most often broadened and deepened my musical and life experiences but I consider my main work to be composing music and trying to fathom the potentials and consequences of my actions in life in relation to myself and others.

Recently I ended a fourteen-year career as a university professor as it seemed that the professor/administrator was crowding the composer too much. Even though I have always tried to consider all of my experiences as contributing to the quality of my life as a person and a composer, it is finally necessary for me to take more time for composing, copying, editing and supervising the performances of new works even though composing accounts for very little of my income. There are more calls to answer now as well as many more actions with consequences and potentials for me to consider.

The diversity of this collection of articles reflects the diversity of my activities. Since there is little consistent thread through the articles as presented, except chronological order, categorizing the articles here may help the reader to choose where best to begin.

Some articles are of a technical nature such as the analysis "Karl Kohn: Concerto Mutabile," "Atlas Eclipticalis," or "Tape Delay Techniques For Electronic Music Composition."

Other articles such as "The Noetics Of Music," "Meditation Project," "On Sonic Meditations," "MMM: Meditation/Mandala/Music" and "Software For People" are more theoretical and philosophical.

"And Don't Call Them Lady Composers," "Alvin Lucier," and "A Tarot Reading on The Life/Work Of Iannis Xenakis" are of a more general interest.
The five articles "Three Themes," "Five Scenes," "Many Strands," "Divisions Under Ground," and "Rags And Patches" are a mixture of general interest, exploration, philosophy and criticism, and these articles are grouped together instead of chronologically since they were written as a series for Numus West.


Though directed to granting agencies "The Contribution Of Women Composers" and "Modes Of Attention And Awareness In The Teaching Of Musicanship" reflect some of my educational concerns.

"A Research Center For Performers And Composers Of New Music And Related Arts," "Welcoming Address" and "On The Need For Research Facilities For New Music And The Related Arts" are about my continuing interest in the sharing of new technology for the arts.
Karl Kohn: Concerto Mutabile

This analysis was written in 1963 at the invitation of composer Benjamin Boretz, editor of Perspectives of New Music. The analysis appeared in Volume II, Number 2, Spring/Summer 1963 of Perspectives as part of a series involving 20 young composers, each examining the music of one of the other composers in the group.

1. DO REARRANGEMENTS PRODUCE MUTATIONS?

Normally, one expects (if there are no chance elements in the construction of a composition) to be able to read a score. Concerto Mutabile for Piano and Orchestra or Chamber Ensemble by Karl Kohn has eleven possible orders, all of which are entirely predictable, but the separate piano and orchestra scores are impractical for reading the orders with the piano part or the composition as a whole. The composer indicates in his instructions that, "The conductor has before him the scored segments WI, BI, SI and WII, BII, SII, the Obbligati X and Y, and the TABLE OF ORDERS. The piano score is at his left as a cue book." Since all the entrance cues for the orchestra are in the piano score, it is necessary to look back and forth from one score to another without being able to line up the piano and orchestra parts. Further, the composer notes that, "This composition may be performed in eleven different 'orders' or versions. The choice of a particular version for performance may be made from the TABLE OF ORDERS a) by the conductor as the performance proceeds — since the players need to know what is to be played whenever alternatives appear in the PLAYER'S PLAN printed at the top of their parts, the conductor informs them of his selection by signals or with lettered cards — b) by the soloist and/or the
conductor before the performance — the players may be informed of the chosen order beforehand and/or the conductor may use signals or lettered cards as above to insure against misunderstandings.” If the choice of a version is made as the performance proceeds, then the conductor has the additional complication of looking at the table of orders and, possibly, looking for the proper signal card. Also, the obbligati Wx, Sx, Bx, Sy, By, and the bassoon solo appear on three other separate pages and must be inserted at the proper time, which is certainly unnecessary as these segments always occur at the same place no matter which version is chosen.

According to the composer’s plan (Figure 1), there are only two alternatives (in one case three alternatives) for each entrance of orchestra segments. The piano part, which is not indicated in the plan, has no alternatives or rearrangements; therefore, to avoid confusion, why not print everything on one score? Unless the soloist or the conductor can read the score, on what basis can he make his selection of a version? This is neither a chance order of predictable events nor a predictable order of chance events.

The title Concerto Mutabile leads one to expect a pliable or changeable form. An examination of the plan reveals a framework with the following items unchangeable: the piano part as a whole, the articulation of the framework into two parts by the orchestra Tutti I and II, placement of the obbligati and solos, and the entrance of single or double orchestra segments. The letters W, B, and S in the plan and the table of orders refer to winds, brass and strings. Tutti I contains W1, B1, and S1; and Tutti II contains WII, BII and SII. Each of these segments consists of thirty 2/4 measures, and the orchestra is almost exclusively limited to sectional usage. At least one of these segments is repeated three times during the course of any version: (1) with the piano part, (2) combined with another segment and the piano part and (3) in one of the tuttis. The II segments always stop at measure 22 or 24 except during Tutti II, which
is the finale of the composition. Repetitions of Tutti I segments are the entire thirty measures. Repetitions of both I and II segments occur in different tempos, but Tutti I and II are both heard at the slowest tempo (M.M. $\frac{3}{4} = 48$), which contributes to their articulation function. Alternatives which make the different orders possible are actually rearrangements of the occurrence of the segments.

![Diagram of PLAN and TABLE OF ORDERS]

What is the purpose of the different orders? Is the combination of tones and rhythms less important than the pliability of the structure in which they move? Generally speaking, the segments could be called color groups, and at the
given time, one might choose brass color instead of wind color, or the combination of wind and string color instead of brass and string color. The selection of a particular order compares well to a room with built-in and movable furniture which one wishes to rearrange. Obviously, the space of the room cannot be changed but only the relationship of the objects within the space. One then keeps shifting the furniture until the best possible arrangement is obtained. However, if the movable furniture consists of six chairs all the same size, and of only three different colors, the possible new relationships are further limited. Why does the composer leave the choice of arrangement to the performer? One must assume that any order is equally as good as another; otherwise, the different orders have no purpose other than to fit a prescribed compositional idea. Also, what is the musical logic for choosing an order during the course of the performance? If no difference can be discerned between a prechosen course and one chosen during the performance then a prechosen course is more practical since it would eliminate the TABLE OF ORDERS while conducting.

The segment Wx is the first orchestra entrance. The notation is free (no bar lines, some incomplete quarter-note units, rests of indefinite length)\(^1\) until the last three beats which must be precise. The composer states: “Toward the end of Wx the conductor begins to beat 4/4. By the fourth beat the players arrive at the sign §. The sign is the first of the last three beats. The duration given for this section is twenty-five to thirty seconds with M.M. \(\text{♩} = 60.\)\(^2\) The staggered entrances of each wind part are indicated in the following manner:

\[
\text{Fl.} \quad \text{Bsn.} \quad \text{Ob.} \quad \text{Cl.},
\]

\(^1\) The composer notes, “The various sizes of fermate (\(\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \)) are intended to suggest rests of corresponding durations.”

\(^2\) The composer notes, “In sections without bar lines the quarter note beat should be regarded as a regulating guide not as a relentless pulse.”
yet each part is notated as if to begin at the same point. Although this segment can apparently be notated only approximately rhythmically, and the resulting effect is a kind of rhythmic scramble, why not at least notate the entrance of each part more precisely? Finally, why, after the separate scores for piano, orchestra and the obbligati, does the horn solo (indicated in the plan) appear in the piano score?

What is the relationship of the soloist to the orchestra? Are the orchestra segments mechanically repeated, rearranged and arbitrarily juxtaposed against the piano part, or is a composed harmonic integration and direction supposed to result from each version of the composition? If the former is the kind of operation used, then a meaningful order would only result fortuitously. If the latter, the composer would have had to consider the following: The segments BII and SII must function independently of the piano part. Next, BII or SII must combine with WII and the piano part, which is different at this point. After Tutti I, either WII, BII or SII must combine independently with a still different piano part. Then SII must combine with WI or BII with SI, and a different piano part, and finally WII, BII and SII must combine as Tutti II with the piano's final statement. The segments would also have to relate back and forth to preceding and following events, or the fixed segments of the composition. Obviously, WI, SI and BI would have to receive the same kind of consideration, although these segments are not used as extensively as the Tutti II segments. Though the piano part quite frequently reduces to a single line, the orchestra segments do not. The compositional task, then, appears quite involved and one questions the plausibility of its solution without arbitrary means. If arbitrary means have been used, are the segments to gain relationship to the whole structure and to the piano part by their repetition? It is hard to believe that the segments would not have a harmonic meaning, demanding considerable handling under the circumstances. Since the orders are predictable (with a readable score), why should the composer risk a poor result unless
the structure called for juxtaposition of harmonically unrelated events in an unpredictable situation?

The composer apparently has considered the before-mentioned relationship of the segments to the structure as color groups which eliminated what might have been other possible orders. None of the segments is allowed to repeat before some other segment has appeared, nor does the same segment in a double combination repeat immediately after its appearance as a single group. Is this the *raison d'être* for the different orders and the orchestral usage?

The orchestral instrumentation by section is: flute, oboe, clarinet, horn and bassoon; two trumpets and three trombones; and a full string section or string quintet. When a string quintet may be substituted for a string orchestra, and there is no provision for altering dynamic levels, a balance problem might arise. A similar problem occurs when different combinations of segments are used with the piano part. In the example from Tutti II (Figure 2), the piano will not be heard even if the dynamic level is raised, and will have no function at this point. One questions the use of the flute in its low register when it is expected to balance in chords and figurations with instruments of greater dynamic power. The four-note chord (from Tutti I) shown in Figure 3 will certainly not balance according to the given dynamics, and the indicated effect of the repeated chord with a shifted instrumentation will not be heard as such, especially when all the instruments are marked crescendo from *p* to *sfz*, and the flute is expected to crescendo on low D as much as the other instruments in their stronger registers. The effect will be covered even more when it is combined with the brass playing a different chord, with the two trumpets sounding in a higher octave, and with the three trombones which have a much heavier quality. In Figure 4, the flute’s low E♭ is no match for the forte of the brass, and the horn’s low F is not likely to match the doublings in the brass,

---

*There is also no provision for altered dynamics when segments from Tutti I are combined with segments from Tutti II. The one dynamic alteration indicated in the plan (Figure 1) applies to single alternative segments. The statement is, “Raise soft dynamics.” Raise them to what?*
Figure 2
although its position as the lowest tone in the chord gives it a better chance of sounding than the flute.

By and large, *Concerto Mutabile* does not produce formal mutations with its different orders. Mutable form is a striking idea, but the achievement of such an idea would involve a more plastic way of combining tones and rhythms, and less demanding tonal implications.
II. PITCH-RHYTHMIC CONSTRUCTION

Both piano and orchestra parts are constructed motivically, and all the motivic material is contained in the opening piano statement (Figure 5) which begins the composition.
The strongest motion in the first phrase shown in the diagrammatic scheme (Figure 6) is the whole step from D to C, which is held by the pedal. This motion is paralleled above by the C♯ whole step down to B. The F♯ (second phrase) in the repeated figuration next holds one's attention and is prolonged through the phrase until its half-step resolution to F♯. The C, G and B♭ in the figuration strengthen the resolution to F. The F♯ anticipates the G♭-A♭ whole-step motion which occurs in the next phrase. Above the F♯ one hears B♭, A♭ to G. The resolution, A♭ to G, parallels the F♯ to F as in the opening parallel whole steps. The A♭, B♭, C shown in parenthesis show the whole-step motion to C which also strengthens the F resolution. The D is a dominant to G, though its ultimate motion is up a half step to E♭. The C in parenthesis and the C♯ form a major-minor third relation to A. The final chord of the phrase contains a transposed inversion of the first three strong notes in the diagram (shown in whole notes). The whole step is displaced by an octave, or becomes a major ninth.

The first motive at the beginning of the piece (Figure 7) provides many ideas. The D quarter note followed by the D grace note anticipates several other kinds of repetitions: the repetition of single tones with different time
values, the repetition of chords, the repetition of figurations and motives and, if it is not too far-fetched, the repetition of orchestra segments. Next, the rhythm of a grace note followed by a dotted half note is often used motivically with the longer note value expanded or contracted. The rhythm of the whole motive is shifted and produces a grace note followed by a dotted half and quarter note. This derived rhythmic motive is most often heard in diminution, and with the grace note replaced by an embellishment or an anacrusis. The intervallic material for these rhythmic motives comes most frequently from the tones of strongest motion outlined in the diagram (see whole notes in Figure 6). With the frequent occurrence of interval groups, coupled with motivic organization, a combinatorial system of some kind is probably in operation.

![Figure 8](image)

The pattern of a whole step coupled with a diminished fifth is heard next, outlined by the tones of strong motion (A♭, Gb, C) in the third phrase which begins with an anacrusis (Figure 8) to the long-short motive whose interval is a major ninth, or a displaced whole step. The anacrusis exhibits whole-step construction with the G♭ moving down to A♭ in the motive, the F up to G, and the D down to C. After the 16th note in the motive, Wx enters. While Wx is going on, the piano arrives at a long embellishment of C-B♭ via A♭-F♭♭ (Figure 9), which continues after Wx stops and until the entrance of BII or SII. The twenty-five to thirty seconds of Wx are principally constructed with the long-short rhythmic motive with an embellishment. For example, the flute enters
first (Figure 10). The anacrusis to B, a major ninth down to A, is a parallel imitation of the piano's B♭ down to A♭. The bassoon enters next and interrupts...
the flute with an anacrusis of its own, leading to the same rhythmic motive; but its interval is a minor third. Each part in Wx has at least two statements of this motive with and without embellishment. All of Wx seems to act as a reinforcement of the piano's embellishment of the C-B♭. The clarinet stays around A♭, F♯, C (Figure 11). The Bassoon E♭ in Figure 12 has a dominant function to the A♭.

Figure 11

Figure 12

Generally, Tutti I has more accompaniment character than Tutti II. The phrases are short and include repeated chords interspersed with the long-short and short-long rhythmic motives and their repetition. For an instance of this, see Figure 13 (in M. 10 the inconsistency of the last two 16th notes in the oboe part must result from a misprint). In Tutti II the motives are used more melodically, and there is somewhat more rhythmic activity in the form of embellishments, but the use of repeated chords and the long-short motive prevails in this section also. The obligati Sy and By are entirely accompaniment and are composed with the same long-short motive.
Figure 13
Some Sound Observations

These observations were written at the invitation of composer Larry Austin, editor of Source: Music of the Avant-Garde. “Some Sound Observations” was included in Source III, 1968. It was also read as a performance, with amplified ambience from the streets directly outside, during a program at The Electric Circus in New York City in June, 1968.

As I sit here trying to compose an article for Source, my mind adheres to the sounds of myself and my environment. In the distance, a bulldozer is eating away a hillside while its motor is a cascade of harmonics defining the space between it and the Rock and Roll radio playing in the next room. Sounds of birds, insects, children’s voices and the rustling of trees fleck this space.

As I penetrate the deep drone of the bulldozer with my ear, the mind opens and reveals the high-pitched whine of my nervous system. It reaches out and joins the flight of an airplane drone, floats down the curve of Doppler effect.

Now, fifteen minutes since the beginning of this writing, the bulldozer has stopped for a while. The freeway one-half mile away, unmasked, sends its ever-shifting drone to join with the train whistle from Encinitas.
The bulldozer starts again, moving the air like an audible, crooked staircase before reaching its full power. As I lean on my wooden table, my arm receives sympathetic vibrations from the low frequencies of the bulldozer, but hearing seems to take place in my stomach. A jet passes over. Some of its sound moves through my jawbone and out the back of my neck. It is dragging the earth with it.

I would like to amplify my bowl of crackling, shaking jello. (Once in 1959 a bulldozer came through the side of my house while I was eating lunch. The driver looked at me, backed out, and continued to operate the bulldozer.)

I would like to amplify the sound of a bull dozing.

The bulldozer has stopped again. On the other side of the freeway, a dog repeats a high bark which curves downward. My dog has a tinkling collar. I would like to find a free way.

Three days ago at UC Davis, I experienced a magnificent performance of Bob Ashley's Wolfman. My ears changed and adapted themselves to the sound pressure level. All the wax in my ears melted. After the performance, ordinary conversation at two feet away sounded very distant. Later, all ordinary sounds seemed heightened, much louder than
usual. Today I can still feel Wolfman in my ears. MY EARS FEEL LIKE CAVES. Monday I am going to hear Wolfman again. It will be the fourth time I’ve heard Wolfman, and I can’t wait to hear the feedback dripping from his jaws again.

My present bulldozer has started and stopped again. A far-away jet simulates a fifty-foot tabla, accompanied by an infinite freeway tamboura.

I am tired of writing this article, but not of the opportunity it is giving me to listen and remember. My chair is creaking as restlessness grows. I wonder what God’s chair sounds like? I would like to amplify it. I would like to amplify a spider spinning its web.

Loren Rush calls his new work Theater of the Mind. Since last night, he is still playing and singing in the theater of my mind.

The bulldozer remains silent. A very low frequency is shaking my belly. (7 Hz at high intensity can make you sick or kill you.) It is an automobile becoming more apparent as it passes, now accented by a motorbike.
(Once in a half-waking state, my head was held hard against a wall by the sound of a model airplane motor. I thought some cosmic dentist was drilling for my mind’s tooth.)

The breeze is rising and blowing my papers about the table. The rustling in the trees sounds like tape hiss until it mixes with the next plane overhead.

Recently, a young man described his experience working in proximity to jet engines. After overcoming fear of the sound, he began to find sounds to listen to, such as small tinklings within the engine.

Why can’t sounds be visible? Would the feedback from ear to eye cause fatal oscillation? Can you remember the first sound you ever heard? What is the first sound you remember hearing?

Why shouldn’t a music department in a university devote itself entirely to music composed since 1950? Without a substantial body of new literature and instrumentation, the symphony and opera will become defunct—dead horses in the 21st Century. Who cares.
I often think of the title of one of La Monte Young's pieces which I have not yet had the pleasure of hearing: The Second Dream of the High Tension Wire.

In the Schwann long-playing record catalog there are special sections for railroads, sound effects, sports cars, test records, and honky-tonk piano, but none for electronic music.

When a concert pianist is on tour, he usually finds a tuned Steinway grand piano to play. What kind of sound system does the electronic musician find?

When I stopped writing yesterday, I went on listening. I attended dinner in a Syrian restaurant and ate a concert with my Wolfman ears. The house lights dimmed to a singing SCR (Silicon Controlled Rectifier). Spots came up and the bassoon soloist walked on the stage, bowed to the applause, walked off again and told someone to turn off the heating fan which was playing a duet with the SCR. He returned, bowed again to the new round of applause. His taped accompaniment began. I heard trees rustling in the speakers.
Loren Rush has synthesized a bassoon sound at the artificial intelligence center at Stanford. With John Chowning's programming, he can make it move in circles, ellipses, or figure-eights around two speakers. He can make the synthesized bassoon do a glissando. Loren has a lecture entitled "A Day in the Life of a Plastic Bassoon."

Next, a quiet trio played in the manner of Morton Feldman: accented, perfectly-cued car drones.

I listened to a Schubert octet in the recording engineer's sound booth. The speakers added their characteristics to the orchestration. As we watched the audience, the engineer said, "Those people are not listening to the music as it was intended. They should be having dinner."

I am inside my house now. Outside, sounds are attenuated by the insulation. I hear a dripping faucet and the ticking of my cuckoo clock. They combine and are joined by the refrigerator. The planes from Palomar Airport dwindle in through the furnace openings.

I have listened to many refrigerators. There is often a flickering between the sixth and seventh harmonic. Once, while in the process of drinking Ouzo with David, Bob, and Orville, a refrigerator sent its harmonics out to surround my head with circles, ellipses, and figure-eights.
In 1963 I made a tape piece for dancer Elizabeth Harris. It was made from piano sounds. On the night of the first performance, I stood in the wings prepared to start the tape recorder. Suddenly, I heard the opening sounds of my piece, but the tape transport was not moving. The dance involved a mobile that was suspended from a strand of piano wire. When the mobile was lowered, it moved like a pendulum, causing the piano wire to vibrate.

In New York, Terry Riley led me fifteen blocks out of our way to hear a building ventilator. I wonder what microbes hear?

Sitting in a parking lot on my third day of article writing. I could listen to the stereophony of car starter gagglings, motor wigglings, door squeals, and “bllaps” forever. It’s almost like Debussy, compared to Saturday’s Wagnerian bulldozer.

The best part of Lincoln Center is the tunnel from the IRT to the Beaumont Theater. Walking toward the theater, my footsteps greeted me from the approaching wall; midway, they followed me from the opposite wall. I listened to this more than one hundred and fifty times—an Alice in Tunnel-land—while moving from the saga of subway sound to Brechtian music drama.
"If the moon is ever visited, one feature of its environment will be known beforehand with certainty; the wastes will be noiseless except for vibration transmitted through the solid surface. Since there is no gaseous atmosphere, there can be no tread of footsteps heard, no rustle of clothing; and if an obstruction is dynamited, the debris will fly apart silently as in a dream." (Edgar Villchur: Reproduction of Sound)

During the quiet evening of a summer vacation near the Feather River Canyon, Lynn, Bob, and I wanted to play music. We decided to read John Cage's Atlas Eclipticalis from the original score, which was shining brightly above. The canyon creatures joined us as we played, and we played until our awareness became imbedded in the canyon and summoned a ghostly, floating train: an apparition of metal meeting metal, reflected doubly, triply, endlessly from the canyon, from the mind, from the flickering passenger windows, the rumbling ties. OUR EARS FELT LIKE CANYONS. We didn't speak until morning.

One's ideas about music can change radically after listening to recorded works at fast forward or rewind on a tape recorder. Ramón Sender arranged Wagner's Ring Cycle by a series of re-recordings at fast forward to four successive clicks. "The auditory basis of obstacle detection by bats was independently recognized in 1932 by a Dutch zoologist, Sven Dijkgraaf, who made a careful study of these faint, audible clicks and noted how closely they were correlated
with the echo-location of obstacles. This is an example of the need for care, patience, and appropriate conditions if one is to notice and enjoy some of the more fascinating facets of the natural world.” (Donald R. Griffin: Echoes of Bats and Men)

According to Loren Rush, the reason for studying counterpoint is that you may have to teach it some day.

“Airborne sound waves are reflected back almost totally from the water, and underwater sound is equally well reflected back downward from the surface....Once proper equipment was available for converting underwater sound to audible, airborne sound...underwater listening became refined enough and common enough to reveal the immense variety of sounds used by marine animals.” (Ibid.)

In most schools and universities the language laboratories are better equipped for sound processing and modifications than the music departments.

Human hearing is non-linear. Our ears are less sensitive to low and high frequencies approaching the limits of audibility. Our ears are most sensitive at about 3000 Hz where some people can hear collisions of air molecules.
A fast sweep of the audio range by a tone generator can produce a click.

"Some animals, notably insects, do not have ears in their heads but in such unlikely places as legs (some crickets) or the thorax, or 'middle' portions of the insect body to which the legs attach (some grasshoppers)." (Bergeijk, Pierce & David, Waves and the Ear)

I stopped writing yesterday in order to go on listening. Monday's performance of Wolfman was somewhat marred because the sponsors failed to provide proper speakers and amplifiers. I heard Wolfman's ghost drooling feedback.

Many music departments are more concerned with analysis than communication.

When I was sixteen, my accordion teacher taught me to hear combination tones. The accordion is particularly able to produce them if you squeeze hard enough. From that time, I wished for a way to eliminate the fundamental tones so I could listen only to the combination tones. When I was thirty-two, I began to set signal generators beyond the range of hearing and to make electronic music from amplified combination tones. I felt like a witch capturing sounds from a nether realm.
In one electronic studio I was accused of black art, and the director disconnected line amplifiers to discourage my practices, declaring that signal generators are of no use above or below the audio range because you can’t hear them. Since all active processing equipment contains amplifiers, I found that I could cascade two pieces of equipment and get enough gain for my combination tones to continue my work, plus the addition of various amplifier characteristics such as orchestration. I worked there for two months, and, for recreation, would ride my bicycle to the town power plant where I would listen for hours to the source of my newly-found powers.

Saturday’s bulldozer has gone away. The birds and insects share the air with waxing, waning plane and car drones. The insects are singing in the supersonic range. I hear their combination tones while the insects probably hear the radio frequency sounds created by motor drones, but not the fundamentals. If we could hear the micro-world, we would probably hear the brain functioning.
The Poetics of Environmental Sound

The following was produced at the invitation of composer Udo Kasemets, editor of CANAVANGARD. "The Poetics Of Environmental Sound" appeared in Issue 1, Focus on MusicEcology, published by Berandol Music Limited, Canada.

"The Poetics Of Environmental Sound" consists of a listening exercise and quotations from about 150 different responses to the exercise. The quotations are arranged as if the sounds and emotional qualities effect a collaborative musical composition.

It was first assigned to students at the University of California at San Diego as part of a liberal arts course known as The Nature of Music. This course encourages students to develop musical perception through group improvisation, graphic notation and tape composition.

Theory students of Alvin Lucier at Brandeis University and Allen Strange at Indiana University also participated.

"I Heard A Boy Singing
Long Long Ago.
He Rode With The Reins Loose
And Let The Horse Go."
Robert Duncan

Listen to the environment for 15 minutes or a longer but pre-determined time length.
Use a timer, clock or any adequate method to define this time length.
Describe in detail the sounds you hear (heard) and how you feel (felt) about them.
Include internal as well as external sounds.
You are part of the environment.
Explore the limits of audibility:
(highest, lowest, loudest, softest, simplest, most complex, nearest, most distant, longest, shortest sound)
"But Never Silence"

"One thing I noticed right away was the absence of silence. There is always some kind of sound in the air."

"And between the thumps in the silences that grow longer, I am reminded that there is no silence."

"You'd never guess that so much sound could come out of a library which should be so quiet."

"It was like an orchestra with no rests, no silence anywhere."

"One instance I particularly remember came after a long period of intense silence."

"If it weren't for these breaks in the monotony, this constant sound would become as a silence."

"I desire silence but there is none."

"I have just been in concert: the continuing concert of environmental sounds. I can hear it still."

"I sit quietly with my alarm clock, close my eyes and open my ears. At this point, the curtain rises and the performance begins. My very surroundings seem to come alive, each sound revealing the personality of its creator. There are several sounds which become fixed in my ear like some 'basso ostinato': the continuous whirring of factory machinery in the distance and the hollow sound of plopping water in a nearby fountain. This background of sound is interrupted by the piercing motif of a bird. A sudden breath of air sweeps across the deck. The pages of my book respond with quick snapping sounds. The door at the entrance squeaks and moans on the same pitch like an old rocking chair, then closes with a
thud. I can hear the drapery from an opened window rustling against the coarse plastered walls, while the drawing cord syncopates against the windowpane."

"Cars smack the air and tires slap the road giving off that highway sound, a low hiss that has no beginning or end, just a peak. The drone is established and only the sharp, high-pitched chirps and tweets of the birds persist in breaking the undertone."

"Only a couple of minutes have passed and things are getting really involved already."

"And then there were sounds that crept up on me, coming out of the drone, sharing the stage with or stealing it from the fountain, and then blending themselves unnoticed back into the drone. Obviously these were sounds without clearly-defined boundaries. A minor example of this type of sound is of a bus on a nearby road. The sound reached a level of only slight prominence and then disappeared leaving the listener unsure of the veracity of its very existence. But the sound of a jet-fighter traversing the breadth of the campus was quite a different matter; first there was the drone, then the jet, and then the jet was all I knew. It did not, however, dominate, so to speak, the sound of the fountain. Actually, for the time that it was at its maximum, it adopted the fountain, so that the splashing seemed to be just another sound of the jet. And then the jet left while the ever-present splashing and droning continued."

"Every once in a while a bad apple would pass that would break the pattern; a poorly tuned car, or one that was going too fast would seem out of place."

"At the moment these background sounds are being heard, they are linked together by other irregular and random sounds."
"Another car door slams and as if cued by a conductor, a buzz saw starts in a neighbor’s yard. The intensity of the sound is so great now that I feel it rather than hear it. It stopped! The radio, the buzz saw, and the wind. Now I can hear a spider spinning its web while an innocent fly buzzes around my head."

"Funny, there are more sounds now than when the record player was on. Now I hear a symphony of a different sort."

"I was amazed that I could hear myself blink. It is about the softest sound I ever heard."

"Five minutes have passed—only five minutes! Such a complex of varied sounds in such a short time. Well, onward—the sounds aren’t waiting for me but are going on."

"At times I was tense waiting for some noises and then they would come in a large group and I would have difficulty remembering all the sounds."

"It seems that a person hears what he wants to and anything else just doesn’t exist."

"Distant voices enter...first a solo: a male-female duet...and then a whole choir. There are never words, only sonorities."

"One of my favorite sounds is the surge of my own heart when my ear is pressed against my pillow. Even as a youngster of five or six, I would listen to this pulse and try to speed it up or slow it down. I would fill the inner part of the beat with my own imaginary sounds. I used to hold balloons against my ear and chew apples or just listen."

"Everything is watery and the sound of someone's voice rides into my ears on rivulets."
“One of the dryers is providing an undercurrent of ‘La Cucaracha’ or something similarly Spanish in light clicky sounds: Chick Chicka Chick Chick, Chick Chicka Chick Chick... then a more relentless Chicka, Chicka, Chicka, Chicka. The Chicka is joined (and nearly drowned out) by a more dynamic washer in the rinsing cycle, slowly going Swish Swash, Swish Swash.”

“It’s amazing the way the different sounds seem to build up to a climax and then diminish as in a musical composition.”

“It all sounded very rhythmical and as if it had purposely been put together in a certain way. After this I began to notice groups of sounds at a time. A door slammed and then a turn-stile clicked; at almost the same time another door closed. Then an airplane created a loud-textured noise and a pile of books smashed down this time. I noticed one girl go up the stairs in very even steps and then a boy skipped up. Whispering began, the chair squeaked, the turn-stile clinked and steps getting louder.”

“Sounds are very complex now. It is all but impossible to get them down; there seems to be a thousand things going on at once. Twelve minutes have passed.”

“Even when I was listening I missed some sounds. The explanation being that part of the sounds are filtered by the mind from consciousness... even when one is paying attention. I did find that soft sounds were lost easier than loud sounds. This is probably because soft sounds tend to lull one while strong and loud sounds which are associated with unpleasant experiences attract one’s attention.”

“One curious thing I have noted is that the very building I am in has a noise of its own. Perhaps it is caused by the heating system. Wherever I go I can hear a soft hum of noise which seems to come from the ceilings
and walls. Usually this noise is covered up by more demanding and raucous sounds, but now in a period of relative quiet, I can peel back the layers of other sounds and listen to this very unobtrusive hum. A shot! What sounded like a gunshot just occurred beneath my window. I'm not sure it was a gunshot (I've never actually heard a real live gunshot), but it sounded like what one would expect from a gun. Perhaps it was a balloon or a cap pistol. Whatever it was, it was loud and short. There was no echo or diminuendo. It immediately grasped my attention, and for a brief second, I could hear no other noise except that.

"I also noticed that my disposition was affected by the type of sounds I heard."

"The climax came when the roar of a motorcycle was met with a very unexpected bang of an object dropped in a nearby room. My nerves jumped as I settled back to the rustling leaves."

"Just outside my window and a couple of floors down hisses some exhaust outlet. It hisses so quietly I can barely hear it unless I lean far out the window. Also through this same outlet emanate clearly but weakly, from the seeming subterranean depths of underground garages, the screeches of cornering tires and the growl of automobile exhausts. Loosening the reins on my imagination, I might describe this last sound like the enraged sounds of a modern-day mechanical dragon. Combining the wind sounds and the automobile sounds late at night, a tableau forms that could send the sanest of men into eerie fits of terror. The wind whistles gently, leaves skitter and scrape across cement; tires screech in such a succession that it would seem that humans could not be driving. In addition, sea gulls' occasional caws intermittently intrude. The high bushes wave back and forth directly across from my window as if there was a human soul imprisoned, silently crying for release. Next door to
my apartment building are little tarpaper shacks. At late hours black cats pitter about like shades of times long ago. The inhabitants of these tarpaper shacks meanwhile make silent shapes on windowshades, while the tarpaper shacks creak and groan as if they too contained an embodied spirit. Also at this hour small birds flutter as if the air was losing its fabric and could no longer support them."

"Nearing the end of the fifteen minutes, almost as if it were planned, a girl sitting in the distance let out with a steam kettle, 'shhh' in an effort to restore 'silence' to the library."

"Sounds keep coming and going"

"The fifteen minutes seemed to go like a flash, especially toward the end."

"After listening to life, I feel I can appreciate it a little more. It is a shame a lot of other people do not take the time to do the same."

"It is a fascinating experience to become aware of all the sound companions one may discover in a once-believed quiet place."

"It seems to me that the whole world of sound is given a form like that of a concert piece."

"Sounds have a way of reminding you of something, and I guess most of the time people don't even realize that it was a sound that caused them to think about something because then they get tied up thinking, and not really hearing any more."

"After a time the 'earlids' began to close. That is, all sounds assumed a drone quality – the first sign of approaching sleep. Arousing myself somewhat, I noticed that the sounds were displaying an organization –
the organization of living things. Each was an instrument within the orchestra. Each was made with its own unique sounds. I was very much entertained, and a smile came to my face. Hunger was getting the best of me. Knowing I could return at most anytime, I left my reserved seat within the 'auditorium'."

"At the end of the concert, I began to feel quite amazed with my surroundings. To think how utterly fantastic the work I just heard was, left me somewhat spellbound. Everything seemed to fall into place. Even though the tones heard may not have been intelligible as those of a manufactured musical instrument, the work certainly seemed to have a structure to it. I have a feeling that Webster really didn't know how much he was covering with his dictionary definition."

"Opening my eyes, I know the piece is over and the normalcy of the situation is astounding. It seems artificial to see dryers and people and carts, and the minute I begin seriously considering them with my eyes, the sounds fly right away."

"I thus depart with a new, an unusual experience: I have heard a composition from the 'Sounds of Silence'.”
Tape Delay Techniques for Electronic Music Composers

The following technical article on tape delay techniques was requested by composer David Cope for *The Composer*, a magazine which he initiated and edited. The article was included in Volume 1, No. 3, December 1969.

Whether in the studio or in concert, the tape recorder has uses beyond its ordinary recording function and can become part of the modifying ensemble in electronic music performance and composition. A common instance of this is tape head reverberation.

In order to utilize tape head reverberation, the recorder must have separate record and playback heads with access to both circuits. Comparison of the incoming signal to the record head with the recorded signal from the playback head is usually accomplished by a switch (Figure 1a).

(Figure 1a)

The distance between heads varies with manufacturer.
Figures below are for Ampex 350.

- Output delay
  - 266 milliseconds at 7½ ips
  - 133 milliseconds at 15 ips
Signals to the record head are simultaneous with the source. Signals from the playback head are delayed with respect to the record head by the distance the tape must travel between the two heads (Figure 1b). Addition of the playback signal by means of a feedback loop to the record head will cause reverberation (Figures 2 and 3). The amplitude of reverberation is determined by the level of the feedback signal.

(Figure 1b)

(Figure 2)

(Figure 3)
Many home tape recorders now have switches which automatically direct the signal from channel 1 playback head to channel 2 record head, and vice versa.

If the tape recorder is fed by a microphone, and the output to the record head is fed into the recording space or concert hall, the circuit acts as a P.A. (public address) system (Figure 4a). If the output from the playback head is fed back, then reverberation occurs (Figure 5). Microphone placement for both circuits is critical unless acoustic feedback is desired. That is, the speaker sound field must not interfere with the microphone sound field (Figure 4b).

(Figure 4a)

![Diagram](image)

no feedback

direct signal

(Figure 4b)

![Diagram](image)

possible feedback area
Figure 6 shows the equipment circuit for the *The Bath*, 1966, a composition for Ann Halprin's Dancers' Workshop, in which the dancers' movements and vocalizations as well as environmental ambience were utilized as sound sources, and the tape recorders as modifiers, during a live performance.
Following are the instructions:

Section I — Record all of the dancers' activities with recorders A, B and C

20 minutes.

Set output of pre-amp and outputs of tape playbacks at zero.

Section II — Rewind and transfer tape from recorder A to recorder D. Continue recording with B and C. Open the pre-amp pot to maximum acceptable output for the space. Put a new tape on recorder A and continue recording. Open the playback pots gradually during the next five minutes on recorder A. Always control feedback but never make sudden gain adjustments. Rewind recorders B and C near the end of Section II

20 minutes.

Section III — Continue recording with playback pots open on recorder A. Begin to play back recorders B, C and D — (with playback pots open). Continuously select material from all four recorders utilizing the six mixer pots. Rewind when necessary.

20 minutes +.

During Section I, the audience becomes accustomed to the sound space as it is. The gradual introduction of reverberation in Section II intensifies all the sounds the dancers make, and expands the auditory space. Section III introduces various memories of Section I and II. The overall effect is quite complex and can be handled by one performer.

With additional modifying equipment (such as gates, filters, modulators, etc. and/or sound sources), variations of the basic technique used in The Bath could occur (For examples, see Figure 7).
Cross-coupling or a double feedback loop between channels (Figures 8a and b) can produce continuous reiteration of an attack until it decays, a new attack occurs, or a resonant mode is activated (which results in a continuous crescendo). These circuits are difficult to handle. Gain controls must be advanced from zero slowly and carefully; otherwise large volume feedback is likely to build up very quickly. Cross-coupled feedback is quite effective with long sustained tones; it produces reverberation and effects timbre changes.
(Figure 8b)

Double feedback loop

In order to get very fast repetition of attacks, the circuit shown in Figure 9 was used for part of the tape portion of Light Piece for David Tudor, 1965. (Four channel tape, amplified piano and light projections.)

(Figure 9)

Direct signal and delay at mixer to reiterative loop at TR B outputs.
The equipment circuit for Beautiful Soop, (Smith Publications), 1967, two-channel tape (Figure 10), represents a far more complicated use of small delay techniques. It utilizes four recorders and exploits the difference in distance between heads in the Skully 280, Ampex 350 and two Ampex PR 10s operating at 15 and 7 1/2 IPS, respectively. The Skully 280 has about three inches between heads; the Ampex 350, about two inches; and the PR 10s, about one inch. (No actual measurements were made. Use of the feedback loops were determined by ear.) With all the feedback loops in operation there is a shimmering effect on attacks, and interesting timbre changes on sustained sounds. Because every delay line was controlled by a separate mixing pot, as much or as little feedback as desired was introduced, and each delay line could be treated as a separate source. By sending delay lines to various modifying devices, a large number of variations could occur.

(Figure 10)
"I of IV" for two-channel tape, 1966 (CBS Music of Our Time series, ODYSSEY 32-160160) utilized one tape threaded through two recorders (Figure 11a) for an approximate eight second delay plus the shorter cross-coupled delays. Figure 11b shows the circuit for "I of IV." Inserting a mixer in the feedback line provided control over the amount of feedback.

In C(s) for Once, 1966 (Berandol Music Inc., Canada), three tape recorders (with one tape threaded through all three) delay live sounds of voices, flutes, trumpets and organ (Figures 12a and b).

The console operator cues the performers and is instructed when to introduce the delay lines during the course of the performance.

Most of the diagrammed circuits can be set up using home equipment, provided that the tape recorders have separate record and playback heads. Four input-one output mixers for isolating the input signals are available for five dollars from Lafayette Radio (Cat. 99T 4535 mono; the stereo mixer is not recommended). All feedback loops are accomplished by external patching.

(Figure 11a)

**I OF IV – 1966**

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(Figure 11b)

Direct signal plus 8 second delay plus reiterative short delay

short delay plus 8 second delay plus reiterative short delay
(Figure 12a)

3" delay from TR 2-Ch. 1.

6" delay from TR 3-Ch. 1.

short delay from playback head plus 3" lag from TR 2-Ch. 1. and 6" lag from TR 3-Ch. 2. plus cross-coupled reiteration loop from TR 1, Ch. 2.

short delay from playback head plus 3" from TR 2-Ch. 2 and 6" lag from TR 3-Ch. 2 plus cross-coupled reiteration loop from TR 1-Ch. 1.

3" delay from TR 2-Ch. 2.

6" delay from TR 3-Ch. 2.
A very flexible and interesting studio and performance tape recorder could be designed with the following considerations:

1. simultaneous access to each head via output jacks which bypass the comparison switch (input/repro).
2. an erase head defeat switch (providing a useful overlay function even though the record head somewhat erases the previous signal, especially the high frequencies).
3. selective synchronization (record head can be switched to playback head).
4. noiseless switching from: record to playback mode, erase or no erase without stopping the tape transport.
5. a playback head before the erase head.
6. extra playback heads with adjustable distance from the normal playback head for fine control of delay times.
7. multiple channels, i.e., 4 to 8.
And Don't Call Them 'Lady' Composers

The following article was written at the invitation of music critic Theodore Strongen of The New York Times. It was included in the Arts and Leisure section on September 13, 1970. It is printed here as edited by The New York Times.

Why have there been no "great" women composers? The question is often asked. The answer is no mystery. In the past, talent, education, ability, interests, motivation were irrelevant because being female was a unique qualification for domestic work and for continual obedience to and dependence upon men.

This is no less true today. Women have been taught to despise activity outside of the domestic realm as unfeminine, just as men have been taught to despise domestic duties. For men, independence, mobility and creative action are imperative. Society has perpetuated an unnatural atmosphere which encourages distortions such as "girl" used as a bad word by little boys from the age of nine or ten. From infancy, boys are wrapped in blue blankets and continually directed against what is considered feminine activity. What kind of self-image can little girls have, then, with half their peers despising them because they have been discouraged from so-called masculine activity and wrapped in pink blankets?

The distortion continues when puberty arrives and boys turn to girls as sex objects but do not understand how to relate on other important levels. Consider the divorce rate! No matter what her achievements might be, when the time comes, a woman is expected to knuckle under, pay attention to her feminine duties and obediently follow her husband wherever his endeavor or inclination takes him – no matter how detrimental it might be to her own.

A well-known contemporary composer has a wife who is also a competent composer. They travel together extensively and often return to the same places for performances of his work. She is rarely if ever solicited for her own work and no one seems to see anything wrong with constantly ignoring her output while continually seeking out her husband's work.

Many critics and professors cannot refer to women who are also composers without using cute or condescending language. She is a "lady composer." Rightly, this expression is anathema to many self-respecting women composers. It effectively separates women's efforts
from the mainstream. According to the *Dictionary of American Slang*, "lady" used in such a context is almost always insulting or sarcastic. What critic today speaks of a "gentleman composer"?

It is still true that unless she is super-excellent, the woman in music will always be subjugated, while men of the same or lesser talent will find places for themselves. It is not enough that a woman chooses to be a composer, conductor or to play instruments formerly played exclusively by men; she cannot escape being squashed in her efforts — if not directly, then by subtle and insidious exclusion by her male counterparts.

And yet some women do break through. The current Schwann Catalog lists over one thousand different composers. Clara Schumann of the Romantic Period and Elizabeth J. de la Guerre of the Baroque are the sole representatives for women composers of the past. But on the positive side, over seventy-five percent of those listed are composers of the present and twenty-four of these are women. These approximate statistics point to two happy trends: 1) that composers of our time are no longer ignored, and 2) that women could be emerging from musical subjugation. (It is significant that in a biography of Schumann that I have read, Clara is always talked about as a pianist, not a composer, and she is quoted as saying "I’d give my life for Robert.")

The first of the two trends is developing even though the majority of performers do not include contemporary music in their repertoire and private teachers seldom encourage their students to try new music or even to become acquainted with their local composers. Agencies such as the Rockefeller and Ford Foundations have helped establish centers for new music in universities across the country, and independent organizations such as the Once Group of Ann Arbor and the San Francisco Tape Music Center promoted lively programs of new music throughout the nineteen sixties. Isolated individual efforts throughout the country have gradually created an active, new music network.

At last, the symphony and opera organizations may have to wake up to the fact that music of our time is necessary to draw audiences from the people under thirty. The mass media, radio, TV and the press could have greater influence in encouraging American music by ending the competition between music of the past and music of the present.

Many composers of today are not interested in the criteria applied by critics to their work and it is up to the critic to discern new criteria
by going to the composer. With more performances of new works at which the composers are present, and with the greater mobility of our society, critics have a unique opportunity—a duty—to converse directly with the composer. Then (since performers are often irresponsible with new works because of disrespect for or lack of established models), works with which the critics have familiarized themselves would escape some scathing misjudgments due to poor performances. The ideal critic could not only interpret technically and encourage an atmosphere which is sympathetic to the phenomenon of new music, but present the composer as a real and reasonable person to audiences. Certainly, no “great” composer, especially a woman, has a chance to emerge in a society which believes that all “great” music has been written by those long dead.

The second trend is, of course, dependent on the first because of the cultural deprivation of women in the past. Critics do a great deal of damage by wishing to discover “greatness.” It does not matter that not all composers are great composers; it matters that this activity be encouraged among all the population, that we communicate with each other in non-destructive ways. Women composers are very often dismissed as minor or light-weight talents on the basis of one work by critics who have never examined their scores or waited for later developments.

Men do not have to commit sexual suicide in order to encourage their sisters in music. Since they have been on top for so long, they could seek out women and encourage them in all professional fields. Libraries of women’s music should be established. Women need to know what they can achieve. Critics can quit being cute and start studying scores. (The National Federation of Music Clubs has prepared a Directory of Women Composers. It can be obtained by writing to Julia Smith, 1105 West Mulberry Street, Denton, Texas 76201. A complete discography of recorded music by women composers as listed in the Schwann Catalog, accompanies this article.)

Near the beginning of this century, Nikola Tesla, electrical engineer and inventor of electrical power from alternating current, predicted that women will some day unleash their enormous creative potential and for a time will excel men in all fields because they have been so long dormant. Certainly the greatest problems of society will never be solved until an egalitarian atmosphere utilizing the total creative energies exists among all men and women.
Works by Women Composers: On Disks (in 1970)


Bauer, Marion — Suite for Strings (1940); Prelude and Fugue (1948). Adler, Vienna Orchestra. CRI 101.

Beach, Mrs. H.H.A. — Improvisations for Piano. Rogers. Dorian 1006.


Suite for Wind Quintet. Lark Quintet. CRI S-249.

Daniels, Mabel — Deep Forest (1931). Strickland, Tokyo Imperial Philharmonic. CRI 145.


Concertante for Piano and Orchestra (1944). Honstroza, Watanabe, Japan Philharmonic. CRI 135.


Lyric Pieces for Strings (1941). Strickland, Tokyo Imperial Philharmonic. CRI 170.


Howe, Mary — Castellana for Two Pianos and Orchestra (1935). Dougherty, Ruzicka, Strickland, Vienna Orchestra. CRI 124.


Stars (1937); Sand (1928). Strickland, Orchestra. CRI 103.


Jolas, Betsy — Quatuor II. Mesplé, French Trio. Angel S-26655.


Maconchy, Elizabeth — Quartet No. 5 (1948). Allegri Quartet, Argo 5329.

Mamlok, Ursula — Variations for Solo Flute, Baron. CRI 212.


Short Piece for Orchestra (1952). Strickland, Tokyo Imperial Philharmonic. CRI 145.


Toccata for Orchestra (1944). Strickland, Imperial Tokyo Philharmonic. CRI 145.


Sonic Images

Sonic Images was presented in September 1972 at California State University, Los Angeles, at the invitation of Madeleine Hamblein, Director of the Los Angeles Chapter of Experiments in Art and Technology, during a conference for Architects and Designers called Shelter for Mankind.

“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 in Varieties of Religious Experience

“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 to Carlos Castaneda in Journey to Ixtlan

1. Can you find the quiet place in your mind where there are no thoughts, no words, and no images?

2. Can you remain in this quiet mindplace by listening to all the sounds you can possibly hear, including the most distant sounds beyond the space you now occupy?
3. Do you ever notice how your ears adjust inside when you move from one size space to another? Or from indoors to out of doors or vice versa?

4. Who is very familiar to you? Could you recognize this person only by the sound of her or his footsteps?

5. What is your favorite sound? Can you reproduce it in your mind? Would you communicate to someone else what your favorite sound is?

6. Have you heard a sound lately which you could not identify? What were the circumstances? How did you feel?

7. What do you sound like when you walk?

8. What sound is most familiar to you? Can you describe it without referring to the source? What is its effect upon you?

9. Imagine the sound of a bird call. What kind of bird is it? When did you last hear it? What does it sound like? Can you imitate it?

10. What is the most silent period you have ever experienced? Was it only a moment or very long? What was its effect on you?

11. Can you imagine an animal sound? What kind of animal is it? What are its habits? What is it doing? Could you imitate the sound of that animal?
12. What is the most peculiar auditory sensation you have ever experienced?

13. Can you imagine a plant or tree? What kind of plant or tree is it? Where is it located? What sound comes to mind?

14. What is the most complex sound you ever experienced? What were the circumstances and how did you feel?

15. Can you imagine or remember some emotional experience? What non-verbal sound is associated with this experience?

16. Can you imagine the distance between any two sounds you are now hearing?

17. Can you imagine that you are in a very quiet, comfortable place, with plenty of time, with nothing bothering you? Can you imagine that you are in tune with your surroundings, and in the distance, beautiful sound is moving closer to you? What is that sound? What happens to you?
Dialogue with Basho

The meditation "Dialogue With Basho" was presented as a performance at Douglas College, Rutgers, in Brunswick, New Jersey in 1973. It is published here for the first time. "Dialogue With Basho" is intended to be read aloud. The reader relates to every environmental sound while reading, either by re-reading interrupted words or adjusting vocal intensity or tempo of the reading, so that the text is always clearly transmitted, and the reader is continually aware of all that is sounding.

I want to make images with vocal, electronic, and instrumental sound. My works before now have been organic, continuously growing compositions. These will be separate images, complete in themselves, close in spirit to Basho, with mime and light.

Breaking the silence
Of an ancient pond
A frog jumped into water—
A deep resonance.

Not a literal translation, but abstract. How to achieve the silence! With mime. With light. With sound.

In the utter silence
Of a temple,
A cicada's voice alone
Penetrates the rocks.
How to move the mind in the special way that poetry does! I see a figure dressed in a brilliant red robe. She stands before an arch. Slowly she brings together two rocks in a tremendous crash.

How is it that I hear
The noise of creaking oars
In the deepest mountains?
Because of the ripening fruits
That rub against wood as oars do.

Each sound must have its own life. Express the inner generative power of its being. The relationship to other sounds and sights is not imposed. Parallels exist. There will be no musical syntax.

At early dawn every push of the oar
Is audible from a passing boat.

In a sorrowful voice
A cricket is heard singing
Beneath the withering grass.

I hear the sound of withering grass. Dry, crackling, descending, drawn by the massive pull of the ear. The voice of the cricket rising toward heaven, sorrowing over the separation.

Each sonic image, though possibly taking a suggestion of the preceding sonic image, opens a world of its own. The listener will be carried through the whole series as through an exquisite arrangement of rooms in a building "always entertained by delightful changes but never arrested by sudden contradictions."
A piano bump, a high string sul ponticello flautando, whistling pan pipes, rustling. A light grows.

The piercing voice of a bush warbler
Is an alarm for the slumbering world.

How will these sounds go together?

Tonight the wind blowing
Through the Basho tree,
I hear the leaking rain
Drop against a basin.

Walking along the sidewalk at Cal State University at Los Angeles 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 with it 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 source (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.

Hardly a hint
Of their early death,
Cicada's singing
In the trees.

Reflective combinations of echoing sonic and visual imagery will occur:

The wild cries of a cat
Having been hushed,
The soft beams of the moon
Touched my bedroom.

Mickey Mouse has no place in this discussion.

The voice of a cuckoo
Dropped to the lake
Where it lay floating
On the surface.

How to overcome the dominant unity of an electronic music system?

Sweet as a lute
 Falls on my ears
The plucking of a cotton bow
In a dark bamboo recess.
Are we always so certain of the sources? The modifying techniques!

Once after working for hours with a tape delay system, I went out for a mid-night dinner. Startled, I begin to hear the echo pattern imposed on the chatter and clatter of the restaurant.

With a bit of madness in me,
Which is poetry,
I plod along like Chikusai
Among the wails of the wind.

Sleeping on a grass pillow
I hear now and then
The nocturnal bark of a dog
In the passing rain.

Have you ever noticed how there is no background noise to a dreamed sound? Perfect signal to noise ratio.

Over the darkened sea
Only the voice of a flying duck
Is visible—
In soft white.

The sonic images could be collected or made from dreams, fantasy, experience, retrospection, introspection, super specion.

Water drawing ceremony,
The wooden clogs of the priests
Beat against
The icy floors of the hall.
This morning while feeding the geese and ducks, I thought I heard the ghostly sounds of a piano in the distance. I immediately accepted a complete composition in my mind. I could not locate the sounds. It turned out to be Pamela reading through some cadential formula for her theory class. Those cadences floated haltingly through the sounds of contented poultry gobbling corn while I filled the old, rusty, half-hot water tank with water from a rubber hose.

I see the image of a man brandishing an oak staff. Dressed in a pitch black robe, he makes his way across the stage. He hears the thunderous echo of the staff thumping against the floor, accompanied by the slow drag of shuffling footsteps. Sudden light exposes flashing silver rings about his neck. With his left hand, he holds a lantern above his head.

How lonely it is
To look at the moon
Hearing in a temple
Eavesdrops pattering. Soha

The sonic and visual images will have so much integrity that they will stand alone as if in a dream or fantasy or go together with myriad other images. Will these images have "fresh and arresting elements" in them? Would that make them worth stating?

The voices of plovers
Invite me to stare
Into the darkness
Of the Starlit Promontory.
As a solution to an event called for in my work, Please Don't Shoot The Piano Player He Is Doing His Best, two women did the following: (the event was defined as irreversible within a specific time limit). They brought a pumpkin on stage and a logger's saw. They began vigorously to saw the pumpkin in half, gasping with each stroke of the saw. The event was assuming terrifying proportions with their intensity. It was the most striking thing in the piece. Suddenly they broke and began to giggle self-consciously. The drama dissolved into nothing. They were unable to handle the power of their vision.

One after the other
In silent succession fall
The flowers of a yellow rose—
The roar of tumbling water.

End your worries for a time about syntax-climax. Listen to the sounds. Allow them the freedom of relationship.

Clear voiced cuckoo,
Even you will need
The silver wings of a crane
To span the islands of Matsushima.

I hear an endless sound appearing as a vision radiating as a triangle with a circular bell. <

Turn the head of your horse
Sideways across the field,
Let me hear
The cry of the cuckoo.
Can these sounds be found dwelling in the depths of any electronic music system?

Move, if you can hear
Silent mound of my friend
My wails and the answering
Roar of autumn wind.

Can these sounds be found dwelling in the depths of musical instruments?

I am awe-struck
To hear a cricket singing
Underneath the dark cavity
Of an old helmet.

The time span of these images does not matter.

All night long
I listened to the autumn wind
Howling on the hill
At the back of the temple.

Once while half asleep, my head was suddenly and forcefully pushed against the wall by a sound from outside piercing my eardrum. It was a model airplane engine buzzing angrily. The pain was excruciating.

Waterfowl, too,
Must be fast asleep
In this hushed silence
Of Lake Yogo.
To NMCE

The following was written in response to a participatory visit to a rehearsal of Kenneth Gaburo's New Music Choral Ensemble IV. NMCE was then a part of PME (Project for Music Experiment, since changed to Center for Music Experiment and Related Research, which is an Organized Research Unit of the University of California, San Diego). NMCE rehearsed daily for several hours. The members of NMCE included Lin Barron, Howard Crook, Ann Chase, Philip Larsen and Linda Vickerman.

"Of all the waters of the world, none is as great as the sea. Ten thousand streams flow into it—I have never heard of a time when they stopped—and yet it is never full. The water leaks away at Wei-Lu [said by some to be a huge fiery stone against which sea water turns to steam]—I have never heard of a time when it didn't—and yet the sea is never empty. Spring or autumn, it never changes. Flood or drought, it takes no notice. It is so much greater than the streams of the Yangtze or the Yellow River that it is impossible to measure the difference. But I never for this reason prided myself on it. I take my place with heaven and earth and receive breath from Yin and Yang. I sit here between heaven and earth as a little stone or a little tree sits on a huge mountain. Since I can see my own smallness, what reason would I have to pride myself?" (Chuang Tzu, Autumn Floods: Basic Writings translated by Burton Watson)

The Metal Fist

Visit to NMCE rehearsal this morning. The entrance—Vibrations: identity search, role and game playing, not pitched but some yaw and maw. Dust mop. Clean up the space. Hey, Linda, you missed a lot of cigarette ashes over in front of my chair. Moving chairs, stands, out of the center. It's time to begin.

Where is Gaburo?
Shall we begin something anyway without Gaburo? (After all, there are visitors present, strangers too.) Milling around. Mumble, mumble. I meditate. The annex resounds. Crash! Fumble. Gaburo arrives.

¡Atención!


THRESHOLD thREshOLD

ssssssssssssooMMMMMMMMMMMMMMMMMEELLLLLLLLIIIIIIIIIIIIIIII


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.
Mutatis Mutandis

You need a receiver in you ass. O.K.  Do it without no tricks. But me no buts.  Thighs of the wounded!  I listened with my eyes closed, heard the marks on the wall. What a rumpus.

Next,
We close with Howard's instruction piece.  Eyes closed.  Sense the room and each other.  I join in, moving North, slowly through the cluttered auditory space. What if all environmental sounds were confined to the threshold of whose audibility?  THRESH HOLD.

Olfactory.  Old factory.  TOBACCO.  Smell of tobacco.  Nicotine tropism.  I turn East.  Tobacco is like love.  A good song.  Love along the North wall going East. Thumb rolls on the wall board.  (Going East, Mister?)  Ancient textural feel of wood railing.  GRAIN.  Arrive at corner. Sharp edge of board sticking out.

What's this?  An encounter.  Somebody has my foot.  Feeling up my toes.  I refuse to do a touchie-feelie number.  I freeze, my body relaxed. I, a limpid statue. The back of my hand contacts a face.  I feel new whiskers poking through the skin. I leave my hand at the point of contact letting it follow the face as if magnetized. Left hand still contacting the sharp corner of wood. This becomes a nice long phrase of moving non-movement, a steady state, arrested touchie-feelie. There is a melting gentleness. Toes feel nice. No one-up-manship or  [I have more barrier down than you do, yah! yah! yah!]  The hand and face part company ever so gradually. The front of release only defined by the cool air rushing over the skin. I make my way back West through the cluttered auditory space. I turn South gently brushing against the piano. I reach a chair, not at my starting point. I sit.  There had been a cadence. Someone starting over or did the environment trigger it by continuing?
I meditate. Someone presses on my shoulders. Nice. I meditate. I go deeper. Flowing continuity, but vague low level knowledge that my twelve o'clock student has already been waiting for twenty-five minutes. (Is having absolute time worse than absolute pitch?) (On many occasions, just as negative certainly, especially if you have learned a particular tuning.) I meditate. Deceptive cadence. On. Finally, theta. I hold the image of a METAL FIST, upright. Dull metal. Coming out is pleasant. Eyes closed and right vibration is entry to high amplitude internal vision.

Thank you very much!

Instruction piece offerings:
1. Become performers by not performing.
2. Enhance or paraphrase the auditory environment so perfectly that the listener cannot distinguish between the real sounds of the environment or the performed sound. Keep eyes closed.
3. Sit in a circle. All smokers smoke. All non-smokers watch. Make all thought or action secondary to the act of smoking. Allow no distractions or diversions.
NUMUS WEST ARTICLES

The following group of five articles were written for Numus West at the invitation of Numus West publisher/editor Louis Christensen. Because the articles represent a certain continuity they are grouped together rather than inserted chronologically in this collection.

'Three Themes' appeared in Numus West 1-72.
'Five Scenes' appeared in Numus West 2-72.
'Many Strands' appeared in Numus West 3-73.
'Divisions Underground' appeared in Numus West 4-73.
'Rags and Patches' was intended for Numus West 5-74 but was too long to be included and perhaps too outrageous for the direction Numus West wished to represent. It is published here for the first time.

Three Themes

Introducing the UCSD Music Community:

"What is your favorite sound?"

Roger Reynolds, Composer: "I assume you mean independent of contextual functions?"

Robert Erickson, Composer: "I used to think I had favorites; now I don't, really. The most I could say is there might be a time and a place."

John Mizelle, Composer: "My favorite sound is EverySound; my favorite sound is No sound."

Charles White, Composer: "How about the sound of my head?"

Damian Bursill-Hall, Flautist: "Sometimes my favorite sound is absolutely nothing."

Libby Poole, Violinist: "I never thought about that. I don't know if I have one."

Tom Nee, Conductor: "Babies nursing."

Wilbur Ogdon, Composer: "Hmmm. It's me. As long as I can hear me, I'm happy."

Jack Leung, Composer: "Birds are my favorite sound."
Warren Burt, Composer: “I don’t have a favorite; I like them all.”

James Campbell, Audio Expert: “Clavichord. (You didn’t ask me whether short or long or anything.) Oliveros: “That’s because your output is your revelation!”

Peter Gordon, Composer: “Silence.”

Ernie Morgan, Composer: “I like birds a lot. What’s that one that sings all the licks?” “Mockingbird?” “Oh, yeah!”

Bruce Rittenbach, Clarinetist: “My two-and-a-half-year-old son, Eric, whispering.”

Keith Humble, Composer: (A roaring jet drowns us out.) “I can’t think! After the day I’ve had! Bloody exams from 8:00 a.m.!”

Stan Evans, Composer: “Depends on my mood. Do you mean right now?” (He runs his finger across the carpet.) “I like this very much.”

Joe Julian, Composer: “That’s a tough one. I’d have to say the sea.”

Rheinhard Berg, Composer: “Silence. Because it’s impossible.”

Larry Livingston, Conductor: “Swish! Basketball swish.”

Gordana Stojanovic, Conductor: “Water drops.”

Heidi Von Gunden, Composer: “High flute.”

David Gamper, Audio Expert: “I have so many. A good, heavy, low, steady drone with delicate harmonics changing up above.” (With hands clasped.) “A flute playing alone by the sea.”

Zina Louie, Composer: “God! — I like listening to hummingbirds.”

Irene Solomon, Secretary: “Swiss cowbells, in the Alps.”

Mike Magee, Composer: “I don’t suppose I have a favorite sound.”

David Guion, Composer: “An unfair question on short notice. I like all kinds of things.”

Way Lim Yip, Poet: “Cracking, grating, grinding.”

Jeff Lohn, Pianist: “You haven’t asked me a question.”

Grace Tsou, Composer: “Quiet.”

Louise Spizizen, Harpsichordist: (Smiling broadly.) “That’s it!”

Ken Gaburo, Composer: (Ken is out of town, but I am sure he would like the sound of St. Michael pouring the water of life from cup to cup.)

Joe Friedman, Guitarist: (He jingles keys in his hand.)

John Glazier, Guitarist: “My bathroom door.” (What are you going to do when you move away, John?)
Lin Barron, Cellist-Improvisor: "I think wind chime sounds. The glass tinkle, tinkle ones."

Barbara Durphy, Administrative Assistant: "What a question! I've never thought of that before. The voice — the ocean."

Barbara Alvarez, Secretary: "Quiet!"

Bert Turetzky, Contrabassist: (A dirty laugh.) "A sigh." (Next day's amendment): "The sound of ecstasy with a Hammond organ background."

Barry Lieisch, Composer: "Are you serious? I do like voices."

Ron George, Percussionist: "I don't think I have one."

Joan George, Clarinetist: (On an inhale with Lion's breath.) "Beedeeep!"

Pam Sawyer, Trumpeter: "Do I have to have a favorite sound?"

John Silber, Chairman, Performer: "O-o-o-o-o-h, Damn!!!!!"

Ann Silber, Housewife: "Birds. They bring back so many memories."

Peter Salemi, Composer: "A Thai instrument. The Pi Nai."

Bob MacDougall, Composer: "Hmmm."

Lenore Eric-Alt, Painter: "Birds."

Polly Campbell, Soprano: "Baby cooing."

Nancy Turetzky, Flautist: "Wind chimes."

Beverly Ogdon, Soprano: "A well-sung high C."

Karen Reynolds, Flautist: "High altitude atmosphere."

Mary Nee, Stage Designer: "The sea at night."

Jill Humble, Weaver: "My dog's sound, 'Woonf!'"

Virginia Gaburo, Pianist: (Unavailable for comment, but I am sure she appreciates the voice of Mother Nature.)

My own favorite sound is the memory of undifferentiated masses of sound before my auditory perception was highly developed.

+++
From a Sound Journal
October 18, 1971 UCSD

Leitmotiv
It took a while to learn to look ahead of the actual sound in order to see the jet or jets. I look up only because I know the source is up; otherwise, the location would be obscure. It comes to consciousness first with a high-pitched whine which cycles through the partials of the engine drone. While growing inexorably, the sound is reverberant, reflected from many places in the landscape. As the pressure wave passes through the campus, it peaks when the lowest part of the sound seems to sweep or drag across the ground. There are usually many responses from the resonant wooden-frame building. A window rattles in sympathy or a loose board sings. Depending on the proximity, an ongoing lecture or concert is always masked by the sound, sometimes every five or six minutes. My sternum vibrates, too. With really close jets, the sound usually distorts at some point like an over-driven speaker. I suppose this is actually the distortion of my over-driven ear. Sometimes the jet sounds pop into hearing suddenly without any gradual crescendo from the threshold of audibility. Depending on my state of mind, I can love it or leave it...but a volume control would be nice. The only way for a composer to beat it is to include it. Try Nine and a Half for Henry (and Wilbur and Orville) by Robert Erickson.

January 5, 1972: Today walking across Revelle campus, a motorcycle forms a chord with the Central Utilities building. How to represent, express the spacial quality of that chord? At what point did it become a chord rather than two separate sources? There was a fusion. What happened to the chord?

January 9, 1972: I was giving an entrance exam for my class, Electronics in Music. The task was to make a graphic representation of Morton Subotnick's Side Winder, Part II, the major sections. During the third time through the recording, I heard an amplitude modulated glissando about two seconds long. It had presence. I had not noticed it before. Most of the class noticed it, too. It was the back door of the hall, which had opened, allowing a string of people to silently walk in. The string of people did not understand why everyone turned to look at them.

January 14, 1972: Jim Tenny is tired of being a computer expert. He plays ragtime, instead. Tonight he entertained us with three rags by Scott Joplin on my old Ivers and Pond upright. His versions are smooth and fluid with a remarkable coloration appearing in the voicing. The last one was called Stop Time Rag. Jim didn't know the derivation of that term. Being an old tap dancer, I reminded him that tap dancers do their thing during the stops.

February 2, 1972: I thought I heard an owl hooting, but it was three o'clock in the afternoon and only my nose resonating at the frequency of my dried out nostrils. Curious how internal sounds predominate during illness; I could hear all kinds of roars and drones in my head during the height of the fever. No wonder the heralding of a future Shaman is preceded by illness. I was also visited by innumerable images and the sensation that those bugs were busy rearranging my internal organs. These are the many things that early society appreciated as signs that one was possessed, and therefore a liaison with the Gods. In fact illness was prerequisite for a Shaman. Initiation was the ritual removal of the organs by the deities and replacement of same, according to Mircea Eliade in his book, Shamanism: Archaic Techniques of Ecstasy. The Shaman is also a drummer.

"Fire of whatever kind transforms man into spirit; this is why Shamans are held to be masters over fire and become insensitive to the touch of hot coals. Mastery over fire or being burned are in a manner equivalent to initiation." Shamans are also experts at learning the language of the birds and animals. He or she not only recognizes the sounds but can produce them at will. "Animal language is only a variant of spirit language."

According to Eliade, the drum is of primary importance to the Shaman. It can carry the Shaman to the center of the world or enable him to fly through the air, summon, or imprison spirits. The drumming enables the Shaman to concentrate and regain contact with the spiritual world through which he is preparing to travel. (No wonder I always went for the drums in Kindergarten! Too bad the teacher always intervened and gave the drum to a boy and forced me to play toy trombone.)

The Shaman's drum is always specially made. The right tree is chosen by magical means and is cut for the shell. During the animation rites, the Shaman has to relate the life history of the drum animal. He relates the life history of the tree. Through his own voice the animal tells of its birth, history, parents, childhood, and life to the time it was brought
down by the hunter. Also, the drum is called the Shaman's horse. When the Shaman drums, he is believed to go to the sky on his horse.

February 3, 1972: Terry Riley's In C is like a flock of migrating birds in flight.

Last night my illness manifested itself in wakefulness and overstimulation. I did not sleep for twenty one hours. When I yawned hard, I could hear an electronic drone in my head. The yawn seemed to connect me with the inner sound world, but only momentarily. I recognized the sound. It is similar to some of my own electronic music. When I closed my eyes, visions moved continuously in color and were accompanied by internal dialogue or sound. I had pictures of microorganisms magnified. The dialogue asked over and over again: "What are you?" "Where do you come from?" "What do you bring?" The answer was continuous movement, deep, dark colors and siren-like sounds. I am still hearing the high-pitch drone of my nervous system, but the rushing sounds subsided with the fever. I slept from five a.m. to eight a.m. I'm still awake, improving rapidly, but still overstimulated. Is this flu bug aptly suited for my musical needs?

Karlheinz Stockhausen's Kontakte is musical matricide. Mars at war with Mother Earth.

From a Dream Journal

October 18, 1971: I and some others were going to visit Harry Partch. We could see that he was in bed, bandaged and groaning, but perhaps asleep. We slipped quietly out of the house. All the same - Harry was making an effort to get up. We drove somewhere.

October 21, 1971: I am walking along a path with Bob Erickson, leaving school. We talk in a friendly manner. He meets someone who stops him. I start to stall and wait for him but decide to continue on my way. I begin to soar over the ground. I realize that I can fly. The streets are steep like San Francisco. I run up a steep one, flap my arms and fly up very high. I can feel the breeze. I have a dollar and some change in my hand which I manage to stuff in my pocket. I fly home to Lin.

November 6, 1971: I am running a projector for John Silber. The wall is too dark for the image. The image is abstract dim color changes. He asks me to try projecting on the ceiling, which is white. I can't get the image in focus.

November 9, 1971: I am playing my accordion in a small band. In it are Ken Gaburo and Natalie Mann. I play a very jazzy introduction, twelve bars instead of eight. Ken is laughing and saying he can't remember the
tune. I continue playing the chord background for no particular tune. Natalie begins to sing in a high, beautiful voice. I find some dirt in my hand and throw it on the floor. I examine a small wooden cabinet. There is dirt inside mixed with spider eggs. I pull out a handful and see many black spiders crawling around. I am mildly afraid.

**November 11, 1971:** Tom Nee arranged a performance of *Sound Patterns* in Minneapolis. It was a large chorus in a large hall with an hostile audience. The piece was sort of buried in a huge program of conventional orchestra works. Tom was conducting but also sitting in the audience. I was very surprised at the sounds. There was a fantastic moment with a long chord where the basses sounded like feed back near 16 cycles. It shook the hall. The performance continued until I began to hear raspberry-like sounds from the chorus that did not belong. I got angry. I stood up and yelled, "Stop!" I went up on the stage, yelling "Stop," and demanded to know who was making that sound. It was a woman with a bird whistle. A small child was with her. I demanded to know why she thought she could do that. I turned to explain to the audience how contemporary music gets sabotaged by performers. There were very few people left and most were leaving. A sense of embarrassment hung in the atmosphere.

Later there was a party at Nee's house. There were big pictures of the chorus. Tom was commenting on the elderly members, calling them "geezers." Whole lines of chorus were white-haired.

Lin and I were trying to catch a taxi. We didn't want an old one. We managed to get a bus-like taxi. Many people either got on or off. We drove across country. The trip seemed very fast—almost like a plane ride.

**January 20, 1972:** There is a party. Will Ogdon is present. He has brought special wine. I am served steak and vegetables. For some reason, I must leave. I do not have time to eat. I take my plate to the next room and wrap the steak in aluminum foil to protect it from the cats. The hostess takes the steak, which has turned into a five-dollar bill, and clips it with her scissors as a reminder.

**March 17, 1972:** In a café a woman appeared with a contrabassoon. She was short and blond like Gordana Stojanovic. The contrabassoon was gleaming with a high gloss, and was somewhat fatter than an ordinary one. The woman removed the bocal and began to play the instrument like a jug with her lips some distance from the opening.
Remarkable sounds issued forth: bird-like frequency modulations and insect cries. She had modified the instrument with some invention of her own. After her café performance, I asked her if she would demonstrate this instrument in Bob Erickson's new Instrumental Resources Seminar. I wondered how we could pay her, knowing that the department was officially out of money.
Five Scenes

From a Sound Journal

February 9, 1972: Elephant! What a word! What an image! What a magnificent sound those ancient trumpeters make!

Elephant! Elephant! Elephant! Elephant! (Repeat for a long time at any tempo.)

February 10, 1972: Oh, the tricks these players know! Damian Bursill-Hall plays down to A-55 on his flute, his lips flapping in the breeze.

February 14, 1972: (Saint Valentine, protect me.) A day spent not speaking. This helps me to reach a more creative level: past the verbal barrage, the verbal castle, the verbal fence. Lin comes home. The first words are like soda crackers crumbling out of my mouth.

March 3, 1972: Joan Benson, stately and aquiline. Full of that mysterious energy which has remained squelched in so many would-be professional women by the hyper-masculinity of Western Society. The boys (and some girls) get nervous when this energy manifests itself as it did in her excellent lecture-demonstration on the Piano-Forte (or is it Forte-Piano?) and clavichord. The sound of the clavichord is like the flick of an eyelash at twenty feet. Her performance is impeccable, concentrated, and mediumistic. So why did the boys giggle and make nervous jokes? Her ego is integrated. She has it together.

April 8, 1972: A perfect replica of Robert Ashley's opera, In Memoriam Kit Carson, took place in my guts during the performance. As Tom Nee said, "I absolutely hate those sounds, but they are not going to drive me away. I came to stay!" The barrage came from 32 highly amplified performers in a chamber space. The first row of audience faced four Voice-of-the-Theater speakers head-on with a gap of four feet. When will we ever inhabit the Metropolitan Opera House? Even if my intestines had been quiet, I would have been driven up the wall, which is right and proper to the piece. It is glorious in its insane ugliness.
April 11, 1972: Amplification is a curious phenomenon: Saturday night at the Open Theater's performance of Mutations, an actress projected her voice to a large space better than a battery of Voice-of-the-Theater speakers. She was a magnificent P.A. system reaching "millions." In the midst of the performance, another actress whose voice was amplified achieved the intimacy of a small parlour. The first actress expanded the space with her natural amplifier. The second actress contracted the space with the aid of technology. Both were directing audience attention to the center stage.

April 26, 1972: John Mizelle, wandering reflectively from Roger Reynolds' seminar on Late Beethoven to my seminar on Advanced Projects in Electronic Music, posed the following question: "What would a deaf electronic music composer compose?"

April 29, 1972

Dear John:

Some electronic music composers compose as if they were deaf!

Sincerely yours,

Pauline Oliveros

From a Dream Journal

April 2, 1972 I am trying to give my last quarter electronic music class a final exam. I am putting a tape on. I tell the class to listen carefully to the piece all the way through, then to make one gesture on paper which represents the whole piece. I continue trying to thread the tape. The supply wheel is wound very loosely. The tape spills out and tangles miserably. I yank at the tangle. The tape breaks in several places, leaving a small piece on the floor. I work at the tangle.

The exam time passes. Finally the whole class leaves while I am still trying to repair the damage. Ron George appears. I send him after the broken tape piece, which he apparently picked up. He brings back a tape with dark green leader spliced to it. The splice is poor with the end of the leader crimped instead of flat and smoothly joined to the tape. The tape is in a film can floating in French onion soup. Ron thought this would be a creative addition to the recorded sounds.

I ask him where the small broken piece is. He doesn't know. I discover that his tape is not the part I am looking for. I am angry at Ron for being careless. Somehow he was responsible for the loosely wound tape that spilled in the first place.
May 6, 1972: Up a Tree. In a strange gathering with familiar faces. I am up in a tree. The trunk has curled once around. I have squeezed myself through this curl and am caught there. I am trying to formulate a question concerning computers and music.

Joe Friedman walks by. I try to ask him the question. I stumble and stammer, essentially asking, “What would you use the computer for in composing music? Or how would you, how could you or why would you use it?”

The question was didactic and meant to reveal the computer as a tool, not an intelligent entity.

Joe questioned me back. I still could not articulate the question clearly.

Later I got loose from the tree trunk. I found Warren Burt and began to ask him the same question. Both Joe and Warren tried to answer in unison, “You’ve gotta get your logic together!”

Then I saw a monkey in a coconut tree picking big fat peaches. Before he could take a bite, the peaches would fall and all the smaller animals below would get them and eat them.

An Average Day in my Waking Teaching Life in the UCSD Music Department.

June 1, 1972:

12:00 noon: Departmental Seminar. Louise Spizizen on The Contemporary Art of the 18th Century Improvisation.

“What’s a nice girl like you doing in a department like this?”

“It’s the best atmosphere for pursuing this kind of loose improvisation.”

To illustrate her lecture, Ms. Spizizen at the harpsichord with Nancy Turetzky, flute, delivered a lovely, bluesy, highly ornamental version of a Baroque sonata. Along with her beautifully shaped improvised ornaments, Ms. Turetzky did highly skilled addition and subtraction of upper partials, thus ornamenting the vertical element of timbre as well as the horizontal element of melody.

Ms. Spizizen followed up Rameau’s genre piece, The Hen, with Győrgy Ligeti’s Continuum, neatly nudging the pecking order between 18th and 20th century practice.

1:00-2:30 p.m.: Composition Tutorial. Zina Louie exploring in her current composition the vocal multiphonics of singer Bonnie Barnett. Ms. Barnett has distinguished six different classes of vocal multiphonics in her recently completed master’s thesis.

3:00-6:00 p.m.: Open Seminar presentation of “Six Advanced Projects in Electronic Music.” The graduate participants have been working on various approaches to solo improvisation with electronic means, utilizing the Buchla Electronic Music System or personally developed circuitry.
David Gamper's was particularly striking with highly characterized sounds made from clicks and simple tones with a wide dynamic range. It resembled the style of a Japanese Noh drama. The circuit was highly unstable, causing an extremely interesting performer relationship which demanded the utmost sensitivity to bring about the results. Each sound was like a sculptured moment. I thought I was in a marsh with some giant electric insect singing about the rebirth of our ecology.

John Mizelle turned the seminar upside-down by illustrating his philosophy of the "problematical" as material for composition. John uses his own personal circuits. He was delayed in the beginning by a grounding problem which tuned in a local radio station, because it was not a part of the "unwanted" sounds which constituted his problematical materials for improvisation. If he had been unable to eliminate this interference, after trying every way possible, he would have included it as part of his material.

When he began his piece my first problem was that I thought he had stopped. He continued this problem aperiodically. The next problem was the sound of a dirty potentiometer; this problem continued aperiodically. Next was inadequate volume, then an incredible siren at fff. John was in control of all of these uncontrolled materials at all times. The seminar fought for an hour after his presentation.

7:00-8:00 p.m.: Dinner on campus in a relatively quiet corner. (Only the sound of six or seven jets deploying for irreparable damage to lives and the earth in Vietnam instead of a fleet.)

8:30-10:30 p.m.: Attend a presentation of works from Ken Gaburo's Compositional Linguistics Seminar, for which the descriptive program follows. Gaburo’s work proceeds from the reversal of the idea “music as language”; that is, “language as music.”

A Presentation of Works
(from The Compositional Linguistics Seminar Thursday, June 1, 1972, 8:30, 408 MC.)

DAVID GAMPER: "NOYSSE"

This piece is in two sections. The first section is an exercise in determining the threshold of intelligibility in a noisy environment. In the last section, the performers work to speed up a known communication process to the range of intelligibility.

BARRY LIESCH: "ON THE 42nd"

An attempt to work with a text, reshape it without destroying its essential content, utilizing tape, the human voice, body move-
ment, and vocal improvisation within a dramatic context. Simple means. Focus. Point.

ALAN MERIAN: "8¢ POSTAGE DUE"
—an open linguistic composition in the form of a chain letter—Class Instruction:
Write a letter to someone. Attach it to the last letter entered on the chain.

Please number your entry, and include your address if you wish. When the package is received by the last person (arbitrarily set as person 5) the final letter in the chain should be attached and the entire package returned to the initiator.

Since no one in this chain will have experienced the entire composition except the last person and, ultimately, the initiator, please indicate in your letter if you wish a reproduced copy of the entire chain.

Each someone, in turn, may: (a) write a letter having nothing to do with the content of the package, (b) write a letter having something to do with the content of the package. If the letter you write should be a direct and personal answer to the person from whom you have received the package, it should still be attached to the chain and forwarded to someone else, (one may, of course, answer such a letter independent of the chain as well).

Each someone should write another someone as quickly as possible upon receipt of the package, and to someone believed to be willing to participate in the chain.

Each someone should write to another someone not already included in the chain. In addition to participating in this chain, it is hoped that one may wish to initiate a chain, thereby establishing a continually expanding interpersonal relational network.

JEFF LOHN: "THE ONTOLOGICAL ARGUMENT FOR THE EXISTENCE OF A SUPREME BEING"

Or

FECUND MUSIC
A musico-dramatic conflict in 3 or 5 stages.

WARREN BURT:
"REAL SCIENCE COMIX FUNNIES NO. 1: JOHN LILLY MEETS THE DOLPHINS"

A tape composition utilizing human speech, dolphin sounds, walrus sounds, whale sounds—speed changed and electronically modulated.

BRUCE LEIBIG: "PROBE"
Theater for three movers, three cue groups, controller, assistants, audience and tape, dealing with language acquisition in an ambiguous context.
Linguists

<table>
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<tr>
<td>MERIAN</td>
<td>Alan Merian, Winifred Mastro.</td>
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<td>LOHN</td>
<td>Brian McNeece (water instrument), Ron George, Bonnie Barnett, Carlos Gonzales, Mary Addis, Jack Leung, Stan Evans, Roberta Axelrod, Terry Sheridan, Blair Tabor, Grace T'sou, Cynthia Eardley (percussionists), Libby Poole, Dennis Covello, Ann Johnson, Chris Vitas (violins), Steve Gerber (viola), Pam Grey, Paul Clark (celli), Mark Dresser (bass), Larry Deckel (actor), Bruce Rittenbach (lights), Benito Buoncorto, Rene Coppieters (speakers).</td>
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<tr>
<td>BURT</td>
<td>John Lilly, dolphins, whales, walrus.</td>
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<tr>
<td>LEIBIG</td>
<td>Lin Barron, Bonnie Barnett, Winifred Mastro (movers), Warren Burt, Vladimir Voos, Steve Gerber, Peter Gordon (Cue Group 1), Charlie White, Dave Gamper, Blair Tabor, Dave Guion (Cue Group 2), Jack Leung, Bruce Rittenbach, Stan Evans, Reinhard Berg (Cue Group 3), Jeff Lohn, Al Merian, Jane Leibig, Barry Liesch, Joe Julian (assistants), Bruce Leibig (controller).</td>
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11:00 p.m.: Stagger home. Not an unusual day at UCSD. Another Scene.

June 23 1972: Marcella DeCray makes it possible to consider writing for the harp. Her remarkable solo recital sponsored by the American Harp Society included works by Berio, Jolas, and Takemitsu. David Raskin, composer of old-time pop standard Laura, was supposed to enlighten the traditionally conservative audience of harpists before her program. He said not one word about the music to be played, nor Ms. DeCray’s special abilities. Instead he delivered the Harp that starves us all: “All is not well in the House of Art. You can’t write a piece called ‘A Pretty Girl is like a Klangfarben Melodie’. ‘Click! Why not, Mr. Sakrin? He wasn’t kidding, either. Anyway, gentlemen, she plays with ovaries!
UCSD Ambience

What is the most peculiar auditory sensation you have ever experienced?

Raphael Druian, Violinist: “Me, playing the violin.”

Pam Sawyer, Trumpeter: “After a cold one time, my hearing would switch from one ear to the other. Also, hearing a sound which vibrated from my ear down through my big toe.”

John Mizelle, Composer: “I think it’s the one where your ears actually oscillate. I heard it when my daughter was born. And often after the attack of very percussive sounds. I first became aware of it after working in an electronic music studio.”

Lew Prince, Electronic Technician: “It was a pointed tongue.”

Susan Palmer, Composer: “Construction sound when the volume is so high it’s painful, but in an interesting way.”

Ed London, Composer-Conductor: “First morning in basic Air Force training. A siren went off right by my bed. It was meant to waken people at a long distance from its location.”

Dave Gamper, Composer: “Driving on a back road in Vermont I heard a strange ringing in my ear. It got louder, then softer. I went back to see if it was inside my head or outside. When it got louder again, I discovered that it was a frog pond. They were all freeping. Amazing to think that it had originated in my head but was really coming from outside.”

Ron George, Percussionist: “A sound that was so loud it was almost pain. It was a concert at Indiana University. The piece used several bands and kept building a huge crescendo. It was sort of like hot Indian food; once you get beyond the pain, it’s beautiful.”

Heidi Von Gundun, Composer: “The wind rattling our front door. It was so violent. I was very frightened.”

Barbara Alvarez, Music Department Secretary: “Pauline Oliveros.”

John Charles Francisco, Percussionist: “I was a little boy, sleeping. It was raining lightly. Water was slowly dripping from the eaves. I imagined that it was not water, even though I knew better, but that it was someone walking with very heavy shoes. I was then very frightened.”

Lin Barron, Cellist: “My ears being pierced. Crackle! Crackle!”

Michael Busin, Librarian: “An earthquake!”

Ed Harkins, Trumpeter: “This is an imaginary experience. The sound of the Golden Gate Bridge snapping in two.”
Gary Lloyd, Sculptor: "I was rock climbing with some friends. We were up about 9,000 feet. When we reached a plateau, we saw a stream. Tired and exhausted, we ran down to the water and submerged. I began to hear a rough, high-pitched sound which made me feel almost weightless. It persisted for a while and came back briefly the next day."

Robert Leth, Researcher in Bio-Feedback: "While waiting for the train to Montreal, I went to the men's room. Suddenly about 30 people all flushed the Johns at the same time." "How did you feel?" "Just incredibly tuned in to the Canadian sewer system."

Marilyn Ravig, Anthropologist: "The triple sound of a single Tibetan monk chanting."

Maurice Baudet, Designer: "For three weeks, every night when I went to bed, I would hear some kind of electronic music in my head. I asked my wife if she could hear it, too, but she couldn't."

Rick Hon, Composer: "Camping in the desert. It was dark and we couldn't see. We heard a sound approaching and felt very threatened. It sounded like animal hooves. It turned out to be a paper bag blown by the wind over gravel."

Kuan Mehra, Architect: "Up in Yosemite quite late in the evening we heard a howl, a wail and then yelps at two- or three-second intervals. We felt terror. Not knowing what it was was the problem."

John Silling, Student of Architecture: "I heard a man scream once. It made me feel sick to my stomach."

Kathleen Whitacre, Student of Bio Design: "At Dinosaur National Monument, down at the bottom of a canyon sitting on some sandstone, we heard something like wind singing. I never heard anything like it before. The environment seemed alien, the singing like something from the past. A geologic feeling."

Andy Howard, Sculptor: "I had a small surgery with a local anesthetic. The sense of being cut fused with the sounds of rasping and scraping."

Glorianne Harris, Painter: "I'm a colorist. When I finish a painting, it evokes a sound in my mind. Apparently other people get the same effect when viewing my work."

Faith Martin, Student of Humanistic Psychology: "I heard a lot of sirens coming around a corner. It was like Don Juan's bad spot. The sound got me in the intestines; I fell to the floor. I hate sirens!"

Elsa Garmire, Senior Research Fellow, Cal-Tech: "I was walking along once and felt
suddenly as if I had been hit over the head with a sound. I was in the hospital for three days for tests. Apparently, it was the sound of my auditory nerve firing."

Pauline Oliveros, herself: "After working intensively with a tape delay technique for several hours with the sounds bouncing back and forth between channels, I went out to a restaurant for a midnight dinner. It was a clattery, chattery place. I was startled to hear the echo pattern which I had been working with imposed on this ambience. My hearing had been imprinted. Believe it or not, I recovered."
Many Strands

From a Sound Journal

September 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.

October 8: Walking along the sidewalk at Cal State University, L.A., recently, I heard a rustling. I saw some leaves whirléd 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-filling block.

— (Basho: The Narrow Road to the Deep North; philosophical reflections)

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

— Ibid.

October 12: Everything has to do with music.

Elephant ears!
October 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 bagpipes), 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 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. Stopping the ears thus, there is heard a thudding sound, like that of a big drum being beaten; a clashing sound, as of cymbals; a soughing 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 clarionet; 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 symbolic natural sounds of Truth, which are said to proceed from or to be the intellectual faculties within the human mentality."

October 23: Visiting NMCE rehearsal this morning (New Music Choral Ensemble, directed by Kenneth Gaburo as part of the 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?

THRESHOLD threshold tHREshOL d
ssssssoooommmmmeeellLLlllllllllllll ..

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

October 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 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 "unrevelation." 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 ↓ to feeling ↓ ↓. What is the reaction time?

October 27: Stuart Dempster's Concert: A new musician this time and I have known him for fifteen 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 Dijiridoo (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.

November 3: Tsun-Yuen Lui in a recital for Pi Pá and Chin. We are indeed fortunate. The Buddhas carved on the ends of the tuning pegs of the Pi Pá 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 and pointed fingers. The music pours through the instrument, speaking subtly, passionately. It is pictorial, like calligraphy. Each sound, its own life, kaleidoscopic images. A 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 ourselves and to others 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 (Carlos Castaneda, Journey to Ixtlan)

"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, Varieties of Religious Experience)
November 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 re-aligning 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."

December 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 in New York.

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 colors. Goethe was a man who lived according to his theories.)
December 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 that 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.)

February 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

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

CLYNES: Sentic forms record vertical and horizontal components of finger pressure, where an individual attempts to make a physical gesture corresponding to a pure emotional state.
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 Garde. 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.

February 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 barracks 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 UCSD. 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.

February 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: four hundred 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."

Deidre 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 daydreaming."

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 central nervous system."

Irene Jackson, Student of Culture: "Me."

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

Larry Livingston, Clarinetist: "Inside drumming."


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

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

Ed Kobrin, Computer Technician, PME: "It's actually a long story. The lady upstairs flushing the toilet. It sounds like Mt. Vesuvius erupting." Oliveros: "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, Bassoonist, PME: "The sound of the ocean, I guess."

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

Tai-Hsiang Li, Composer and Violinist, PME: "Every sound."

Al Merian, Guitarist: "All the sounds."

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

Mel Warner, Clarinetist, 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."

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 Pasles-Samme: "The toilet flushing."

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

From Liveright, *Music and Your Emotions*: "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 another person's experience."

"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 persons' 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 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 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 — Music

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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. This complements Erickson’s law: “The damn thing doesn’t work.”)
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 pour 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 circuit unknowingly, causing hum.)

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 seven to thirteen hertz. 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 judgemental 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?


“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

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 fifteen 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 Koenigsberg (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.
Divisions Underground

A psychologist vs. a feminist

Why Haven’t Women Composed Great Music?

Why do men continue to ask stupid questions?

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Hooker, lady, woman, queen, lesbian, girl, whore, princess, mother, daughter, duchess, aunt, mistress, niece, courtesan, bitch, harlot, nancy, she-goat, tomboy, grandmother, wife, filly, nun, squaw, priestess, witch, nurse, housekeeper, secretary, maid, maiden, gal, old maid, hoyden, prostitute, strumpet, debutante, bride, female, scrub-lady, feme, feme sole, spinster, widow, divorcée, feme sole trader, chambermaid, femme fatale, shrew, virgin, mother, mom, biddy, mother's helper, Aunt Sally, sister, madam, damsel, dame, broad, crone, goddess, lady kith, lady of pleasure, lady's maid, lady of the house, lady of the evening, lady in waiting, dowager, queen regent, girl Friday, a girlie, school marm, fille de joie, ballerina, soprano, mezzo-soprano, contralto, alto coloratura, termagant, virago, maid of honor, maid serve, madame, mad cap, sow, cow, mare, Cassandra, bridesmaid, matriarch, matron, matron of honor, actress, lass, miss mademoiselle, lassie, missy, puss, pussy, wench, chick, flapper, babe, curve, frail, doll, baby, cutie, fluff, sub deb, bobby soxer, romp, old lady, gammer, granny, old hen, old battle-axe, warhorse, hag, beldame, frump, heifer, genetrix, mammy, mam, ma, mommy, mummy, mumsy, motherkin, materfamilias, step-mother, stepdaughter, step-sister, calico, kitten, "the lesser man", distaff, weaker sex, weaker vessel, frow, gentlewoman, petticoat, skirt, Jane, "a rag, a bone, and a hank of hair" (Kipling), "God's second mistake" (Nietzsche), "one of nature's agreeable blunders" (Hannah Cowley), "the last thing civilized by man" (Meredith), "Sphinx without secrets" (Oscar Wilde), "a necessary evil" (Latin proverb), missus, slut, vixen, tigress, Jezebel, suffragette, heliocat, harridan, hex, lama, shamaness, siren, vamp, scold, ogress, Madonna, nymph, bird, lolita, companion, laundress, washer woman, cook, marrow, helpmeet, better half, ball-and-chain, street walker, callgirl, bawd, tart, concubine, vestal, Diana, coquette, spitfire, inamorata, flirt, empress, countess, marchioness, Viscountess, Oceanid, dryad, naiad, oread, nereid, hamadryad, sorceress, harpy, abess, priores, canone, mother superior, doxy, mercatix, Paphian, queen, stew, trolllop, troll, floozy, chippie, nymphomaniac, hetaera, odalisque, jade, demirep, wanton, Sappist, tribade, "—at best a contradiction still" (Pope), Broodmare, hussy, baggage, tomato, gold-digger, amazon, grissette, androgyne, calliope, ingenue, slip, diet, giglet, minx, midinette, housewife, domestic, soubrette, sissy, Sheba, pet, dear, playmate, bunny, feminist, belle, vision, knockout, duenna, treasure, misery, religieuse, fiancée, charwoman, scullion, handmaid, governess, heroine, diva, comedienne, showgirl, starlet, peeress, dyke.

Listening to music as an object for analytical understanding without actively participating in its production is a relatively new art. Music of earlier times functioned as a part of other concerns such as ceremonies, rites and dances, where audiences as such hardly existed. Cultivated listeners are as specialized and as hard to train as cultivated performers, composers, and instrument makers. "Specialism is not always the best method of arriving at truth, which may sometimes only be discoverable outside the circle within which the specialist works. In other words, when two seemingly unrelated branches of human activity are brought into conjunction, facts may come to light which may add to the sum-total of knowledge while tending materially to alter previous conceptions." (Cyril Scott: Music) Exclusivity of cultivation tends to inhibit the listener's receptivity to new
experience, and encourages the reaffirmation of past experiences, keeping him safely on the known path. Since professional musicians are encouraged and expected to 'know it all' before the fact, one often meets the attitude, "If I can't play it at sight, it must not be worth playing." (Anon.) The last thing this kind of musician will tolerate is an alteration in his preconceptions of music. It threatens his precious and often hard-won self image. His training usually places him in heavy competition with a long line of hot models, or models of models.

The innovative composer finds herself in the minor stream because publishers have long jammed the music world with old music; and, in the mad process of documenting the past and creating a market, have helped to close the doors on functional posts for the composer. The instrument maker is in the role usually of repairman, as the market for a new and unusual instrument is very slow indeed. If instrument makers actually created new and unusual instruments, there would be no literature of past works available for these instruments, and it might be hard to find performers able to or willing to strike out in unknown territory without models or apparent future. We are curiously stuck in a log jam of duplication of effort. Must we be a bunch of musical pack rats?

Of the Listener

The Patchwork Girl of Oz was made with golden ears. The Crooked Magician brought her to life with a magic powder. He provided march music via phonograph so that her first sensation would be of music. Her function was to be a household servant. "The first music introduced into the Orient by the Occident was military music." (Alain Danielou: The Situation of Music and Musicians in the Countries of the Orient) Power = conquest = an army = subjugation = serving class.

The Patchwork Girl had other ideas: "Scraps," (as she was called by her friends) first action was to accidentally knock the vial of Powder of Life out of the Crooked Magician's hand. All of the rest of the powder spilled over the phonograph, thus bringing it to life as well. "You were bad enough before," said the magician, resentfully, "but a live phonograph is enough to drive every sane person in the land of Oz stark crazy."

"No insults, please," answered the phonograph in a surly tone. "You did it, my boy; don't blame me."

Later, Scraps and her friends are on a journey. The phonograph, having escaped from Dr. Pipt, the Crooked Magician, has chased after them as fast as its four spindle legs could carry it. It is definitely an unwelcome in-
intruder among Scraps and her friends: “Everyone seems to hate me and yet I was intended to amuse people,” whined the phonograph in an injured tone.

“It isn’t you we hate, especially,” observed the Glass Cat, “it’s your dreadful music. When I lived in the same room with you, I was much annoyed by your squeeaky horn. It growls and grumbles and clicks and scratches, so it spoils the music, and your machinery rumbles so that the racket drowns every tune you attempt.”

“That isn’t my fault; it’s the fault of my records. I must admit that I haven’t a clear record,” answered the machine. After further repartee, Scraps expressed interest in hearing some music, since that was her first sensation when she came to life. The phonograph explained that its only record was a “highly classical composition.”

“It is classical music and is considered the best and most puzzling ever manufactured. You’re supposed to like it, whether you do or not; and if you don’t, the proper thing is to look as if you did. Understand?”

“No in the least,” said Scraps.

Once I dreamed I was on the bottom of an ocean, twanging the bones of an old sea cap-
experience? In the past? Recently? Or that I hope for?

"If the only tool you have is a hammer, you tend to treat everything as if it were a nail."

"Enlightening impressions or psychological communications are reaching us all the time; even when not consciously sought. It is we who do not recognize the many and varied 'signals.' Formulating a question and being in a state of GENERAL expectation help us to register and recognize what would otherwise remain hidden." "Eager expectation and tenseness can constitute an obstacle to receptivity." (Roberto Assagnioli: Psychosynthesis)

Am I an active or receptive listener? Can I be either or both at will? Is there anything else? "There are two modes of knowing, those of argument and experience." (Roger Bacon) Commentary: "They are complementary to one another; neither is reducible to the other; and their simultaneous working may be incomparable. One mode is verbal and rational, sequential in operation, orderly; the other is intuitive, tacit, diffuse in operation, less logical and neat, a mode we often devalue culturally, personally, and even physiologically." (Robert Ornstein: The Psychology of Consciousness)

When I am listening to anything at all or anyone, am I thinking about something else, myself, planning what to say next, daydreaming, or is my mind clear? Am I always talking, aggressively taking over any situation? Not allowing others to have a say or assuming that others have nothing to say? Or, am I always passive, never taking part in conversation, always shrinking? Am I balanced between active and receptive? Analytical and synthetical?

Sensation

Have I ever become the music, sounds or conversation? Have I identified so completely that I am the sound? Was there nothing in my mind but the sound or my awareness of it?

Analysis

Or, am I always criticizing, taking apart sounds to see how they work, examining relationships as they happen, trying to understand and compare with past experiences?

Intuition

Do I try to predict what will happen next? Racing ahead of the progress-in-time of the
music, sounds, or conversation? Determining its outcome, sometimes rightly, sometimes wrongly? Expecting now this instrument or statement, now something else? This harmony or that? Or to be aroused this way or that?

Valuation
Must I always be deciding whether I like the present experience or dislike it? Judging all by the quality of my emotion or feeling? Do I mix the above? Find myself predominantly one or the other, or find a balance among these possibilities? Where is the analysis class in a music school which considers HOW one hears as well as what one hears? What is the difference in the listening function between audience, performers, composers or instrument makers?

Am I talking to myself?
Do I think music? have an idea of it, rather than experience music? "Sensation is the origin of all mental and spiritual activity." (Olive L. Brown: Your Innate Power) Where is my body? "The nervous or neurotic individual intellectualizes and verbalizes constantly." (Ibid.) (What are we doing in our Universities?)

Am I hearing myself?
"He thinks his acts or performs them mechanically instead of experiencing or sensing them. [Common plight of some overdrilled performers.] He does not really feel but emotionalizes, becoming exaggeratedly sentimental in little things and incapable of response when real emotion is called for. He grows tense in making outward effort to see or hear instead of being receptive with the whole self. Constantly forcing his brain, analyzing or judging without first pausing to 'take in,' he builds up such a tension that the sense organs cannot function properly. If their functioning is distorted or atrophied, judgements suffer in consequence." (Ibid.)

How have I programmed my bio-computer?
"It is impossible to give full attention to vibrations from the outer world (receptivity) and at the same moment vibrations from within the mind (your opinions, emotions, ideas). Such a split is the cause of a feeling of pressure and discomfort, which is chronic with many people." (Ibid.) (Musicians love to complain.)
Am I sensing myself? Am I becoming actively receptive? Am I becoming receptively active? What accident brought me to life? Where are my golden ears?

"Music does not consist only in those purely intellectual oscillations and figurations which we have abstracted from it. [Composers, beware!] All through the ages its pleasure has primarily consisted in its sensuous character, in the outpouring of breath, in the beating of time, in the colorations, frictions, and stimuli which arise from the blending of voices in the concord of instruments. Certainly the spirit is the main thing, and certainly the inventions of new instruments and the alteration of old ones, the introduction of new keys and rules, or new taboos regarding construction and harmony are always mere gestures and superficialities, even as the costumes and fashions of nations are superficialities. But one must have apprehended and tasted these superficial and sensuous distinctions with the senses to be able to interpret from them the nature of eras and styles. We make music with our hands and fingers, with our mouths and lungs, not with our brains alone; and someone who can read notes but has no command of any instrument [including the body] should not join in the dialogue of music.

Thus, too, the history of music is hardly to be understood solely in the terms of an abstract history of styles. For example, the periods of decadence in music would remain totally incomprehensible if we failed to recognize in each one of them the preponderance of the sensuous and quantitative elements over the 'spiritual element'.” (Hermann Hesse: The Glass Bead Game/Magister Ludi)

**What am I doing to resurrect my body?**

"The greatest obstacle to understanding is the mind, which judges solely on the evidence of past knowledge. Such a mind is lost in a new situation, which then becomes impossible. Joseph Knecht (Magister Ludi) is open to the unknown. He does not impose himself on knowledge; he lets knowledge come to him; he responds flexibly to changing circumstances as they are revealed. His actions may seem accidental at the time, but this means only that we do not immediately see connections with what we know. Truth has a proper respect for the accidental. As a servant of experience Knecht responds without commitment. It is because he sets such value on spontaneous response that he comes to rebel against the game (The Glass Bead Game) as institution.” (Idris Parry: Animals of Silence)
Where are the new University courses where there is no path and where experience is no guide?

"Napoleon knew that precision without fantasy is not enough. He said that in Military Science (which has been accompanied by the development of the orchestra as a parallel phenomenon), it is necessary at first to calculate all the possibilities accurately and then to make an almost mathematically exact allowance for accident. [Determinists, take note.] The implication is that in some, as yet invisible, form of higher mathematics, the accidental can be traced as discernible force and logically linked to the known. 'It is on this point of accident,' said Napoleon, 'that one must make no mistake: a decimal more or less may alter everything.' — This was the formula for success in war and the basis of all creative imagination." (Ibid.)

When asked what music he liked best, Mozart replied: "No music."

Are you talking to yourself?

"The artist cannot see nature as a completed image. How, therefore, can the completed artistic image be true? Is there a language which can fit the fluid process? When truth is a continuous process of growth, the only valid language must be as fluid and as transitory as the experience it presents. Is such a thing possible in human terms? Or must we, accepting the need for transformation, despair of language and even of art?" (Ibid.)

The Patchwork Girl of Oz, besides having golden ears, was also a spontaneous muse. Here is Scraps' answer to the above:

"Kizzle-kazzle-kore; The wolf is at the door, There's nothing to eat but a bone without meat, And a bill from the grocery store."

Are you listening to yourself?

Everyone has been uptight around here because of the spot-lit faculty concert to take place in Los Angeles on the Monday Evening Concert series. So Sunday, March Forth, in preparation, we had a Monday-on-Sunday concert at home. The rehearsals have been heavy, tense, and wracked with illness. (See my last Numus-West column.) Illness is one way for musicians to crack under pressure. The public exposure which musicians must
suffer is an occupational hazard well noted. (See Shullian and Schoen: *Music and Medicine.*) However, apparently little attention is paid in music schools to methods, other than ‘practice makes perfect’ philosophies, for coping with nervousness, stage fright and related phenomena. Mainly these phenomena are considered personal matters to be swept under the table or something for the individual to deal with as he or she may—in the back alleys away from matters of technique, craft and aesthetics, which are proper concerns of the music school. This divorce is leaving many musicians back to one of the original functions of music: music as a healing agent where sound and the interrelationship with the individual or groups is participatory and spiritual rather than exclusive and artistic.

Back to the Concert: John Silber conducted Roberto Gerhard’s *Libra*. John is a Libra. Characteristic qualities of this sign are justice, partnership, and the balance of perception and intuition. *Libra* represents the golden mean. Nice qualities for a conductor and department chairman. Gerhard’s *Libra* is full of difficult balances. With the guidance of John Silber, who formerly had the job of balancing the compass in his days at sea, the players were flexible on the uptake and managed a nice version of *Libra*.

Next John, our Libra (which is an air sign), came out with his trombone to be a part of the ensemble for Robert Erickson’s (Pisces) *Piano Concerto* with Keith Humble (Virgo) as soloist. Pisces is a water sign and represents contradictory nature. Pisces falls in the season of floods and recalls baptism by water. Virgo, an earth sign, symbolizes the realization of hopes, which is certainly a good background for a pianist assailed by the demanding virtuosoic floods of a Piscean piano concerto.

This piece from the early 1960’s has a broad palette for performers in dynamic, timbral, melodic and rhythmic ranges. Not only must the performer read accurately, but he or she must also be able to shift instantaneously to the improvisatory mode: “My *Piano Concerto* is in three continuous movements. The first and second are linked by an improvised cadenza for piano alone; the second and third, by an improvised group cadenza, followed by another for piano and percussion. I have also used improvisation in the composed movements of the concerto. Here the players either play written-out music or improvise according to various directions. At times the directions are rather specific and at other times the players are quite free of specific directions.”

“I first became interested in improvised music some years ago, partly through listening to the music of children and partly as a
result of hearing the group improvisations of several of my composer students. I employed it for the first time in my Chamber Concerto, composed in 1959-1960. (See Composers Recordings, Inc.) I value improvisation for its directness and vital expressive impact. These qualities are precious to me and worth the obvious risks inherent in any extemporized expression. Therefore, I have tried to work improvised materials into the concerto in such a way that they fuse with written-out materials. As the composer, I would be pleased if the listener were unable to tell where (except for the cadenzas) the written music leaves off and improvisation begins.” (Robert Erickson)

That last sentence carries a complicated message for the performer. S(He) must switch from the replicative to the creative mode while retaining the model of the written-out materials. Obviously, this means that the performer must be thoroughly familiar with the language of the composition. Any old “improvising” won’t do — at least, it is not likely to please the composer.

But what is the difference between the written and the improvised? Schoenberg said that “composition is a slowed-down improvisation.” In this case, the composer is entering an improvisation with the performers, role reversals are occurring (bearing out the Piscean contradictory nature of the composer), and a good time can be had by all. This is a chance to develop empathy and make multi-way streets. The composer has had a longer time period for his improvisation. Then the performers painstakingly must learn the vocabulary until it is finally possible after a good number of rehearsals to become spontaneous with the materials, putting together from the multitude of alternatives the sequences that sound right at a given moment during a particular context. The performers then have become fluent in the language of the Erickson Piano Concerto.

The conditions change with the influence of the other performers, the space, the audience, and other ambient parameters. This is a fruitful way, it seems to me, to bring both spheres of the imaginative process into play naturally. That process which is characterized as analytical, linear or sequential, is balanced with the process which is characterized as synthetical, non-linear or holistic. According to Robert Ornstein (The Psychology of Consciousness), these processes can be mapped into the left and right hemispheres of the brain, respectively, a clear illustration of the duality of human nature. This kind of composing, then, brings the so-called ‘minor’ or
‘feminine’ hemisphere of the brain into an equal relationship with the so-called ‘major’ or ‘masculine’ hemisphere. When the two hemispheres are perfectly synchronized and one can focus either mode at will, duality vanishes and — voila! — liberation! Libra at work or Pisces swimming in both directions.

Monday on Sunday also included Ainsi S’Achevé — “So ends the concert broadcast on the French Radio” — fade out of the symphony eight bars before the end — fade in and out eight bars of Chopin — the announcer, “Ainsi s’achève le programme donné ce soir par l’orchestre de — sous la direction de —,” an ensemble by Keith Humble. Un Tombeau de Jean Cocteau, a theatrical entertainment for pianist-conductor (Keith Humble), singer (Beverly Ogdon), and clarinetist-mime (Larry Livingston) by Wilbur Ogdon.

Compass, an extended work for tenor (Howard Crook), bass (Phil Larson), cello (Peter Farrell), stringbass (Bertram Turetzky), and electronics (James Campbell, David Gamper, and Ed Kobrin), is based on a poem of the same name by Jorge Luis Borges. Compass by Roger Reynolds “is a response to the poem from a wide variety of perspectives. In its fullest version it is staged with the singer masked and moving in abstract patterns, which are specified. The use of wireless mikes in the masks allows the singers freedom of motion and the use of sounds normally inappropriate to large spaces.”

Oliveros as Dharma Bum


“If you’re thinking of what to do in Grand Forks, you’re doing it!” said the motel clerk cheerfully.

What is the most silent period you have ever experienced? What were the circumstances and what was its effect on you?

Tamar S. Read, Associate Professor of Music, University of North Dakota: “When I wake up in the middle of the night and I don’t hear a thing and I’m all alone.”

Conrad de Jong, Composer, University of Wisconsin, River Falls: “Anesthesia. Sodium Pentathol from an operation — the sounds just dissolved.”

Harrison Ryker, Conductor: “Two about equally. Being alone in a deep California fog late at night, and walking through a field after a deep snowfall.”

Pamela Ryker, Flautist: “The time when giving birth, the final push seems like it’s taking hours.”
Mary Ella Jerome, Student: “In a dorm during finals week when everyone was gone except me and one other girl upstairs.”

Joel Chadabe, Composer, State University of New York, Albany: “I am interested in the idea of silence. I have often wished for silence in life. Visiting friends in Maine once, I went for a walk. It was very quiet and far away. I thought of that as a most quiet moment. Then a couple of years ago I visited an anechoic chamber in the Department of Speech Pathology. That was real silence, and I didn’t like it. After that, I thought of silence as a place to go toward in certain sounds or away from noise.”

Andy Aldrich, Student: “At my summer house. It was April with ice on the lake. Dense fog moved in. I couldn’t see more than 100 feet and I couldn’t hear a thing for about two hours.”

Robert Kushner, Artist, New York City: “I would say that the most powerful silence for me was walking home recently very late at night. I got onto my street and suddenly realized that I couldn’t hear a thing. I stopped walking and thought it very strange not to be able to hear anything in this city. Then I heard a newspaper brushing against the sidewalk. I was quiet enough inside to hear the quiet outside. Then I began walking along and I could hear only the sounds I was making. It lasted about 10 minutes.”

Dick Higgins, Just About Everything, West Glover, Vermont: “Silence is not a matter of what one hears but what one communicates. I went without speaking for a week.”

Alison Knowles, Artist: “I can’t answer that. I’ve never thought of it that way. Silent structure—alone...no phone.”

For me it has been the long moment before an accident or an embarrassment. The mind switches and there is no input. Another is daydreaming when all sensory input is shut down, unless, of course, it’s a noisy daydream.


Lin and I camped in the Canadian Rockies, near Banff, on the way to Toronto for summer teaching at York University. We recorded a river for Anna Lockwood’s river archive. It seemed to wash away all our years’ troubles. Natural sound is healing sound, especially with the technological drones vanished to a very dim background. I guess there
is nowhere left on earth that is free of technological noise. The next day we crossed
the Continental Divide; all the rivers began to flow East, and I began contemplating divi-
sions underground.

July 2, 1973. Toronto means “stick-standing-in-the-mud” or “the meeting place
in Huron.” Six weeks at York University included an encounter with Nexus, a group of
six percussionists loosely headed by Robin Engelman, whose performances consist of
improvisations with various guest artists. Although they have all known each other for
a number of years, their various professional activities keep them apart during the year.
Their two weeks at York provided Coming Together, a workshop, plus six concerts. The
workshop consisted of courses with provocative titles, such as “Sound Awareness for the
Musician and non-Musician,” “Improvisa-
tion,” “Basic Principles of Instrument Construc-
tion,” “Games – A New Approach to
Music,” “The Musician as Artist,” “West
African Drumming Survey,” and “Indian
Rhythm in Western Music.”

Austin Clarkson, the director of the music
program at York, introduced these courses as
“free from the pressures of course credits, so
that students and teachers can participate in
what interests and fulfills them.” If we must
be free from course credits — that is not the
only university burden! — in order to find
interest and fulfillment, then why are we
waiting any longer?

Part of the advertised attraction of Nexus is
their vast collection of “instruments from all
over the world and six private universes com-
ing together.” The stage of Burton Audi-
torium was completely inundated with this
collection. This international multisonic set
greeted every audience as a fascinating,
detailed, giant instrument. A common urge
among audience members was, “Why do I
have to sit here and look? Can’t I go down and
play with the toys, too?” The obvious inten-
tion was to provide an extremely varied
palette of instrumental color. The scene was
impressive and promised some delicious pos-
sibilities for new and unusual timbral mixes,
rhythmic and dynamic contrasts; but often
too little came from too much. Tempos wan-
dered into a usual speed and stayed there.
Instead of the possible synthesis of world per-
cussion sound, the players seemed to arrive at
commonplace cymbal crashes, bell ringing
and drum riffs. The players had no bodily
relationship to the conglomeration of instru-
ments. This produced a kind of distraction,
wandering from one thing to another.
During the first evening concert, Trichy S. Sankaran, one of the leading mridangam players in South India, who currently teaches at York, made an impromptu appearance, apparently in order to improvise with Nexus. Sankaran sat gracefully with his drum, Indian fashion, an integral whole, and cats-like began to tune. Nexus gathered and made preliminary moves toward instruments as if to begin. The focus narrowed towards Sankaran, every tuning sound a delicate morsel for a hungry ear. His improvisation grew, his relationship to his instrument began to dwarf the huge collection which Nexus gathered. He drew everyone in and the players of Nexus could make no sounds in their fascination and appreciation of this remarkable player. The drum sang, his magically nimble fingers picking off multi-colored timbres from myriad places in the two small circles of his double-headed mridangam.

I have two questions for Nexus: How do you go beyond what you know how to do? Within your six private universes is there a common definition of improvisation?

Predictably, Nexus’ last concert was most successful, largely due to the influence of dancer Kyra Lober. Her concentrated meditative style created a center which drew on the more sensitive and sustaining side of the players. Some of the more rinky-dinky type rhythms disappeared in favor of long, slow phrases emphasizing color rather than flashiness. This group has high potential.

* * *

(Toronto: The Meeting Place)

Piano Standing in the Mud

Oliveros: “Did you have a good time with Stanley Marsh in Texas?”
Lockwood: “Oh, yes! We sank a piano on the edge of a lake. It has a clay bottom (the lake), so the cream-colored upright piano will sink slowly, about two or three inches per year.”
Oliveros: “What do you want to do next?”
Lockwood: “I'd love to put a grand piano into the Pacific, anchor it just off shore, watch it through a storm.”
Harvey Matusow: “Did Anna tell you about her piano cemetery?”

* * *

Canadian Capers

July 6, 1973. Walking in the Yonge St. Mall on a Friday night is like an incredibly magnificent version of John Cage’s Theater Piece with thousands of (innocent) performers.
The energies wax, wane and eddy along the mall with solo and group street musicians, technological drones and canned music mixing smoothly, abruptly, not at all. These simultaneities attracting the most desperate mixes of people: international, chronological, thinkers, feelers, innocents, imaginers, lookers, talkers, doers, makers, buyers, sellers, hypers. A need to be together. Fascination, street sermons, an oriental mother spanking her son hard. His screams of despair and embarrassment piercing the sounds of the atmosphere. Joy, searching, wondering; the multitude and variety of body types and faces. Wandering through leather-craft stalls. Finding an ice cream truck — ordering poison, plastic chocolate ice cream sundaes. Standing and staring into a closed health food store while eating them. Stopping to listen to a lively street fiddler, hearing the coins hitting and missing his open violin case. Watching the continuous crowd rubber-necking and commenting on the dog who was wearing patched jeans, walking unconcerned along with his equally unconcerned patchwork mistress.

Freaking out at A.J.A. Record Co., where there is an ocean of records testifying to our condition as musicians: adrift in a sea, with everything from rafts to liners, flotsam, jetsam, pollution, known and unknown currents, tides, known and unknown depths.
Rags and Patches

Said the March Hare to Alice, "Take care of the sense and the sounds will take care of themselves."
That infernal machine is still chasing me all over and out of the Land of Oz.

Alice, what have you to say? "Curiouser, and curiouser?"
Scraps, have you something comforting to say? "What a queer country America must be!"

Yes, Alice and Scraps, I agree, but did you know there are over one hundred species of fish which change sex regularly. (Maybe even willfully.)
I wonder what an androgynous musical form would be?

Brahms' Y'all
I dreamed: A Brahms' symphony was to be played. Someone has interpolated a jazz section. The orchestra plays. The jazz section is quite smooth. As I suspected, the orchestra starts to break down at the transition back to the Brahms. The horn player completely muff's his entrance. Only miserable puffs of air come out. The conductor keeps flailing away but the string players become increasingly confused and ragged. The conductor finally agrees to stop and begin the transition again. I see the horn player putting his horn away. I tell him to go back and try again. He rejoins the orchestra. This time the solo comes through clearly. Then the horn player breaks briefly into speech about his Southern United States background. He continues playing and the solo has a decided southern inflection.

This is certainly not an androgynous form, but intercultural infringement is everywhere evident.
How do you determine the sex of the music?

Browsing in a psychology text, I came across the notion that music is a phallic phenomenon because it penetrates the ear! What a physiological displacement! Did someone lose his body? Come now, Freudians, one can receive music but also actively penetrate it, not to mention all the other finer variations. Maybe we need banana shaped ears. Maybe the psychologist assumed that only men (probably dead men) write music. According to a certain social paradigm, it follows then, that maybe only women should listen to it! or eat it. Of course that paradigm leaves out a large assortment of very fine variations in relationships. How many of you out there think you are in the minority? If everyone came out of the closet the world would change overnight — Rattle them bones! Rattle them cages!

MEDITATION

Have I expressed my deepest feelings?

COMPOSITION LESSON

"I adore stuffing," said the Patchwork Girl. "Well, as for that, my head is stuffed with pumpkin seeds," declared Jack. I use them for brains, and when they are fresh I am intellectual. Just now, I regret to say, my seeds are rattling a bit, so I must soon get another head."

"Oh, do you change your head?" asked Ojo. "To be sure. Pumpkins are not permanent, more's the pity, and in time they spoil. That is why I grow such a great field of pumpkins that I may select a new head whenever necessary."

SYNCHRONICITY

Recently, on the very same day, I received by mail two scores. Both were choral works, one from a woman, one from a man. This synchronicity deserves perusal.

January 10, 1974

Dear Ms Oliveros:

As I start putting more and more serious effort into composing, I've come to the conclusion that the only way to get my music moving is to begin sending it to people involved in teaching and performance. Considering your importance in the whole West Coast scene, I thought that you would be an appropriate person to send something to. Enclosed is a choral piece which I've entered in the BMI contest for this year. I would
greatly appreciate any attention you could give it, if you have time. Feedback is quite important to a young composer, as you know. Perhaps you know of someone who directs a choral group that might look at the piece. Any help at all.

—Thanks.

B.F.

P.S. I've included a return envelope, so you can return the piece whenever you're ready.

March 14, 1974

Dear Mr. F.:

You are correct, your music will begin to move if you send it to people involved in teaching and performance. At the very least it will move through the U.S. postal system; at the most someone will be interested and give you some feedback. In my own case, I started in my own yard. I always wrote for my friends (friends being those who were sympathetic and supportive of my efforts and to whom I could likewise be sympathetic and supportive). Actually, I never sent my music anywhere as a young composer. I was only interested in immediate possibilities. Recognition came only very slowly and in proportions which I could manage. People far away were not very real to me. I never would have written a choral piece, for instance, unless my chances for organizing a rehearsal were 100%.

Later, I took to writing specifically for contests. This was a brief period when I was very poor. (I was poor for about fifteen years.) My contest writing stopped almost immediately after I wrote Sound Patterns for Mixed Chorus. I wrote it specifically for the Foundation Gaudeamus competition in Bilthoven, Holland. After looking over all of the possibilities, it seemed to be the one among many choral writing contests which suited my compositional image. After studying all the contest rules with the various considerations concerning texts, I decided to dispense with any text whatever. This was 1961. I had been writing for ten years. I thought about all of the choruses I had ever heard and decided that the interesting sounds from a chorus were the ones they were not trying to make. All of the in-between sounds were what fascinated me. I recalled an experience in junior high school: it was in a Social Studies class, ruled by the iron hand of Miss Elrod. The silence in our classroom was deafening. One day she left the room for awhile. In order to
relieve my unmitigated tension and the need to express myself in a non-verbal way, I began to pop my lips, cluck my tongue, do all kinds of Hottentot glottal stops and generally engage the whole class in this amusing activity. Within a few minutes we were all heavily involved. But soon I began to realize that my classmates had deserted me and I was sustaining a solo to the accompaniment of the deafening silence generated by Miss Elrod, who was now standing stonily in the doorway, staring steadily at me as I sheepishly removed my finger from the inside of my cheek. She said nothing and the class resumed work. When the bell rang, she took her place at the door, and on the way out I received the orders for my punishment. I had to stay after school for a week to cure my frivolity.

When I finished Sound Patterns, as was my custom, I had an informal rehearsal, courtesy of John Tegnell at San Francisco State College. Then, I sent it off to the contest in Holland. To my astonishment I received an invitation to come to Holland. I went and subsequently was the recipient of one thousand Dutch Guilders for the best foreign work. It was a thrilling moment for me and totally unexpected. I had just done my thing, and somehow released old experience, which had been of some importance to me. This recognition, the subsequent publication, and two recordings of Sound Patterns has definitely been of some consequence in my career. For me it is an "old piece" and my interests now lie elsewhere. In the meantime it has established a life of its own, as I am sure you will.

Sincerely Yours,

Pauline Oliveros

January 7, 1974

Dear Pauline:

It was good to see you last June. I'm sorry we didn't talk more, but I'm not very good in crowds. Due to the influence of Christian (Wolff), you, Jill (Johnston) (from whom I ripped off shamelessly—if any money ever appears on the horizon for this piece, I'll certainly arrange things with her), and probably waves in the air, I am musically quite different from a year ago. I don't particularly expect you to respond to this letter; it's really a letter of appreciation. However, I'm inexperienced with this sort of music, and any suggestions you might have time to make will be considered carefully.

Yours,

L.L.
Dear L.:

March 14, 1974

Your letter rings of the indirectness of self put-downs and apologies women are sucked into, by some bad programming, when trying to put themselves forward. Try to bring your image into agreement with the obvious skill, authority and creativeness of your work. Begin to project through the crowds, expect an answer, gain the experience to support your inner need. "Rip off" whoever supports your identity. It isn't a rip off but a resonance. The waves in the air are encouraging women to communicate directly, stand on each other's shoulders and identify the function of the daughter. As Jill says, "all women are mothers as soon as they are born." This is not the case for a man, who may be son for a lifetime if he so chooses. Bach, for instance, was not the father of Baroque Music, but the son who brought it to full bloom. Who was the father of Baroque Music? If his identity is clear, then who was the mother? Naturally the daughter is missing. Her role has been non-existent. Choose to be what you want to be. Do what you want to do, no matter who wants you to. Your piece is food for a hungry scene of starving daughters.

It's no wonder I decided against any text for Sound Patterns in 1961. At the time, I could find no words with which to identify! No wonder I never wanted to listen to the words, not only of pop music but concert hall music as well. No wonder I stopped singing in any kind of choral group whatever! I was rejecting all of those messages which spoke not to me. The idea that MAN, the term, refers to all human beings, was too abstract for me. I existed but had no role. The texts I read and could identify with were in terms of he. The role of woman was always neglected, assumed or presented solely from the male perspective. There was no support for my identity, no support for the journey of the daughter. Somehow, I jumped over the fact that all composers seemed to be men. Poor Nannerl Mozart! Poor Fannie Mendelssohn! I just wanted to do it. Model or not!

I am working now on a new piece which for the first time will have tons of words. It features the ghost of Sappho and the presence of Jill Johnston. Its title, of course, is The Journey of the Daughters and it will be outrageous. I'll be looking for the air in the waves. In the meantime, the appearance of your work and others is a source of joy. My journey has been long, and lonely for sisters.

Yours,

Pauline Oliveros
Meanwhile, back in Oz. Ojo and his friends hear the patter of footsteps and again encounter the live phonograph. "It seemed to have passed through many adventures since Ojo and his comrades last saw the machine, for the varnish of its wooden case was all marred and dented and scratched in a way that gave it an aged and disreputable appearance."

"Dear me!" exclaimed Ojo, staring hard. "What has happened to you?"

"Nothing much," replied the phonograph in a sad and depressed voice. "I've had enough things thrown at me since I left you to stock a department store and furnish half a dozen bargain-counters."

"Are you so broken up that you can't play?" asked Scraps.

"No, I still am able to grind out delicious music. Just now I've a record on top that is really superb," said the phonograph, growing more cheerful.

"That is too bad," remarked Ojo. "We've no objection to you as a machine, you know; but as a music-maker we hate you."

"Then why was I ever invented?" demanded the machine in a tone of indignant protest.

**WHY?**

"One thing was certain, that the white kitten had had nothing to do with it—it was the black kitten's fault entirely. For the white kitten had been having its face washed by the old cat for the last quarter of an hour (and bearing it pretty well, considering), so you see that it couldn't have had any hand in the mischief."

**BECAUSE!**

Alice! Where are you?

Well—Alice is still among the missing but I did find Charlotte Moorman at Mills College in Oakland, grandly doing her grand thing. Lewis Carroll would have loved her! and Frank Baum would surely have found Charlotte in Oz fingering her chameleon cello.

First, she appears after a long, patiently endured wait in the lobby of the concert hall to perform *TV Bra For Living Sculpture*,
composed especially for Charlotte by Nam June Paik, a Korean national treasure. Charlotte composedly grips her cello while an assistant tenderly places the bra on Charlotte. There are two tiny TV sets, one for each nipple, twinkling away on either side of the finger board. The amplified cello signal modulates the TV signals so that there is a feedback to the nipple output. What a novel reversal for women! Charlotte stops in the middle, casually, to rap about the wonders of genius Paik and how dangerous it is to wear such a bra. But there she is bravely holding forth, never batting an eyelash, lashing a bat eye, or eyeing a bat lashing. Next she is onstage in a flowing black gown. She disappears into a huge oversized sleeping bag with many zipper openings. Her cello slowly and somberly glides in after her. There is much moving and turning with mysterious appearances through the zippered openings. First unzip; the bow glides up out and back—zip—then unzip—a leg—zip—unzip—a face—zip unzip—tongue—zip—unzip—hair—zip unzip—scroll—zip—and more, all in good time. She emerges dishevelled but healthy after such a tumble with her silent partner, impressive in her afterglow.

After some grooming, she returns to the stage and sits calmly on the edge. The audience is invited by an assistant to participate in Yoko Ono's Cut Piece. Each person is allowed to make one cut in Charlotte's dress. I got two pieces of her black belt, (not Karate) they are even and form on my wall. In regard to Cut Piece, Charlotte told me that she and Paik were supposed to do a concert at a convent. They sent a brochure to the nuns. There was great interest in the program and special interest in Cut Piece. Charlotte thought perhaps the nuns were mistaken. She asked Paik to write back and explain in order to avoid embarrassment.

The nuns wrote back and reiterated their request most emphatically. Charlotte responded nobly to the call. The nuns performed the piece with great skill and care. They cut butterflies, flowers and all manner of interesting patterns. Charlotte was very moved. Apparently this piece had great significance to these nuns because they enter the order NAKED.

Then there were a couple of movies. Charlotte is featured, playing John Cage's piece for String Player. (I can't remember the so many minutes and so many seconds title.) This piece was Charlotte's first vehicle into con-
temporary music. The set-up of auxiliary sounds was extremely diverse and complicated. Charlotte says “we [meaning Charlotte and Paik] have retired this piece now after so many, many performances. It’s too hard to travel with.” One of the movies featured John Cage turning pages for Charlotte. Best of all was the film clip of her classic appearance with this piece on the Mike Douglas show. One highlight is Charlotte blithely flinging a cymbal out of the thick set-up to crash raucously on the floor at precisely the correct moment. But the incomparable moment is where Charlotte firmly takes a huge bomb to her breast and bows it like a yeoman cellist, with the same precision while Van Hefflin sits by with an unhinged jaw looking incredulous. “This is music??!!” he seems to imply. “No” says Charlotte, “this is mixed media, a little of everything you know.” As she says, all they really wanted her to do was smile but she demurred and let John Cage do that.

Next we get Charlotte Moorman in drag. She comes out in a black tuxedo, wearing a Pablo Casals mask, sits down and mimes one of the Bach suites as played by Casals. The image was as venerable as the life of Casals and definitely not a drag.

Then the notorious classic, as arranged by Paik, The Swan. Charlotte plays with piano accompaniment and before the cadence, she puts her plastic baggy-encased cello down, climbs flowingly to the top of a tall ladder, steps unerringly into the center of a barrel of water. The ensuing KERPLASH is absolutely inimitable. The water spills over in a fountain-like, cooperative effect as Charlotte climbs out and down the ladder, with long black gown dripping a light rain, to finish off the Swan, wetly.

Lastly, she returns with two red strips of cloth, addresses herself to her now cloth-encased cello which is held by an assistant. She pins the strips of cloth to the case, carefully forming a red+.

Charlotte Moorman is a unique artistic phenomenon who not only performs as described above, but has truly taken on one of the largest performance headaches in the world: the organization of the annual Avant Garde Festival in New York City. She is probably one of the few women in the world who could manage to convince the Corporation and City Patriarchs of the serious nature of her endeavor. She has actually commandeered such environments for the festival as a
boat in New York Harbor, a train in Grand Central Station and next year, a 747 for a flying festival. The Patriarchs see her first as some fluffy little girl who couldn't possibly carry out such mad schemes which involve hundreds of contributing artists. So the general attitude is "say yes and she'll probably go away." However, she does not go away and the mind-blowing festivals continue to happen. Charlotte's lectures on this subject are fascinating and a wonderful lesson in management. Bravo! Charlotte! I am your fan club and am certain Alice will help you.

“What a curious feeling!” said Alice. "I must be shutting up like a telescope."

I'll help you Charlotte. Do you need any help?

By the way, Charlotte's appearance was sponsored by Mills College during a Women's Festival of Music. The festival also featured programs and lectures by Vivian Fine, (composer from Bennington, Vermont), Pauline Oliveros (that's me), and Judith Rosen. Judith is a writer/researcher from Encino, California, who has a large collection of women's music not only of the present but from the past. She has written many articles, produced radio programs, and is currently writing a book on the subject of women's music.

The festival was organized by Beth Anderson, a young and energetic Bay Area composer. Beth also initiated and writes for Ear, the newspaper of new music. Ear features scores, letters, articles, calendars of events, and memorabilia by many young composers. (Actually all composers are young!) For a subscription write to New Wilderness Foundation, 365 West End Ave., New York, NY 10024.

[NOTE: LETTER FROM SOUTHERN COMPOSER'S LEAGUE ON FACING PAGE.]

February 22, 1974

Dear Nancy:

Thank you for your lovely letter and superb article. I am delighted that my attempt to open a subject so important to us all was taken up by others. That was its purpose. Think of how long I held such views unsupported by any women's movement! In any case banish all apologies. We all need to draw from each other in any and all kinds of ways. Your article gives me fresh feedback for thoughts I want to develop now.
Pauline Oliveros
Department of Music
San Diego State College
5402 College Way
San Diego, California 92115

February 5, 1974

Dear Ms. Oliveros:

The enclosed article, "Every Good Boy (Composer) Does Fine," is a third or fourth generation offspring from your excellent piece in the *New York Times*, "And Don't Call Them Lady Composers." I hope you enjoy reading it.

I have been sadly remiss in not writing you sooner (years sooner, in fact) to tell you of the many projects and articles which resulted from your original essay. As you may know, Jean Schickelberger Ivey wrote a letter to the editor of the *New York Times* immediately after the appearance of your article - something of an addendum to it - about the difficulties women composers encounter in academic life. Shortly after, I used your essay and accompanying discography as the feature article in the September, 1970, issue of *Music Now*, newsletter of the Southeastern Composers' League. I did write the *New York Times* for permission to reprint, and they took rather a long time to answer. The answer was only a referral to you, and since the deadline for the newsletter was hard upon me and the article wasn't copyrighted, I went ahead and reprinted it before writing you. Next, as you will see from the enclosed article, a radio series constructed entirely on your discography was broadcast by WDMX-FM, a very credible public radio station in Knoxville, Tennessee. A notice of the radio series was subsequently printed in *Music Now*, and the American Symphony Orchestra League invited me to write an article about the series. I did so, but the editor found the material on women composers more interesting than that on the radio series and asked me to rewrite it with emphasis on the neglect of women composers. Thus, the enclosed article.

I do hope that you are not offended by the liberal use so many of us have made of your article and hope it will continue to have a ripple effect. It is, of course, immensely helpful when a woman composer who has an established reputation, as you have, complains. I hope, too, that you will overlook my having been so dilatory in writing you about the use of your material. Perhaps I should add that I have been much preoccupied with a three-year old civil rights complaint against the University of Tennessee for hiring less qualified (male) scientists than I for faculty positions. The university's official answer is that it did indeed discriminate, not on the basis of sex, but because of my offensive personality.

I am eager to reach the trial stage to see precisely how this will be documented.

Let me say again how helpful your article was and how much I hope you will enjoy its offshoots.

Cordially,

Nancy Van De Vate
President
Southeastern Composers' League
At this time we need constructive proposals towards solving the problems we have identified. The following information could be useful in creating such proposals:

1. a survey of women graduate students in composition. (Such a survey could be useful towards placing these women in University positions. There are not yet enough visible qualified candidates.)

2. a survey: How are these women being encouraged? a) Are they learning conducting and other skills usually reserved for men? Are they being put off by ingrained attitudes? b) Is their music being performed?

3. a survey of “recognized” women in University positions and what they are doing in respect to the above.

4. the same survey and questions as above applied to other categories such as Performance, Criticism, and Instrument Making.

5. What other kinds of job possibilities and opportunities exist?

The data from the survey could give us the chance to establish a strong network supportive of women in music. This would provide a means of infiltration for the purpose of correcting the current imbalances. The Ford Foundation offers substantial fellowships for research on the Role of Women in Society (I applied and was turned down as a deficient scholar—no PhD).

You might be interested in the following articles for further information and supporting ideas.


Regarding your case against the University of Tennessee, I would love to see the documentation. And, Hoorah for your “offensive” personality. We women have been locked into defensive personalities far too long.

Yours,
Pauline Oliveros

“Patchwork Girl has come to life; No one’s sweetheart, no one’s wife; Lacking sense and loving fun, She’ll be snubbed by everyone.”

Paid My Dues
A Quarterly Journal of Women and Music, is available on a subscription basis from Woman’s Soul Publishing, P.O. Box 5476, Milwaukee, Wisconsin, 53211. There is an excellent article discussing the dearth of female leadership in music entitled “My Monkey Writes Operas,” by Lucille Allison.

Sappho! Where are you now?
1631 So. Lincoln
Denver, Colo 80210
Feb. 22, 1974

Pauline Oliveros
University of California
San Diego, Ca 92110

Dear Ms. Oliveros:

I am a free-lance writer working on an article about the problems peculiar to women artists. I would be most appreciative if you could answer and return the enclosed questionnaire.

I am particularly interested in your response because women seem to be most invisible in the area of composition—I do not believe the only reason is the paucity of capable women.

Sincerely,

Cynthia Johnson

March 15, 1974

Dear Cynthia Johnson:

Enclosed are my answers to your questionnaire. Actually problems are mostly ordinary. What we need are more peculiar women artists! As regards visibility: As I look out I could see myself all the way down to my toe nails.

I would be most appreciative to be informed of the results of your research. Usually I receive no feedback from the researcher after the initial request. What's happening?

Yours,

Pauline Oliveros
March 15, 1974

What artistic expression has meant the most to you?

The most recent. Last night I was riding home in my car. I had a low level residue of grief which had not been expressed at the time it was triggered in the early part of the day. I began to explore my voice, allowing any sounds to come which could. Soon I was wailing and finally I heard the voice of the child, which was me, accompanied by a flood of tears. In a few moments it was past and I was clear; my voice also changed.

What do you see as the problems peculiar to women artists?

 Mostly to release ourselves from imprisoning images, or fantasy, both personal and collective. For instance, “The woman’s place is in the service of someone else’s ego rather than her own.” Also to release ourselves from passivity when our feelings demand activity.

What advice do you have for young women artists today?

Share your inner experiences with others. Play the roles which support your inner experience. Your inner experience is your identity. Seek training which supports and sustains your identity and the roles you wish to play. (See the following model)

A MODEL (TOOL)
OF ADVICE TO YOUNG WOMEN
ARTISTS AND ANYBODY ELSE
WHO WANTS IT

Definitions:
Identity: Inner Experience, or all Thoughts, Feelings, Images, Fantasies, Dreams and Sensations and Needs.
Role: Outer Expression, or what one does in relation to others and the environment both immediate and universal.
Duty: Training or Conditioning which comes from External Forces. For example, Parents, Teachers, or Nature.
Will: Ability to direct one’s energies from Within.

An ideally integrated individual is represented below:

```
    Identity
     /
    /  \
  Role  Will  Duty
```
In this model, identity, role and duty are supporting and sustaining. Inner experience is expressed through role; role is supported by training; training is sought through need, or imposed by the wisdom of an observer, or through will. This ideal balance is rarely achieved, and at best is only momentary (a peak experience).

The individual is fully conscious with her (his) will participating fully. This kind of peak experience or goal, which appears like a mirage in the desert, is probably reserved for the second half of life when consciousness develops.

An ideally integrated individual in the first half of life is represented below:

In this model, identity, role and duty are supporting and sustaining. However, the person is subject to external forces, and does not understand her (his) actions. This ideal balance is also rarely achieved. But each time it is approached, the will draws power and is elevated into consciousness.

The following imbalances or extremes are part of the human condition:

In the above model, role and duty are pulling in opposite directions. The individual suffers identity crisis as a result of such ambivalence. The ideal of the extreme in this case can be represented by a straight horizontal line:

Unconscious Identity
One's identity and will are submerged in this struggle. One is vulnerable to all sorts of outside forces in such a condition. This condition is neither bad nor good but is subject to the positive or negative characteristics of the outside forces. A person in the first half of life is probably more vulnerable because of the lack of consciousness as represented by the following model:

In the following model, the opposite extreme is shown. Here, role and duty pull together and, in the ideal extreme, lock together. The positive result is a focused expression of identity. The negative result is egomania. In either case the individual will be consciously resistant to new information.

In various religious and other disciplines, the submergence of identity is cultivated because the individual does become more vulnerable. However, the individual usually is also provided protection from negative influences through mental, environmental, and other forms of control. The unprotected individual in a negative field may suffer collapse. The overprotected individual may never come to know her strengths.
In the above model, the individual is much less vulnerable and is likely to resist new information, but not understand why.

When role and duty are locked together, or training and expression are perfectly synchronized, the ideal model can be represented as a straight vertical line:

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Identity

Role    Duty
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The identity of the individual is modified or reinforced by the conflicts inherent in this system. In the open state one takes in new information; in the closed state one uses it. One is unbalanced when one or the other state is neglected.

In this case, identity is served by role and duty. Probably most human beings swing between all of these representations. Balance is probably how well one can switch back and forth from one extreme to another without getting stuck in one condition. A positive model of the ideal balanced condition then is as follows:

The tool outlined above is useful for self examination. Like all tools it can be misused: damaging to the tool, or damaging the object of its application. Above all, it is necessary to learn to observe one's self in any and all situations. This tool can be used, then, like a lens, not only to uncover one's needs but to discover new roles for expressing such needs, and to find the necessary guidance for developing such roles.
Ms. Pauline Oliveras  
W.C.S.D. Music Department  
La Jolla, California 92037

February 25, 1974

Dear Pauline Oliveras:

Your personal vision and achievements have moved us and enriched our development as young women artists. You are a model to us.

We in the Feminist Art Program at California Institute of the Arts are creating a seven day Women's Art Festival to celebrate the emergence of our own new spirit of visibility and vitality in the arts.

We plan to document this event with the publication of a catalog which will have a section called "Letter to a Young Woman Artist". We would be deeply honored to include such a letter from you about your experiences, or advice, or whatever feelings you might wish to express.

Your letter would be an invaluable contribution in our efforts to build a strong identity for women. We sincerely hope you will respond to our request. Our publication deadline is March 18, 1974.

Thank you,
Feminist Art Program

Lelia Amalfitano  
Linda Burnham  
Susan Camitta  
Amy de Neergaard  
Barbara England  
Ida Forman  

Rikki Frankenstein  
Cynthia Genn  
Jill Giegerich  
Constance Marsh  
Victoria Nodiff  
Molly Rhodes  

Sydney Schuster  
Natasha Shulman  
Rena Small  
Susan Starbird  
Teri Yarbrow  

Miriam Schapiro, Director  

Sherry Brody, Graduate Assistant
March 15, 1974

Dear Feminist Art Program:

Your collective response and personal potential is welcome to a ragged traveler on a patchy road:

Fox was the only living woman. There was no earth. The water was everywhere. "What shall I do?" Fox asked herself. She began to sing in order to find out.

"I would like to meet somebody," she sang to the sky. Then she met Coyote.

"I thought I was going to meet someone," Fox said.

"Where are you going?" Coyote asked.
"I've been wandering all over trying to find someone. I was worried there for a while."
"Well, it's better for two people to go together...that's what they always say."
"O.K., but what will we do?"
"I don't know."
"I got it! Let's try to make the world."
"And how are we going to do that?"

Coyote asked.
"SING!" said Fox.

Gender translation by:

Pauline Oliveros
The Noetics of Music

"The Noetics Of Music" was an early attempt to explore a broad definition of music which included the perceiver, and to find questions to encourage such an exploration which might apply to all music and all musicians. "The Noetics Of Music" is published here for the first time.

Music is a multi-dimensional, dynamic process unfolding as a relationship between an individual or a group of individuals, and sound vibrations. The question What does one hear? has produced many specialized categories of musical study, each with its own specialists within a historical, theoretical, critical, or predictive community. Such communities tend towards linguistic isolation. As analysis becomes more exhaustive, language becomes more exclusive. While focus is a necessary and desirable tool for study and artistic development, the narrowness which specialization tends to produce can be crippling to musicians.

In order to maintain or bring about balance, the individual must have alternatives, a choice of possible directions, flexibility as well as stability, and focus within this multi-dimensional, dynamic process which is music. Such balance requires a broad musical consciousness developed from an extensive awareness of all categories of musical study (and their relationships) as well as concentration on particular roles. This awareness must be based or centered in the present while encompassing the past and future. Music as a whole, all roles and relationships, must be experienced in various ways and from different perspectives in order to be synthesized. Awareness (global attention, see "Software For People") is a tool for synthesis. It is diffuse and inclusive, complementary to concentration or focus; it can support the intensity of specialization by providing a broad field from which to draw energy for concentration.
To develop such a tool, the question might become, *How does one hear?* Such a question necessarily promotes exploration of the nature of one's role, as well as the nature of one's physiology, within the musical process. Understanding must be sought of the nature of another's role within the same process. The resulting awareness tends to produce an inclusive, interdependent atmosphere which requires a common language between the listener, the composer, the performer and the instrument maker in all their variations. This calls for the conscious training of intuition and feeling as well as observational and analytical skills, in order that one may experience and come to value the roles of others through imagination and reflection as well as present reality. In this way one may gain depth and perspective on one's own role and relationship to the multitude and to the collective energy of all music.

Since all processes are dynamic, one must allow for and be prepared for change. Changes in role, relationship and valuation must occur as the process unfolds. *How does one hear?* also means How does one affect and effect relationships with sound as well as with others? How are others affecting, effecting such relationships? *How is music?*

Such questions cross artificial boundaries such as Theory, Musicology, Aesthetics, Composition or Performance; enter other disciplines such as Psychology, Biology or Physics; and call for continual examination and integration. History changes as the future unfolds and enfolds the present.

In the final synthesis, one seeks synchronization of *what* one hears with *how* one hears in order to center the specific within the general nature of music. Well-balanced musicians are not only competent, communicative and productive within a chosen direction, but also capable of intelligently and sympathetically meeting all forms of music which exist today and all musicians as well, while maintaining a healthy respect for the past and the future.
The Contribution of Women Composers

This essay was submitted as part of a grant proposal to the Ford Foundation for its Faculty Fellowships for Research on Women In Society. The proposal was not funded. The essay is published here for the first time.

There are two modes of creativity: (1) active, purposive creativity, resulting from cognitive thought, deliberate acting upon or willful shaping of materials, and (2) receptive creativity, during which the artist is like a channel through which material flows and seems to shape itself. Both modes can be available to a single individual, yet cultural trends often reinforce one mode at the expense of the other. Synchronization of these two modes would seem to be not only a more complete way of working, but a means towards more balanced efforts through a synthesis of the analytical way and the intuitive way.

Balanced efforts certainly make use of both modes. The working methods of Beethoven and Mozart show quite clearly in the following letters of these two composers respectively:

"When I am, as it were, completely myself, entirely alone, and of good cheer—say, travelling in a carriage, or walking after a good meal, or during the night when I cannot sleep; it is on such occasions that my ideas flow best and most abundantly. Whence and how they come, I know not; nor can I force them. Those ideas that please me I retain in memory, and am accustomed, as I have been told, to hum them to myself. If I continue this way, it soon occurs to me how I may turn this or that morsel to account, so as to make a good dish of it, that is to say, agreeably to the rules of counterpoint, to the peculiarities of the various instruments, etc."
"All this fires my soul, and provided I am not disturbed, my subject enlarges itself, becomes methodized and defined, and the whole, though it be long, stands almost complete and finished in my mind, so that I can survey it, like a fine picture or a beautiful statue, at a glance. Nor do I hear in my imagination the parts successively, but I hear them, as it were, all at once. What delight this is I cannot tell! All this inventing, this producing, takes place in a pleasing lively dream. Still the actual hearing of the tout ensemble is after all the best. What has been thus produced I do not easily forget, and this is perhaps the best gift I have my Divine Maker to thank for..."

—Wolfgang Amadeus Mozart, from a letter quoted in *Life of Mozart*, Edward Holmes.

"I carry my thoughts about with me for a long time, often for a very long time, before writing them down. I can rely on my memory for this and can be sure that once I have grasped a theme, I shall not forget it even years later. I change many things, discard others, and try again and again until I am satisfied; then, in my head, I begin to elaborate the work in its breadth, its narrowness, its height, its depth and, since I am aware of what I want to do, the underlying idea never deserts me. It rises, it grows, I hear and see the image in front of me from every angle, as if it had been case like sculpture, and only the labor of writing it down remains, a labor which need not take long, but varies according to the time at my disposal, since I often work on several things at once. Yet I can be sure that I shall not confuse one with the other. You may ask me where I obtain my ideas. I cannot answer this with any certainty; they come unbidden, spontaneously or unspontaneously. I may grasp them with my hands in the open air, while walking in the woods, in the stillness of night, at early morning. Stimulated by those moods which poets turn into words, I turn my ideas into tones which resound, roar and rage until at last they stand before me in the form of notes."

—Beethoven, from a Written Conversation with Louis Schlössen (1822 or 1823), *Composers on Music*, edited by Sam Morgenstern.

It is striking that the intuitive process is recognized by both composers, but it is not necessarily called upon voluntarily; rather it taps the artist on the shoulder in unguarded moments. Though each composer recognizes that ideas arrive spontaneously in relation to a special emotional tone and during restful or non-working activity, neither speaks of being able to bring about these necessary conditions for encouraging intuition voluntarily.
There are many accounts from scientists as well as artists engaged in highly-creative work, on the dramatic results of switching from the active, analytical mode to the receptive, intuitive mode.

The mathematician Jacques Hadamard records that:

"On being very abruptly awakened by an external noise, a solution long searched for appeared to me at once without the slightest instant of reflection on my part—the fact was remarkable enough to have struck me unforgettably—and in a quite different direction from any of those which I had previously tried to follow."

—The Creative Process, Brewster Ghiselin.

Also Kekule solved the chemical problem of the benzine molecule, a ring rather than a chain of carbon atoms, when in a fatigue (or alcohol) engendered daydream, he saw a snake swallow its tail. His intuition gave him the answer in the form of an image while his analytical efforts pursued the wrong theory. Again there is recognition of the intuitive mode but no conscious effort to promote the proper conditions for its presence.

Western Society seems to value most highly, not only its results, but the active analytical mode itself. In education, the development of the analytical mode is fostered almost exclusively, often to the detriment of men and women who would develop more readily using the intuitive mode; or one-sidedness appears in those in whom capacities lean towards the analytical. It is very much like the insistence on right-handedness to the exclusion of left-handedness. Emotional problems often accompany such education, even though a natural left-hander might succeed in becoming a right-hander. Actually it would be fairer to foster the development of ambidexterity, equipping the individual with valuable tools for coping with the world, as well as demonstrating adaptation. Instead we live in a right-handed world, with left-handers suffering the consequences.

Artists who are locked into the analytical mode with little or no access to the intuitive mode are apt to produce one-sided works of art. Certainly many of the totally-determined, serial works of the post-war years seem to fit that category. The opposite possibility is also true. Works produced intuitively, with little or no complementary rationale tend to seem aimlessly one-sided.
But why is intuition so often left to chance? Cultural traditions ordain how women as well as men ought to behave. Traditionally, men are encouraged in self-determining, purposive activity, while women are encouraged to be receptive and dependent. Again, emotional problems can arise when an individual's tendencies are more receptive than active. This is dramatically illustrated in education, where active, self-determining women begin to underachieve in order to avoid loss of self-esteeem in the realm of femininity (as shown in the studies of psychologist Matina S. Horner of Harvard). Because women are expected to seek the adoration and approval of men, they must not win in competition with men. Success, particularly in higher education for women, becomes failure. But if her nature is self-determining, such failure represents a conflict of interest which may never be resolved and can become emotionally crippling. The same conflict arises if a woman succeeds in purposive activity, for then she consciously or unconsciously expects the loss of her femininity. She has violated the cultural paradigm. Men, of course, experience similar difficulty in the opposite mode. A receptive, dependent man suffers in his failure to meet cultural expectations for him.

Recognized composers of Western music have been men. Women have been traditionally discouraged from entering this field. Composers actively determine what others, primarily men, shall do. Women, because of their cultural roles, do not share this experience. Societies actively control the music to be heard. The influence or power of music is well known. "The character of a nation's music cannot be altered without changing the customs and institutions of the state." (Plato, The Republic) But women are emerging in the 20th century as composers, and are entering other traditionally male-dominated fields as well. The active influence of women now has some chance of being felt through music as well as other exclusively male fields. This phenomenon may well represent the primary meaning of the liberation movement in the world today. That is, the recognition and re-evaluation of the intuitive mode as being equal to and as essential as the analytical mode for an expression of wholeness in creative work. Oppression of women has also meant devaluation of intuition, which is culturally assigned to
women's roles. The examples previously cited of creative working methods show that the role of intuition is associated with mystique or mysterious appearance—unbiddenv—in otherwise normal, actively pursued, analytical work. Would not any human being benefit from the knowledge and ability to call on intuition as well as analysis at will?

Culturally, woman is the symbolic representation of intuition as man is the symbolic representation of analytical activity. It is my hypothesis that the emergence of women in male dominated fields means a move towards the inclusion of intuition as a complementary mode of creativity. Women's emergence is a significant evolutionary development towards synthesis or wholeness. Neither mode is exclusively the province of one sex or the other. The two modes must be available in any human being, making a more complete expression available in any field.

Since very little attention has been devoted to women as composers, my research will be focused on the following questions:

1. Do women have something to teach men because of their cultural specialization and vice versa?
2. What trends arise in the comparison of many compositions of women? of men? of men and women?
3. What working methods do women employ in composing? What working methods do men employ?
4. What methods or conditions might be employed to promote and train intuition in music composition?
5. How could this work apply to creative activity in general?

I would expect to find that men as well as women rely on intuition in composing, but the attitudes toward intuition might differ considerably. The study of working methods might release important information for the encouragement of
women in this field as well as other fields. I would examine first several hundred scores of works by naïve composers. This opportunity comes from a unique music course offered at the University of California, San Diego, which requires that its non-musicians compose. It would be interesting to discover and compare these individual approaches to creative activity through interviews. Their responses would be relatively free from training imposed by normal musical educations.

I would also examine the scores of recognized women and men composers for trends and make interviews concerning their working methods.
On Sonic Meditation

"On Sonic Meditation" was written during a Guggenheim Fellowship period in 1973. It was an attempt to integrate some of the experiences of working with the Ensemble for two years and the Meditation Project for nine weeks in the Project for Music Experiment at the University of California, San Diego. "On Sonic Meditation" was published in the Painted Bride Quarterly, Winter 1976, Vol. 3, No. 1 by invitation from editor Paul Epstein.

The meaning of meditation is problematical in that it has accumulated many different associations and generally a very broad range of diverse practices and techniques. It appears often in religious contexts such as Buddhism, Christianity, Sufism and others. Its secular counterpart is usually called concentration. Although all meditation (both secular and religious) is similar in that it employs attention, awareness, concentration, openness and repetition, some define meditation as exclusively a specific type of practice or technique. Many contrasts among different systems arise: Christian meditation, or contemplation, is usually a dwelling upon specific ideas, such as one’s relationship to God, or the pursuit of an activity which is decided upon and directed intellectually. Certain Eastern practices will be opposite, advocating dwelling on emptiness of mind (Nirodha in the Yoga Sutras of Patanjali, No Mind in Zen Buddhism).

Some methods of meditation encourage mental imagery, others discourage all imagery; some promote the involvement of sense organs using visual, auditory and somatic forms, others promote the abandonment of sensory modes. Further, there is action versus inaction, feeling versus indifference and more. In Taoism, when action arises, it is spontaneous and natural; in Confucianism, action is the result of ethics or intellect.

I use the word meditation, rather than concentration, in a secular sense to mean steady attention and steady awareness (global attention, see "Software For People"), for continuous or cyclic periods of time. Any of the above practices or techniques might be employed when appropriate.
While one's attention is focused to a point on something specific, it is possible to remain aware of one's surroundings, one's body, movement of all kinds, and one's mental activity (in other words remain aware of inner and outer reality simultaneously). Attention is narrow, pointed and selective. Awareness is broad, diffuse and inclusive. Both have a tunable range: attention can be honed to a finer and finer point. Awareness can be expanded until it seems all-inclusive. Attention can intensify awareness. Awareness can support attention. There is attention to awareness; there is awareness of attention.

Attention seems to equate with mental activity and to be aroused by interest or desire. Awareness seems to equate with the body's sensory receptivity. It is activated, or present, during pleasure and pain. Either attention or awareness can interfere with the other, depending on the intensity of interest or the intensity of stimulation. When either attention or awareness predominates or becomes out of balance, the other tends to drift or become unconscious; for example, after practicing a difficult passage (or even an easy one) over and over again, with or without success in execution, the musician discovers a cramp in some part of the body which has developed from a faulty playing position. Awareness has been sacrificed for attention and has become unconscious, or conscious on a very low level. Awareness only returns with the urgency of the cramping pain. With conscious awareness, the cramp might have been avoided by adjusting the relationship to the instrument, without sacrificing attention, before a cramp could develop. In this case awareness would be supporting attention, rather than producing a delayed interference reaction.

If the passage was executed successfully, one might consider the cramp a small price to pay, or it might not be associated with the activity. (It is also possible to sustain an inner muscular or visceral tension which is not noticeable or visible on the outside, so that the body appears to be in the correct relationship to the instrument.) If the passage was executed unsuccessfully, the faulty position disclosed by the cramp might be blamed and subsequently
corrected. In the former instance, some musicians who remain unaware for a long time, even years, often end by paying a very high price for success. Indeed, when such things as severe chronic pains in the back or other parts of the body appear without apparent reason, they may be results of some small but constantly repeated strain. The symptoms often do not respond to medical treatment, probably because the source of the now chronic ailment is continually repeated as an unconscious habit in association with “correct” habits of playing music. It is therefore most difficult to correct. Besides the misery of such a situation, some musicians are forced to give up playing or singing because of such ailments; and even worse, some never realize the relationship of their illness to inner tension, because the appearance of the playing position seems to be correct and the music may sound right.

The opposite can be true: while awareness of body sensations remains present, attention can lapse or drift attracted by the larger phenomenon of a painful awareness. The musical passage might become automated and sound mechanical, or, parts or all of it may be interrupted or forgotten as attention is divided or diverted by awareness of the cramp or some other strong sensation. Attention then refocuses and intensifies awareness.

The proper relationship of attention and awareness can be symbolized by a circle with a dot in the center. (Figure 1)
The dot represents attention, and the circle, awareness. In these respective positions, each is centered in relation to the other. Awareness can expand, without losing center or its balanced relationship with attention, and simultaneously become more inclusive. Attention can be focused as fine as possible in any direction, and can probe all aspects of awareness without losing its balanced relationship to awareness.

My *Sonic Meditations* (Smith Publications, 2617 Gwyndale, Baltimore, MD 21207) are “sonic” in the sense that sound and hearing, both active and receptive, are the foci of attention and stimuli of awareness. The enhancement and development of aural sensation is one of their goals. Synchronization of attention and awareness, keeping them balanced and conscious, is necessary. Also, the synchronization of voluntary and involuntary mental or physical activity is explored. The ear is the primary receptor or instrument; sound, both inner and outer, real and imaginary, is the stimulus of *Sonic Meditations*.

How and what does one hear? In order to answer this question, the mind must relax, as a muscle must relax. The appropriate state of expectation must be present in body and mind in order to become receptive to both internal and external stimuli.

*A Cup of Tea*

"Nan-In, a Japanese master during the Meiji era (1868-1912), received a university professor who came to inquire about Zen.

"Nan-In served tea. He poured his visitor’s cups full, then kept on pouring.

"The professor watched the overflow until he could no longer restrain himself. ‘It is overfull. No more will go in!’

"‘Like this cup,’ Nan-In said, ‘you are full of your own opinions and speculations. How can I show you Zen unless you first empty your cup?’”

(Paul Reps: *Zen Flesh – Zen Bones*)
As a composer I had to empty my cup; I became interested in dwelling on single pitches in my music at the end of the 1950's. There is a very long held note in the cello part of my Variations for Sextet (1959-1960). (Figure 2)
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Figure 2 (cont.)
The note lasts approximately half a minute and it is solo. It emerges from a hard attack together with trumpet, horn and clarinet, with a few low-level, evanescent piano harmonics. It is very long in the context of the 
Variations and other music of its style, which deals with radical shifts in rhythm and timbre. The long cello tone is a very brief meditation, although I was not thinking of it that way at the time. It had at least two functions: 1) it represented a very slow contrasting tempo within a multiplicity of changing tempi, and 2) its harmonic ambiguity increased as it stretched out in time, although the tone itself, rather than where it was leading, became an object of interest. It signaled my growing interest in timbral shapes and changes, the complementary opposite of chordal or harmonic changes.

Other composers were becoming involved in this fascination with long tones also. See Terry Riley’s String Quartet (Figure 3) and La Monte Young’s Composition 7, 1960. (Figure 4)

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Drones of all kinds (such as motors, fluorescent lighting, freeway noise), are ever present. The mantra of the electronic age is *hum* rather than *Om*. These constant soundings influence everyone, whether consciously or unconsciously. Some adverse effects can occur when the influence is unconsciously received; for example, a musician who plays in tune unknowingly with sixty hertz hum rather than 61.735 hertz in an ensemble. Or an ensemble which does not realize the out-of-tuneness caused by the discrepancy between standard musical tuning in reference to A440 and sixty hertz hum.

I began to seek out drones of all kinds and to listen to them consciously, allowing myself to hear the myriad shifting, changing partials of a constant tone, broad and narrow band noise. My subsequent music, both electronic and instrumental, reflected this interest. Whole pieces became single tonal centers or noise bands with characteristic timbral shaping. I was quite satisfied with this work emotionally and intellectually, although I had apparently abandoned Western harmonic practice.
"—the knowledge of sound can give a person a magical instrument by which to wind and tune and control and help the life of another person to the best advantage. The ancient singers used to experience the effect of their spiritual practices upon themselves first. They used to sing one note for about half an hour and study the effect of that same note upon all the different centers of their body: what life current it produced, how it opened the intuitive faculties, how it created enthusiasm, how it gave added energy, how it soothed and how it healed. For them it was not a theory but an experience." (Sufi Inayat Khan: Music)

I continued to empty my cup and follow my secular way. My interest and fascination with long tones was centered in an attention to both the beauty of the subtle shifts in timbre and the ambiguity of an apparently static phenomenon. Why was a tone which went nowhere so seductive? My awareness was adrift.

In 1969 I began to work with dancer Al Chung Liang Huang, and with him I began the study of T’ai Chi Chuan. The work with Huang in this Chinese form of meditation movement involved breath rhythm synchronized with slow, circular motions of torso, arms, and legs. I had been playing and singing with my accordion, slow lingering improvisations on a tonal center. I began to translate the breath rhythms and the slow natural motions of T’ai Chi to my solo improvisations. I noticed that I began to feel better physically and mentally, and I began to crave more retreat to the calming influence of these drone-like improvisations, from what seemed to be a nervous, frantic music world, full of hasty rehearsals and constantly noodling performers with up-tight vibrations.

By 1970, some other women had joined me to form the ♀ Ensemble, an improvisation group, both vocal and instrumental, devoted to unchanging tonal centers with emphasis on changing partials. After a long period of working together, a profound change occurred: rather than manipulating our voices or instruments in a goal-oriented way in order to produce certain effects, we began to allow changes to occur involuntarily, or without conscious effort,
while sustaining a sound voluntarily. It is an entirely different mode. It requires
the elimination of opinions, desires and speculations to be unlike the professor
for whom Nan-In poured continuous tea.

My first conscious recognition of this change resulted in the articulation of
Teach Yourself to Fly, Sonic Meditation I (op. cit.). I say articulated rather than
composed because the instructions were transmitted orally many times before
being committed to paper.

We could no longer call our activity improvisation.

**Teach Yourself To Fly**

*dedicated to Amelia Earhart*

Any number of persons sit in a circle facing the center. Illuminate the space
with dim blue light. Begin by simply observing your own breathing. Always be
an observer. Gradually allow your breathing to become audible. Then gradu-
ally introduce your voice. Allow your vocal cords to vibrate in any mode
which occurs naturally. Allow the intensity of the vibrations to increase very
slowly. Continue as long as possible, naturally, and until all others are quiet,
always observing your own breath cycle. Variation: translate voice to an
instrument.


**"NOT A THEORY BUT AN EXPERIENCE"**

'Any number of persons sit together in a circle facing the center.'
People sitting together in a circle are a living symbol of unity as well as a
unified reality. (Figure 5)
All are on the same plane. All are relating to the same center.

'Illuminate the area with dim blue light.'

Low illumination is less stimulating to the visual sense and helps to center one's awareness in the body, awakening the sense of hearing and the somatic sense which has an intimate relationship to the ear.

'Begin by simply observing your own breathing.'

The key principle in this meditation is observation of the breathing cycle. Observation meaning to remain attentive and aware without consciously manipulating or interfering with the observed. Observation requires a receptive mode of consciousness: an empty cup. The breath cycle is a bridge between voluntary and involuntary activity. It can and does continue all the time without one's conscious attention or awareness. Sometimes it is only noticed when one is struggling to gain voluntary control over it. By trying to observe the breath cycle without disturbing it, one begins to tune an activity which is both conscious and unconscious. In short, breath is the door to the unconscious where a great store of energy lies ready to support or obliterate conscious efforts. Energy is neither positive or negative, but it can become either.

Is it possible to observe the breath cycle without disturbing it? Heisenberg's principle of uncertainty (as applied to quantum theory) teaches that

"there is no such thing as mere observing, in the sense that the only action is a one-way action of the object on the observer; every observation we make is bound to act on the object we observe, even if only by the impact of a single quantum of light. In other words, there is always a mutual inter-action between the observer and the object."

(Otto R. Frisch: Atomic Physics Today)

Perhaps participation in Teach Yourself to Fly is to experience Heisenberg's principle of uncertainty. Although my instructions ask for observation in its receptive sense, somewhere complementary action is occurring. The breath does change, if the
attention remains focused on the cycle. The quality of these changes is personal and varies with each participating individual. In my own experiences with this Sonic Meditation my breaths become very prolonged. The rate reduces to two or three per minute or less. The effect is very calming to the nervous system and the whole body. I always feel refreshed and very relaxed afterward.

"There are three degrees of breath current. One degree is the simple breath which is inhaled and exhaled by the nostrils. This current reaches outside and has a certain effect. A greater degree of breath current is also blowing. When a person blows from his lips, that breath current is directed more intensely; therefore healers who have understood this principle make use of it. And the third degree, in which breath is most intense, is sound: because...breath, coming in the form of sound, is vitalized."

(Inayat Khan, op. cit.)

'Always be an observer.' Restrain any desire to manipulate, although a voluntary action is introduced: 'Gradually allow your breathing to become audible.' Here, while attention remains focused on the breath cycle and its involuntary changes, one must synchronize the voluntary increase in air pressure without consciously manipulating the cycle. Thus, the choice of the word 'allow' for transmitting this instruction. This linkage is not necessarily easy:

"What the meditator realizes in her practice is to a large extent how she is failing to meditate properly; and by becoming aware of her failing she gains understanding and the ability to let go of her wrong way. The right way, the desired attitude, is what remains when we have, so to say, stepped out of the way."

(Claudio Naranjo: On the Psychology of Meditation)

If I am successful as an observer, while my attention remains fixed on the breath cycle, another phenomenon may appear. That is, while attention
remains steady, keeping the details of breathing clearly in focus, awareness is present and may be expanding. During this process it is also possible to observe myself attending and being aware. For me this is a highly desirable mode of consciousness. It seems that this aspect of observation might be an element of synchronization between attention and awareness. It is as though a teacher, mentor or guru in the form of oneself has appeared internally to give one feedback or to reflect the way things are. (Figure 6)

The reciprocal relationship of attention and awareness seems to give rise to this aspect of *observation*; the observation of attention and awareness is also *having* attention and awareness.

There is a fourth aspect to this apparently three-way relationship, which can be represented as in Figure 7.
Often, even ordinarily, when my attention is engaged (and awareness is present, or absent as the case may be), I am too caught up in the present moment, or too subjective, to observe myself during an event or events. Later however, reflecting on a situation, it is possible to remember myself objectively in the event or events and in detail. The memory may occur spontaneously, or be retrieved laboriously indicating that observation has taken place on some unconscious level. The relationship of conscious observation to unconscious observation might be similar to the relationship of attention and awareness. It can be represented by the same dot and circle. (Figure 8) The dot represents conscious observation and the circle, unconscious observation, with the same sort of reciprocal, centered relationship possible.

![Figure 8.](image)

The complementary relationship of all four phenomena (attention, awareness, conscious observation, unconscious observation) could then be represented as follows: (Figure 9)

![Figure 9.](image)
Each phenomenon seems to have the power to support or distract, depending on the balance or centeredness of the relationships.

When observation remains unconscious, one is often obliged to seek an outside, objective observer such as a teacher, doctor or adviser for necessary feedback or reflection on one's condition (which may help to make one's own observation conscious). Progress to new levels of finer, more sustained attention and larger, more inclusive awareness is arrested in the absence of accurate, objective feedback from the observation mode, either from an outsider or the insider: one's self.

'Then gradually introduce your voice.' What is the sound of my own voice? What would it sound like if I had not adopted the way it sounds now? What models am I using? What is the sound of my original voice? 'Allow your vocal cords to vibrate in any mode that occurs naturally.' Again, the word 'allow,' meaning no conscious manipulation of the vocal cords in order to produce a particular sound. No sound is more desirable than another; all are accepted. Simply be aware of the sounds that emerge, while the attention remains focused on the breath cycle. 'Allow the intensity of the vibrations to increase very slowly.' The voice enters more and more fully with the increase in intensity, still without conscious manipulation. Vibration of the vocal cords should be occurring before one becomes aware that they are vibrating. Imposing a conscious direction toward a specific sound or pitch causes a lapse in attention.

Slowness is relative. It might take any length of time, depending on the experience of the meditator. Actual time periods seem to increase in length with practice, but time perception in terms of clock time appears to be inverse: longer and longer time periods seem shorter and shorter as attention improves.

'Continue as long as possible naturally, and until all others are quiet.' There are many individual variations in comfortable time lengths for such vocal production. Usually there is a kind of group consensus which occurs spontaneously and supportively. There is some group recognition of peak activity, and a natural decay time as the meditation ends as it began. 'Variation: Translate voice to an instrument.'
A musical instrument, of course, is an amplifier, an extension of the musician to a certain extent. Like all amplifiers, it also acts as a band pass filter. As beautiful as the sound may be, it cannot be as flexible and rich in partials as the human voice. A trained singer, such as the soprano, contralto, tenor or bass of Western art music, or the pop singer of various distinctive styles, has a vocal filter produced by his or her training. Some such singers become unable or refuse to produce any sounds beyond or different from what the training has taught. There is a fear of breaking training or of ‘ruining’ one’s voice, or there is simply a devaluation of anything else. Many singers actually do ruin their voices by striving and straining for effects which are easily attained by certain models, but are unnatural or impractical for their own voices (or by straining against the effects of bodily tension produced by stage fright and other pressures) in order to sing. Today’s singer must not only meet the challenge of Western art or pop music, but of world music with all of its vocal variation and extensive techniques. This requires openness, awareness, receptivity and exploration of the voice under reasonable conditions such as Sonic Meditations offer.

When I articulated Teach Yourself to Fly for The Ф Ensemble some of us were playing instruments. As understanding increased of what we were doing, it was accompanied by frustration with the filter systems imposed by the instruments. Gradually we abandoned instruments in favor of the development of our voices and awareness of the physical changes in tension towards relaxation, brought about by the meditations.

"In the Middle East, among Orthodox Christians and Armenians, there is a custom that they do not use an organ in church; they use a chord or sound made by ten or twelve persons singing with closed lips. It has such a wonderfully magical effect, it reaches so far and so deeply into the heart of man, it produces such a religious atmosphere that one feels that there is no necessity for an organ; it is a natural organ which God has made."

(İnayat Khan, op. cit.)
Nevertheless, an instrumental version can be instructive and beautiful. Such a translation is most natural or direct for wind and brass players. String, percussion and keyboard players have to project their vocal cords to the instrument so that body movements which activate sound vibrations are synchronized with the breath cycle as exactly as possible. The choice of pitch must come involuntarily.

So what is the sonic result of Teach Yourself to Fly? Because of the underlying principle, observation of the breath cycle, there is always the unity of the characteristic drone. The texture resembles ocean waves. The individual aperiodic coincidences of different breath cycles create a variety of details. There is an increasingly rich production of partials. The form of the whole is a dynamic arch.

The effect is restful rather than stimulating. The energies of from a few to many people participating together amplify, reinforce and sustain the effects, but one can also participate alone with good results. Resulting awareness of my body in a relaxed mode, the fresh receptivity to external sound, the discovery of unused vocal or instrumental range and qualities seem primary since the pressures associated with my former music world were not often conducive to such things. It happens that I very much like the musical as well as social and psychological results of Sonic Meditations, although they seem to require re-orientation of the tangled jungle of expectations among performers and audience.

*The Problem of Music*

"Be sure that you do not train yourself to music, in case this holds you back from even higher perceptions."

(Idries Shah, Ibn Hamdun, *The Way of the Sufi*)

*Sonic Meditation* invites participation from all present. It is related to more ancient musical practices where listening as an audience, especially intellectually, was not the specialized practice it is today.
Sonic Meditations were intended for musicians of all levels; however, an important aspect of this work, as stated above, is that non-musicians may participate as well, and often much better, than musicians whose training sometimes interferes.

The experience of Sonic Meditation can be immediate, depending on the degree of commitment in the group. The experience is greatly enhanced and deepened with many repetitions over a long period of time. New participants are supported by the energy, focused attention, and broad awareness of experienced meditators. Even one person with training can cause a large group to become more continuously attentive and aware (just as one hypertensive individual can upset or affect a whole roomful of people). The training of attention and awareness, of course, has many applications towards other musical goals and interests as well as towards other disciplines.

In the winter of 1973, a research fellowship in the Project for Music Experiment, funded by the Rockefeller Foundation and sponsored by the Department of Music at the University of California at San Diego, allowed me to pursue Sonic Meditations further, on a daily basis, with twenty volunteers. As a result of this work, many new meditations were articulated and composed.

“My cup runneth over!”
Meditation Project

A Report

An opportunity to do full-time research supported by the Rockefeller Foundation at the Project for Music Experiment (now the Center for Music Experiment and Related Research) at the University of California, San Diego, resulted in "Meditation Project": an exploration of meditation technique in relation to music and musicians. The following report was originally presented to composer Roger Reynolds who was the Director of PME. "Meditation Project: A Report" is published here for the first time.

My Meditation Project was an intended exploration of mental and physical exercises in concentration (or attention) and awareness, in their relationship to the techniques of rehearsal and performance of music. Exercises were drawn from many and various sources including my own Sonic Meditations (Smith Publications). Exercises were practiced daily for two hours with a group of twenty volunteers. Both musicians and non-musicians were included.

Elaine Summers, kinesiologist, choreographer and director of the Experimental Intermedia Foundation in New York provided the first two weeks of training in kinetic awareness. (A recorded lecture by Elaine Summers is available from the C.M.E. archives). Summers' exercises consist primarily of sensing the various parts of the body, the body as a whole, awareness of skeletal and muscular relationships through self massage and massage with a partner, and a series of exercises in moving a part or parts of the body very slowly, almost imperceptibly. These exercises help to reveal and release inappropriate tensions which might interfere with one's activities. Summers maintains that inappropriate tensions arise from the body image that one holds either consciously or unconsciously, when that body image is in conflict with the natural relationships of the body.

Elaine Summers' work provided an invaluable foundation for the project, as body awareness is essential to — yet often suppressed during concentrated activity. Many project members were helped by her exercises — relieved of unnecessary pains from inappropriate tension. They were also given personal guidance toward self-help routines.
We were able to present a meditation event at the end of her stay entitled *Energy Changes* (Energy changes the body). Elaine Summers performed her work which involves movement from meditation, or sensing the body until it moves apparently involuntarily. Borrowing her title, my *Sonic Meditation XIII, Energy Changes*, was composed for the occasion and performed with project members Lin Barron, Bonnie Barnett and myself.

Dr. Ronald Lane of the Muir Counseling Service acted as consulting psychologist for the project. Dr. Lane provided a battery of tests at the beginning which were repeated at the end of the training in order to monitor possible significant changes in the participants. Also, there were weekly individual personal consciousness scales. The data accumulated from these tests awaits a computer program for correlations.

Dr. Lane attended many of the sessions and was also available to any participant on a consulting basis. Several of the participants made use of his services as a result of changes apparently triggered by the training sessions.

Dr. Lane also provided two training sessions in contacting dream imagery and fantasy. Dr. Lane noted the unusual clarity and creativity of the imagery in this group as compared to his usual encounters with other groups.

Dr. Lane's role was assuring and valuable to the project and its members. He was very supportive of the experimental nature of the project.

Beginning the third week, I led the group in a continual review of Summers' exercises, and I introduced meditations of contrasting kinds (mostly mental) from many sources along with *Sonic Meditations*.

Al Chung Liang Huang, dancer and T'ai Chi master, led the seventh week of training. He introduced his own personal meditations derived from T'ai Chi Chuan, Chinese theater, and calligraphy. Huang was also very interested in the receptivity of the group as contrasted with other groups under ordinary circumstances he has encountered. He was able to accomplish much more during his week than usual.

Dr. Lester Ingber, Karate master and president of the Institute for the Study of Attention, provided two training sessions at the end of the eighth week: a
survey of Karate technique with particular emphasis on the meditative aspects of training attention and awareness. Ingber also noted the unusual receptivity of the group as compared with more ordinary circumstances.

Both Ingber and Huang are interested in the synthesis of Eastern (meditation) practice with Western analytical techniques.

Research assistant Bruce Rittenbach provided a before-and-after EEG sample for each participant. The tests, carried out in Dr. R. Bickford's EEG laboratory in the medical school, showed that most of the participants were already high amplitude alpha producers. Alpha is a correlate of the meditative state (see Joe Kamiya, "Operant Control of EEG Alpha Rhythm,"; Charles Tart, ed., Altered States of Consciousness). However, an interesting tendency appeared: Alpha tended to be present in higher amplitude in the right as opposed to the left hemisphere of the brain or vice versa during the first tests. At the end of the project, the tendency was towards more equal amplitude alpha in both hemispheres simultaneously, indicating that some balancing or synchronization might be occurring.

Rittenbach also set up a small biofeedback training laboratory for individual use, utilizing Alpha Metrics biofeedback equipment. Participants could monitor their brain waves through headphones in order to learn to emulate meditative states (high amplitude alpha production) in hopes of supplementing the autogenic training sessions. Unfortunately bureaucratic delays interfered with this aspect of the project, and the biofeedback training could not begin until the fifth week of the project.

John Forkner, optical physicist and C.M.E. Fellow, designed and built a special lighting system which projects a circle of light on the floor for the meditation exercises. Forkner calls this system "Moonpool." The quality of the light resembles moonlight and provides a low visual stimulation atmosphere accommodating to the exercises, and artistically satisfying. The light was utilized successfully as the environment for the presentation of Energy Changes. Because of its experimental development parallel to the training period, Moonpool has
not been explored to its fullest potential in connection with meditation, but it promises future development.

Finally, the training sessions were also a long rehearsal for my ceremonioal composition Phantom Fathom from The Theater of the Ancient Trumpeters, which was performed March 10, 1973, with the training group, as a culmination of the project.

One of the central problems of Phantom Fathom is a necessary re-orientation of the relationship between performers and audience. The performance includes everyone present so that the active experience of participation is primary; there are no spectators in the usual sense. A necessary condition of this break with normal concert format is that “audience” members be informed and prepared to participate by published instructions prior to the event so that participation may be voluntary. This helps to preclude a kind of negative energy arising from persons whose normal concert expectations would be disappointed, or persons who might prefer to remain spectators. In this sense, Phantom Fathom is exclusive; on the other hand its inclusive nature cannot work in the normal milieu of the concert world. The prevailing concert paradigm is also exclusive in that the assumed performer-audience relationship is one of deliberate separation, with the performer primarily active and the audience primarily receptive. This underlying assumption has been accepted and built upon by composers, preserved by performers’ attitudes and training, and frozen by the architecture of concert halls.

Phantom Fathom requires large open space where a hundred or more people can move about freely as well as sit comfortably on the floor for some of the meditations. It also requires very fine lighting control as well as a comfortably resonant acoustical quality. The PME building was less than ideal for Phantom Fathom, with its low ceiling, obstructing posts, and poor ventilation; however it is the only space on campus which approached the general needs of such a performance.

Phantom Fathom especially requires a difference in attitude and practice
among the performers. The lines must blur between specialist and non-specialist, and yet energy must be transmitted by the performers which encourages and supports audience members in their participation, unifying the two groups. Audience members must be willing to experience through participation, without trying to interpret or analyze an artistic message during the performances. In this case, analysis opposes direct experience. The performer must be attentive to the tasks without trying to express or send a message. The performer must set an example which should help support an untrained but informed audience member. Phantom Fathom does not require specialized musical skills but it does require the training of attention and awareness as defined in my paper "On Sonic Meditations."

The exercises during the daily two hour meditation sessions were intended to provide this training to the mixed group of volunteer musicians and non-musicians.

As far as I am concerned, Phantom Fathom was performed quite successfully, although with subsequent work fruitful changes and improvements could occur. An audience of approximately 100 or more arrived and participated silently as prearranged. The silence produced a remarkable atmosphere free of distracting verbal energies. As the evening progressed non-verbally, it seemed to me that the imagery of the performance gained in intensity. The project members seemed to transmit the necessary models without self-consciousness.

I attempted an experiment in ESP sound and image transmission as part of Phantom Fathom: For a week prior to the event I concentrated every evening on the same sound (shell trumpet) and the same image (elephant), hoping to transmit them to willing receivers in the prospective audience. The reception was most likely to take place in a dream (as proven by Stanley Krippner in experiments at Maimonides Hospital in Brooklyn).

A thrilling moment in the dream telling ritual, which was necessarily verbal, during Phantom Fathom was the direct hit on the elephant image by an audience member and a very near hit (golden trumpet sound rather than shell trumpet) on the sound I attempted to transmit.
Besides the training group meetings, Dr. Ingber, Lin Barron, Bruce Rittenbach, and I met regularly three times a week to work with biofeedback training experiments. We used respiration to control the pitch of an oscillator, and the amplitude of alpha brain waves to trigger the oscillator on and off. We tried placing electrodes at different points of the brain, i.e. occipital, parietal, etc., corresponding to known functions: auditory, visual, etc., and noted the quality of various mental states in relation to the auditory feedback results. Some of our observations led directly to successful meditation training exercises and new Sonic Meditations.

I spent at least two hours a day privately engaging in all of the daily exercises before the training sessions.

The key product of all this training is the development of receptivity. In general, our cultural training dominantly promotes active manipulation of the external environment through analysis and judgement, and tends to devalue the receptive mode which consists of observation and intuition. (See Arthur Deikman, "Deautomatization and the Mystic Experience," in The Nature of Human Consciousness, Robert Ornstein, ed.) My project was designed to reverse the above-stated situation, not to replace the active mode but to complement it. It seems to me that musicians might benefit by the ability to switch modes easily and consciously. Promoting receptivity has high potential value in teaching, as well as rehearsal and performance, as indicated by the observations of group leaders Lane, Huang and Ingber.

Immediate and Future Research Needs:

1. a computer programmer to work with Dr. Lane in order to correlate the data from psychological tests during the project.
2. computer time for the above work.
3. technical assistance for the maintenance and development of equipment for further biofeedback experiments.
4. space for a biofeedback laboratory (currently provided by the Department).

5. a large, open, uncluttered space, free from office and other environmental noises with lighting control for rehearsals.

6. a group of musicians interested in pursuing meditation techniques.

7. clerical assistance and typing.
Modes of Attention and Awareness in the Teaching of Basic Musicianship

This essay was submitted as part of a grant proposal to the University of California for Innovative Teaching. The intention was to test systematically (with the aid of a Clinical Psychologist, Dr. Ron Lane of the Muir Counseling Service at University of California San Diego) exercises especially composed for basic musicianship. The approach was influenced by the attentional theories of Dr. Lester Ingber and the imaginal theories of Dr. Lane. The project was not funded.

The skill of a musician depends on the synthesis of aural, visual, and somatic attention and awareness. He or she must be able to hear mentally as well as physically, see and interpret musical symbols and cues, respond correctly as a singer, conductor or instrumentalist. Attention means focus and clarity of detail, while awareness is concerned with the overall field, and is diffuse. (See "On Sonic Meditations"). Attention and awareness may be turned outward toward the environment, or inward to the imagination and memory. Aural and somatic attention can be turned outward, while visual attention is turned inward, or any combination of these modes of attention and awareness might be in effect. An individual whose attention and awareness is turned entirely inward might be considered to be out of touch with reality. An individual whose attention and awareness is turned entirely outward might be considered to be out of touch with himself. What is necessary for growth and development for the whole person is the ability to focus attention and find awareness in each area, inward or outward, flexibly, or at will, in any combination of the modes. Separation of attention and awareness is a useful theoretical concept.

I have composed some exercises based on the above theory for my Basic Musicianship class. For example:
The group forms a circle (about 20). Three people face each other in the center of the circle and a fourth person is the critic-conductor. The critic-conductor begins to clap a tempo. The large group takes it up. In the center, person A invents and claps a rhythm, with respect to the tempo. Person B must repeat person A’s rhythm and then add his or her own rhythm, person C must repeat A’s and B’s rhythm and then add his or her own rhythm. Then the center group must clap together (A+B+C), and then the whole group claps the whole rhythm. The critic-conductor must stop the exercise whenever he or she detects an error, and explain exactly what was wrong. Some possible errors: person A, B or C does not repeat exactly; person A, B or C lags the tempo; the group is too loud or goes out of tempo; the critic-conductor does not perceive any errors, etc. The trio determines whether the critic is accurate. Then a new group comes into the center. No errors are allowed. As the entire group improves, more people are added to the center.

This exercise is extremely difficult due to the poor attention habits of many students; but it is extremely effective at training attention and awareness, intuitive responses and memory. Psychologically, both group and individual competition is present, but is balanced by collaboration. (If the individual fails or succeeds, the whole group fails or succeeds.) Visual attention in this exercise is free to scan for any visual cues which aid and reinforce the aural and somatic tasks. For instance, watching a group member’s hands in order to keep tempo or help pick up the rhythm. Visual awareness is intended to take in the group as a whole, to reinforce the feeling of ensemble. Aural attention must be focused on the rhythm introduced by person A without losing awareness of the overall tempo (the whole group). The critic and the group must be able to tell when an error is made. Somatic attention is focused on the movement of the hands and an awareness or sensing of the group is necessary to maintain tempo. The rhythmic invention of the center group is spontaneous so that intuition is also necessary along with the training of memory.

This exercise and others that I have composed seem to be very effective in the context of basic musicianship. Not only do they sharpen the skills necessary for good musicianship, but they seem also to help students to communicate more directly, creatively and peacefully with each other.
I believe that the theory of these exercises would apply to other disciplines as well, especially one which requires spontaneity as well as precision in the use of language, such as mathematics. Mathematical exercises could be devised with a game approach to learning arithmetic or equations. Instead of an individual writing math problems always in isolation, it could be possible for each member of a group to be responsible for a particular function in an equation, or represent an analog of the problem, and practice orally in a circle formation with the group responses forming "an individual."
A Research Center of New Music for Performers and Composers

The following article was written for Musical America at the invitation of editor Shirley Fleming. It is published here for the first time.

Research efforts in American university music departments have generally been focussed on investigating and understanding the glorious past. Looking backward is important. An enormous amount of work needs to be undertaken, not only in systematic studies of musical cultures of the non-western world, but in a reconsideration of Western European music in the light of such studies. In the meantime, who investigates the future? What constitutes research for the composer and the forward-looking performer? The university musicologist most specifically investigates Western European musical traditions. He or she is busy tracking lost performance practices, reconstructing or analyzing scores, perhaps trying to understand transitions from polyphonic to harmonic practice, or investigating the details of a composer's life in relation to his or her music. We are well aware that such work unearthed the lost compositions of J.S. Bach in the 19th century. We are also aware that investigation of music traditions outside the European art tradition in relation to cultural context has provoked at least some performers into a reconsideration of their technical range and relationship to performance. The technological revolution of the last two decades has accelerated, provided tools for, and even created the need for both historical and cultural studies; but technology has also enabled or motivated systematic studies in acoustics, physiology,
psychology, aesthetics and other related subjects. The mainstays of musical studies: composition and performance, can be considered the natural result of the musical art and not of research effort per se (since research in its more restricted meaning involves the discovery of unknown or the classification of obscure matters). Composers, performers and other researchers need to consider and expand their resources, to order and integrate new information and traditional materials.

When Will Ogdon arrived in La Jolla in 1966 to become first chairman of the New Music Department at the University of California, San Diego, he planned (along with the chancellor’s advisor on the arts, Provost John Stewart, and Ogdon’s colleague, composer Robert Erickson) a Center for the Study of Contemporary Music. It was already decided that its Music Department would be devoted to composition, performance and related studies, emphasizing contemporary materials. It would be a school where composers and performers of new music could be welcome and comfortable. Ogdon and Erickson, as founding fathers, selected the instructional staff carefully with an eye and ear out for those who cared for today’s music as well as all other music. Their desire was to create an integrated curriculum featuring research and active music-making with both new and traditional materials. Their aim was to produce students with skills enabling them to move with understanding in the past, present, and future fields of music.

The idea of a research center developed in the early years of the department. It was seen as a flexible process moving in a four-part interdisciplinary structure that would enable composers and performers to engage in research, with professionals of other disciplines, in support of their respective artistic activity. For example, an engineer and a composer could collaborate on appropriate circuitry for problems in electronic music composition, or a performer and a designer could collaborate to modify an instrument by extending its timbral characteristics or its usable range. The
structure then would include a Technical Studio for the design and development of electronic resources for composing and performing; a Studio for Extended Performance, where in conjunction with the Technical Studio performers could explore and develop vocal, instrumental, theatrical and mixed media resources and techniques; an Interdisciplinary Colloquium for local, national and international researchers who would share their specialized knowledge; and a Documentary Unit, which would record in the appropriate media, and archive the results of each Studio and the Colloquium.

The Project for Music Experiment funded by the Rockefeller Foundation opened in 1972 under the direction of Roger Reynolds. In 1973 it became an organized research unit of the University of California and was renamed the Center for Music Experiment and Related Research. It then became separate but complementary to the Department of Music, which is primarily concerned with instruction. Although autonomous, the Center is monitored by an inter-departmental advisory board weighted with music department faculty. The director is nominated by this board and appointed by the Chancellor of the University for terms up to five years.

The Center is unique in comparison to other Rockefeller-funded experimental music centers. It was not designed solely as a performance, composition, or technological unit but was designed for research. Composing and performing activity at the CME constitutes a demonstration resulting from an investigation in one or more of the Studios, and very often involves collaboration with professionals of different disciplines. This conception provides for liveliness, intelligent interchange and a great deal of continuity which comes with such investigations. Current researchers can build on the work or interact with former researchers and with each other.

During its four and one half years of operation, a computer facility has been developed in the Technical Studio under the team guidance of CME
staff engineers, computer scientists, outside consultants, and CME composers. Electronic devices have been designed and fabricated especially for projects in timbral, rhythmic, and other associated studies. For example, Professor Edwin Harkins designed a rhythmic machine in collaboration with engineer Robert Cross. This machine allows a performer to set up complicated rhythmic patterns in any tempo up to 800 pulses per minute for study purposes in at least three distinct voices. Any pulse may be suppressed or accented by flipping a switch. Additive rhythms are possible and a memory can store eight successive patterns for repetition. The rhythm machine is also useful for students of basic musicianship. The Department of Music is now studying how best to integrate this research into both the graduate and undergraduate curricula.

The Studio for Extended Performance has housed Kenneth Gaburo's New Music Choral Ensemble IV, the Extended Vocal Techniques Ensemble, and the KIVA Improvisation Ensemble. Gaburo's persistent interest in language, generally, and in music-as-language/language-as-music particularly, began to be directed to formal studies in linguistics. This pursuit led to the formulation of the expression "Compositional Linguistics." This interest has been reflected in his involvement with performing groups. The first New Music Choral Ensemble formed in 1965 has evolved from concern with virtuoso performance. Today's NMCE IV is concerned with the transformation of virtuoso performance to substantive research (from a group which put forth a distinct language to a group which is linguistic and theatrical). Their explorations involve the language of movement and visual art as well as sound, exemplified by such work as Maledetto (available on CRI) and My My My What a Wonderful Fall (which is available from Lingua Press).

The Extended Vocal Techniques Ensemble, consisting of Linda Vicker- man, Deborah Kavasch, Ed Harkins, Philip Larsen and William Brooks has explored new possibilities for the voice. These performers have
learned to sing multiphonics, or two or more sounds simultaneously, and to control vocal fry both ingressively and egressively. Vocal fry is essentially the lowest sound one can make. (Children love to make this sound which is like a creaky door.) They can do ululation, which in its simplest form is a rapid interruption of the air flow at the glottis like a child’s imitation of machine-gun fire. Ululation can be performed in a variety of ranges. Their repertoire includes many other sounds either invented by the performers or borrowed from the musical traditions of other cultures. The group has classified and described this repertoire of sounds in a lexicon with an accompanying tape. Several composers including Roger Reynolds, Edwin London, Deborah Kavasch to mention a few, have written pieces especially for the EVTE. They have performed extensively, both locally and internationally. Their research was featured in a seminar on New Vocal Resources given by Roger Reynolds and has been demonstrated at international conferences in San Francisco and Paris.

Professor John Silber and Jean-Charles Francois organized the KIVA Ensemble which is devoted to exploration of improvisation with amplified instruments, including light and movement as well as sound. This group has managed the modification of many instruments with acoustical as well as electronic means. Their performances include dance and visual elements. Also, an experimental lighting program has been initiated in the Performance Studio. The theatrical lighting of performance is intended to be computer-controlled. Many performers and composers are interested in the interaction of light and sound, its effect on performers, audience, and musical structure.

The Documentary Unit of the Center has begun a series of CME Publications, consisting of research papers and other materials from the archives. The Center’s Archive has established a computer program for indexing and cross referencing all research materials. In the future, connection could be established with archives of other Centers in order to provide
easier access to more material for researchers. Also, the Center's Documentary Unit will soon become active in seeking outside supporting materials for the Archive, such as oral histories. In order to facilitate contact and communication with others, CME will release its newsletter Directions February 11, 1977, and continue on a regular basis three times a year.

To date, the Center's Colloquium has featured conferences and symposiums:


on Computer Music Languages with Andrew Moorer of Stanford University, Peter Sampson of Systems Concepts, San Francisco and Robert Gross, Bruce Leibig, and Bruce Rittenbach of CME;

on The Serial Concept and Schoenberg with Milton Babbitt of Princeton, Allen Forte of Yale University, and Leonard Stein of California Institute of the Arts;

on Visuals and Voices with Pandit Pran Nath, Mel Blanc, Ursula Bellugi-Klima of Salk Institute, and Charles Dodge of Columbia University;

and on Psychoacoustics and Behavior with Reiner Plomp of the Institute for Perception RVO-TNO the Netherlands, Max V. Matthews of Bell Lab's Acoustical and Behavioral Research Center, James Fish of the U.S. Naval Undersea Laboratory, San Diego, and others.

CME is now planning two conferences — on Integrated Art Forms with Allan Kaprow of Visual Arts at UCSD, Jerome Rothenberg, poet and performer, CME Music Theater Composer Roger Marsh, and Jean-Charles Francois;

and on Extended Vocal Techniques with the CME EVTE and diverse ethnic vocalists.

In addition to research fellows funded by the Rockefeller Founda-
tion and the administrative staff provided by the University of California, the Ford Foundation has supported research residencies for scientists and composers, both foreign and American, who are interested in interdisciplinary work.

The CME is providing a model structure for substantive research in new music. The results will most certainly be reflected in their artistic demonstrations.
Welcoming Address
1977 International
Computer Music Conference

This Welcoming Address was given to the International Computer Music Conference in 1977 which was hosted by The Center for Music Experiment and The Department of Music at the University of California, San Diego.

Recently Jud Yalkut, the media artist, remarked, "If the technology which is controlled by business and military interests was controlled by artists, the consciousness of this country would change." Yalkut's remark implies, of course, that the motivations of artists' interests are different from the motivations of business and military interests. Also that, somehow, the uses of technology affect human consciousness. This is no doubt true, but what would the quality of such a change in consciousness be? (Artists themselves would also change.) Would it be for the better, or would operating from such a technological power base corrupt aesthetic as well as moral and spiritual values? How much would it cost and who would pay for it?

Artists are human. They are subject to the same idealistic aims, as well as the same seven deadly sins, as business, military or any other humans. What is often missing for artists is social support for their use of (and access to) the most current tools of technology, with the appropriate technical assistance. Artists should have the same opportunities that business, military, or any other persons do to seek, through research and experiment, the most effective means of carrying out their work. Society, in its own interest, should be ready to support such work. The uses of technology by those who do control it are highly effective. The consciousness of this country as well as other countries is affected.
Why wasn’t a poet sent to the moon? What if Starwars’ Robot R2-D2 were able to scan the world’s arts for their strengths and weaknesses, making available its output after such scanning to aid artists in their search for new aesthetic solutions. What if the Starwars translator 3PO could make translations for audiences in their bewilderment with new forms, translation from one kind of artist to another, or become go-between for scientists, technologists and artists? Would it help? Would it be of redeeming social value?

The side effects of technology, such as the pollution of our planet and the danger of ultimate destruction, are not solved. Technology breeds the need for more technology which breeds more side effects in a self-perpetuating binge.

The foresight required for the solutions needed must come not only from the deepest of scientific thought, but also from the deepest of artistic thought. The artistic side of the scientist as well as the scientific side of the artist must continually be cultivated. The artistic scientist and the scientific artist have suffered subjugation by those who have sought power and control at the expense of human and aesthetic values.

The arts, and music in particular, are in the process of being liberated analogously to women and minorities. Music, for instance, has been enslaved by consumerism. Every new artistic experimental find has been exploited for profit in some way by commercial interests. Liberation is necessary, above all, in order for art to be effective (effective in the sense of the affirmation and renewal of human values). For without re-examination and embodiment of human values through artistic activity, we fall into a civilization without soul. It is time for a change. It is imperative for the well-being of our society that integration of the artistic and scientific come about. This should not mean that any one interest usurps another, but that a revolution of collaboration occurs in the mutual interest of all.

We look forward to the proceedings of this International Computer Music Conference as another step towards such an integration. And with respect to Jud Yalkut’s remark quoted at the beginning of this address, a change in consciousness for this country, but, for the benefit of all.
Software for People

In late November 1978, composer Julio Estrada telephoned an invitation to participate in an International Studies Seminar on Musical Creation and the Future at Universidad Nacional Autónoma de Mexico. He requested a title for a presentation. The unhesitating answer was Software For People. "Software For People" was written at the Seminar during a recorded playback of Karlheinz Stockhausen's Hymnen and presented at a subsequent session in December 1978. During many hours of conversation, Dr. Lester Ingber, president of the Institute for the Study of Attention, offered many helpful suggestions which were incorporated in "Software For People." It was first published in New Wilderness Letter, Vol. II No. 7, (1979) at the request of poet Jerome Rothenberg, editor.

My paper will consist of four parts. First, some very general impressions to create a context for some speculations on the future of music. Second, a brief personal history to illustrate my concerns for this context and my relationship to this context. Third, some analysis and theory concerning my "Software For People". And fourth, some illustrations consisting of exercises we can do together for experiential understanding of this theory.

It is my first time to be in Mexico City. I am very impressed with its multiplicity and grandeur. There is much here to enjoy! There is much to wonder and marvel about. And, like all big cities of the world, where so many millions of people are gathered together, one finds different cultural groups in varying states of co-existence. The people of any one cultural group may find themselves living parallel, overlapping, blending peacefully, or colliding violently with the people of other cultural groups. The results of such co-existence are reflected in multitudinous ways. I will only give a very few examples of such results in order to develop a point: human values may clash, conflicting needs arise, new values appear; what is valued by one group may oppress some other group, social orders appear and disappear, new structures may be imposed or replace old ones; artificial environments replace natural environments,
natural forces interfere with artificial environments; people may be displaced, people may be reassimilated into new groupings, and so on. Such social problems, of course, are not new for the world. The point I wish to make is that what is new is the acceleration in the rate of change made possible by technological innovation. There are two universal and archetypical responses to change. These two complementary responses, or reactions, which are both necessary to survival, are adherence to tradition (old ways), and flexible adaptation (new ways). These two complementary archetypical responses can enhance and promote each other. The seeds of old ways can be found in new ways and the seeds of new ways can be found in old ways. That is why the listener, performer, or composer of new music must have some relation to traditional music. In times of change and innovation, there is a tendency toward extremes in the expression of these archetypes. Some people cling harder to the old ways, some cling harder to new ways; both cling for better or worse, each refusing to compromise.

The inappropriate overemphasis of either archetype can lead to destruction. For instance, a society which admits no new ways may be subject to decay; whereas a society which has no tradition may be subject to continual upsets and lack of stability. The archetypes of the old and the new must work in collaboration for the best interests of the world, for groups of people and for the individual. I believe that the rapid rate of change now possible is unprecedented in the history of the world and will affect the immediate future enormously—and more specifically the future of music. There has never before been a time with so many musicians, so much music, and so much access to the music.

II

Now I will speak of my own personal history, my relationship to this context and my concerns. As I have grown in life to my forty-sixth year, I have witnessed and participated, for better or worse, in this atmosphere of accelerating
change brought on by technology. It has greatly affected my life and work. When I first began composing at age nineteen, the world moved at a much slower pace. There was not so much access to information as there is today. The media and greater mobility obviously accommodate access to more and more information, but not necessarily more wisdom. At age nineteen I hadn't the slightest notion of the existence of so many different manifestations of the phenomena one recognizes as music. I was raised on Western European Classical and Romantic music, especially piano and orchestral literature: accordion transcriptions of the Classics and Romantics, Popular Music, Jazz, Dixieland and Country Western. I only vaguely understood that there was other music. Mozart's Turkish Rondo and Liszt's Hungarian Rhapsodies were only faint clues.

I was always interested in whatever I heard. All of music speaks to me as music, no matter how diverse, no matter what its function might be, no matter how apparently simple or complex, no matter how it affects me emotionally or intellectually, and no matter what its origin: human, animal, artificial, or extraterrestrial. No matter how much I might like or dislike something I hear, I cannot deny that it is music. Above all I believe passionately that I must respect each music in terms of its own context. For me this is one of the first steps in learning to understand and to interact appropriately with any music alien to my own culture. If nothing else, music in any of its multitudinous manifestations is a sign of life. Sound is intelligence.

Today, I can easily tour much of the world's music through my own record collection in the comfort of my living room. I can listen to, and be at home with, a Balinese Gamelan or Ituri Forest Music, the Persian Santur or a Navajo Healing Chant, a Brazilian Street Band or a Japanese Gagaku Orchestra, Western European Symphonic Music or Computer-Generated Music, Whale Song, Wolf Song, a Gibbon Sunrise Ritual Chant, or what have you. Fortunately, I can be comfortable at home, but unfortunately the recordings often divorce the music from its own context. I am left to struggle for context, unless with effort and money I can go to the source in order to experience it first hand. I do
this when I can. The availability of such recordings, from more and more remote areas, is also rapidly increasing. I am still always interested in music new to me. But its availability is rapidly overtaking my capability to actually experience all of it. At some point I will probably be forced to be bounded rather than open, to reverse Varese’s famous viewpoint; that is, I will have to narrow my interests.

Nevertheless, there may be a way to reconcile all of these manifestations we know as music and life. I believe that humanity has been forced to a new frontier by the accelerating rate of change instigated by technology. This frontier is the exploration of consciousness: all forms of consciousness and especially human consciousness. No matter how diverse the lifestyles or music, a common denominator might be found in the study of sensory and attention processes which enable humans to perceive, organize, interpret, and interact with the intelligence that is music. It is no longer sufficient to dwell solely on the music; the perceiver must be included. The analysis, understanding and possible expansion of such sensory and attention processes, (as distinguished from the content or results), with and without the aid of technology, will greatly influence the future of music. I believe that through the exploration of (human) consciousness we will reach a new understanding of what music can be, and how we can, and do, interact with it. I will return to this speculation in part IV.

My own music has passed through several stages in the 25 years that I have been composing. These stages, which have sometimes overlapped, or blended before ending, have been Traditional, Improvisational, Electronic, Theatrical, and (at present) Meditational, moving now into what I call Software For People. My materials have come from four major sources:

1. All the music I have ever heard.
2. All the sounds of the natural world I have ever heard including my own inner biological sounds.
3. All the sounds of the technological world I have ever heard.
4. All the sounds from my imagination.

My music is the result of the processing of these materials by my own attention and perceptual organization in interaction with traditional ways or models, as well as with new ways made possible by technology.

My childhood in a rural area of Texas sensitized me to sounds of the elements and animal life. There were those of wind and rain, cows, chickens and wild life. I loved to hear them. There were only occasional motor noises, not the constant drone that we experience in cities today. We owned a radio which we sometimes listened to at night. I loved the static and tuning whistles to be found in-between the stations. My mother and grandmother gave piano lessons. So musical sounds were also part of my early life. I learned to play the accordion and later the French horn. In the 1940's, my musical world began to expand. With the advent of the LP record, I would spend hours listening to the same record at some juke box in a café. Soon we owned a record player. I would write down music from records to play on my accordion. My mother bought a wire recorder in 1948. I learned faster from the feedback of recordings of my own playing. In the 1950's my mobility began. I moved to San Francisco. My musical world expanded more. I came into contact with new music and musicians who played it. And for the first time I found composers in my peer group who were as serious as I was. (Loren Rush, Terry Riley, Morton Subotnick, Ramón Sender, La Monte Young and Stuart Dempster to mention a few.) We became involved in individual and group improvisation through the encouragement of Robert Erickson, who taught many of us.

My first experiences with group improvisation were with Rush and Riley. We simply sat down and played together without prior discussion, recorded, and listened to the results. At first, we were amazed at the spontaneous organization in the music. We learned from the recorded feedback how to listen as
we played. Our discussions always took place after listening to the feedback. The discussion and feedback taught us how to redirect our attention from concern for how or what we were playing individually to how what we played affected the group sound. We soon took organization for granted, but worked continually for effective balances within the group. We all felt that our hearing was expanded by the simple process of: 1) throwing ourselves into spontaneous music making, 2) getting immediate feedback in the form of recording, and 3) discussing the process and results.

By the end of the 1950's, I was also working with electronic means, and the whole field of time and sound became my material, as John Cage had predicted for composers in his Credo of 1937. A most important discovery and major influence on my work occurred about 1958. This discovery came with the aid of technology. I simply put a microphone in my window and recorded the sound environment until the tape ran off the reel. When I replayed the tape, I realized that although I had been listening carefully while I recorded, I had not heard all the sounds that were on the tape. I discovered for the first time how selectively I listened, and that the microphone discriminated much differently than I did. From that moment, I determined that I must expand my awareness of the entire sound field. I gave myself the seemingly impossible task of listening to everything all the time. Through this exercise I began to hear the sound environment as a grand composition. The rhythms and relationships that occurred began to enter my work consciously. To this day, I continue to remind myself of the task of listening to everything all the time when I find that I have not been doing it, because in not doing it, I am causing gaps in the grand composition. (I have to mention here that I have the painful realization that the artificial environment and its wastes are snuffing out what must be a world symphony of natural sounds if one listens to it that way.)

With my newly developing perceptual skills, I found that I began to hear tones as composites; that is, I heard the overtone structure and partials at will
instead of always resolving the tones to single pitches. Since I was a French horn player, I began tuning consciously to the overtones as I changed from pitch to pitch. This exercise deepened my continuing interest in sound quality and the delightful ambiguity between pitch and sounds. My electronic music reflected these interests. The time scales from the rhythms of the environment influenced the organization of the sounds. The textures fluctuated between discrete pitches and narrow to wide band sounds. The attempt to listen to everything all the time (at times very painful) taught me that it was possible to give equal attention to all that entered the sound field. This kind of attention is diffuse, open, and non-judgmental as compared to focused, selective attention which is narrow, clear, and discriminatory but limited in capacity. I discovered it was possible to utilize both modes of attention simultaneously — to remain aware of all that could be heard, while focusing in on specific sounds. I had a very good opportunity to exercise these attention processes when I arrived in Mexico City. Julio Estrada kindly took us to hear the Mariachis in Garibaldi Plaza. This crowded plaza is the gathering place for perhaps a hundred different Mariachi bands. They all play, not together but simultaneously. With so many groups playing at the same time, one has marvelous choices in how to listen; it is possible to enjoy the unity of the sound field created by the Mariachi style by employing diffuse attention, and also to focus in on a particular group while wandering around. I suddenly found myself wishing to float above it all and to be able to focus in any direction without having to move. I needed a long distance ear. Perhaps this is the solution to my dilemma of wanting to hear so much of the world's music. If I could get into outer space and hear it all simultaneously, diffusely, my life might be long enough.

In the mid-nineteen-sixties my interests again widened. I wanted to include visual, kinetic, and dramatic elements in my music. I began to feel continuities in sonic, visual and kinetic elements. These elements then began to be interchangeable for me. A sonic rhythm could be continued or played against a visual or kinetic rhythm. My works became theater pieces. My perceptions of
the visual environment became as interesting to me as the sound field. My grand composition became a grand theater piece. I charged myself to be aware of everything all the time: sound, sight, movement, all that the range of the sensory system can tune to. I became my own Zen Master without belonging to the tradition. By the end of the nineteen-sixties, I had moved into my work of the last ten years which I call Sonic Meditations. I became more and more interested in listening to sounds rather than in manipulating sounds. I discovered that interesting changes occurred in long sounds if they were present long enough. Not only that, I could feel my physiology responding in ways that I liked. I began to be calmer in the midst of the terrible effects of violence in the world. I somehow realized that I was crossing into new territory. I started to work with breath rhythms and long tones. It occurred to me that this was meditation. At the same time, I began to connect with some of the new research on human consciousness, such as the work of Robert Ornstein in *The Psychology of Consciousness* and Alyce and Elmer Green in the field of biofeedback and creativity.

In 1972 I led a research project at the Center for Music Experiment at the University of California, San Diego, where I teach. I worked for nine weeks, two hours a day, with 20 people doing relaxation, meditation exercises, and experimenting with my own Sonic Meditations. I was encouraged by the results. If I could not change the world, I could at least change myself through this work. By this time I felt somewhat alienated from the musical community. I was no longer interested in making the electronic music and theater pieces I had become known for. The simplicity of my new approaches appeared to be opposed to the performance practices my friends knew and loved. I completely abandoned notation for oral tradition. I went underground and worked alone. In 1974, I began to let the work out. I started in Berlin during the Metamusik Festival. I led a ten-day seminar in Sonic Meditations and performed a program of my works. By this time there seemed to be a new climate for the acceptance of my work. I received some commissions and began to use my meditations, each of which emphasized different processes as modules, to
make my compositions. I began to meet with less and less resistance from performers and audiences. My meditations had allowed me to work with a wide range of people, including non-musicians. In 1976, I received a commission for Willowbrook Generations and Reflections (Smith Publications) from the Willowbrook High School Band in Northern Illinois. I wanted this piece to encompass my current interests and to expose to the players their own attention processes in order to challenge them.

III

I now want to analyze a part of Willowbrook Generations and Reflections for you, which brings me to part III of my paper. But first a little theory. You have heard about my personal experience with diffuse and focused attention. From my research in human consciousness, meditation, and martial arts, I want to show the two major modes of human information processing as attention archetypes. These two modes are Sequential, or Linear, Processing, which involves focal attention; and Parallel, or Non-Linear, Processing, which involves global, or diffuse, attention. These attention archetypes are complementary processes. Both modes are necessary for survival and for success in our activities. These two attention modes interact with all the information which comes from the sensory systems, memory, and imagination.

This symbol represents the attention archetypes:
Following is the organization of attention, using the three sensory systems most important to my work:

**THE ORGANIZATION OF ATTENTION**

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<tr>
<th>SENSES</th>
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Attention can be attracted by stimuli or directed to stimuli. This direction, or attraction, may be caused by internal stimuli (from memory, or imagination), or stimuli from the external environment. There are many possible combinations with this map of attention. One's auditory attention might be turned inward in the focal mode, with the global attention taking in external stimuli. Simultaneously, visual attention might be global or focal, internal or external. Focal attention is of limited capacity, as all of us who try too many things all at once readily find out. Global attention is of unlimited capacity and can be of great help in relieving the focal mode.

Now, before we try some exercises to pick up some feelings for these attention states, I will analyze some processes in *Willowbrook Generations and*
Reflections, which you heard on Monday night. The brass group is called the generating group. The six players faced each other in pairs of like instruments. There was a conductor for each group. The reflecting group surrounded the players at a distance, and a third conductor worked with them. The program, or software, for the generating group, is as follows: On cue from the conductor, play a very short tone. Each player's partner then tries to react with exactly the same pitch as quickly as possible. Both players must be open to each other, as well as to the conductor, in order to accomplish this task. Either player might receive a visual cue from the respective conductor or an auditory cue from the respective partner. The ideal attention state for the player is global, which would be characterized as readiness to move, or respond, without being committed to a particular response until the cue comes. When a visual or auditory cue comes, the stimulus takes two neural pathways. According to Fehr & Biedleman's report in Ulric Neisser's book, Cognitive Psychology, one impulse goes to the brain, the other goes to the motor center. The shorter path is to the motor center. The player can react, because of preprogramming, before the brain is aware of the reaction and identifies the reaction with focal attention. If either player is distracted by internal auditory attention before either of the possible cues comes, his reaction time will probably be delayed at least 50% of the time. If he is holding a pitch in mind (focal internal), it will delay his response if his partner receives a cue and plays a different pitch. He must then drop the mental pitch and pick up the partner's pitch. If instead he receives a cue from the conductor, he could immediately play the pitch he has in mind. But since reaction time is most important, such focal mode attention is inappropriate prior to the cue. So the best state for the player is to have nothing in mind. The player reacts from his global attention mode and uses focal attention to verify that the response was correct. In this case the players can achieve the effect of reverberation in milliseconds if the pitch response is accurate. If the pitch is not accurate, the player has at least fulfilled the requirements to respond as fast as possible.
Although the given task appears to be very simple, actual maintenance of the appropriate attention states requires a lot of training. I consider Willowbrook to be a kind of training piece. Although I want the players to be accurate, the mistakes that are made through lapses in attention are not necessarily unmusical. Any pitch from the generating group may be picked up and prolonged by the reflecting group. So my program allows for failures in the system to have a positive function. Since an exhaustive analysis of Willowbrook would take too much time here, I want to move on to Part IV of my paper.

IV

The exercises I want to invite you to try are intended to help you experience directly some of the theory I have been talking about. First I want to lead a relaxation and breathing exercise to serve as a bridge between all of this talk and the meditation exercises.

To begin, be sure you are comfortable and your posture adjusted.

The breathing exercise will be as follows:

Inhale / hold / exhale on cue four times, quickly.

Then inhale to a count of four / hold to a count of four / exhale to a count of twenty. Exhale slowly through pursed lips in order to create back pressure on the lungs. This will give you feedback on how much air you are getting out.

First the short breaths on cue.

Next to the count:

Inhale one, two, three, four, Hold, two, three, four, Exhale two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty.
Now continue two more times on your own count.

The following questions are adapted from *Open Focus Training* by Lester Fehmi:

(Allow fifteen seconds between each question.)

Can you imagine the distance between your eyes?
Can you imagine the space inside your nose?
Can you imagine the distance between your ears?
Can you imagine the space inside your throat?
Can you imagine the distance from your eyes to the tip of your chin?
Can you imagine the space inside your lungs as you inhale and exhale?
Can you imagine the distance between your shoulders?
Can you imagine that the region between your shoulder blades and chin is filled with space?
Can you imagine that the region between your ribs is filled with space?
Can you imagine that your stomach is filled with space?
Can you imagine the distance from the top of your head to the bottom of your feet?
Can you imagine that your whole body is filled with space?
Can you imagine the space surrounding your whole body?
Can you imagine that the boundaries of your body are dissolving?
Can you imagine that the space inside and outside your body is the same?
Can you imagine giving equal attention to all that you sense in this unified space?
Now continue to allow yourself to listen to all that can be heard in the external environment and within your own internal environment, including real and imaginary internal sounds. In a few minutes, on cue, without committing yourself before the cue, lock on to a sound you are hearing, and sing it immediately. The most important thing is to react as instantaneously as possible. The cue will be a loud hand clap. Let the sound you sing last only for one breath.

The above exercise demonstrates, dramatically, the shift from global to focal attention. In order to respond correctly, one must remain open in order to hear receptively. Any prior commitment to a sound before the cue will narrow one's focus. The cue serves to focus one's attention simultaneously with a subsequent re-opening of focus as one becomes aware of the group sound being made.

Good attentional flexibility is essential for participation in music no matter what one's role is. Along with the traditional focus on what to listen for in music, listeners could be trained to have greater awareness, through exercises which expose their processes and also teach them how to listen. Performers and composers of course could benefit in similar ways, thus greatly affecting the future of music.
Alvin Lucier

The following essay was written in response to Alvin Lucier’s request for an introduction to his book *Chambers*, Wesleyan University Press 1980. The manuscript arrived too late for the press so it is published here for the first time.

My first acquaintance with the work of Alvin Lucier came through our mutual friend David Tudor. Tudor programmed and performed Lucier’s *Action Music* during the Tudor Fest at the San Francisco Tape Music Center in 1964. Tudor was then, and remains, a key figure in encouraging and performing the works of young composers interested in the phenomenology of sound and the revelation of its natural characteristics and processes as music-making. Tudor’s concentration and brilliance as a performer, and his open-minded interest in the work of others caused an informal network of these unique composer/performers, who were all devoted in individual ways to unwritten musical forms. Each of the highly individual members of this network is linked by the common dilemma: natural acoustic phenomena and processes (as revealed through a technological means) in relation to music-making, versus the manipulation of traditionally agreed upon materials and forms for musical purposes.

Lucier and I met for the first time at Case Institute in Cleveland, Ohio, when we joined Tudor for a concert together in 1966. Lucier performed his *Music for Solo Performer*. The atmosphere was charged as the electrodes were applied to Lucier’s scalp in order to detect the brainwaves. I kept thinking that he looked like Edison discovering the light bulb. The concert also included David Behrman’s *Wave Train*, John Cage’s *Solo for Voice*, and my *Light Piece for David Tudor*. Certainly, *Solo for Performer* was a most germinal piece: the performer must come to terms with his/her consciousness in order to perform the piece, thus pointing the way for an extremely important trend in today’s music. It is not enough just to play the right notes at the right time in the
right way; one must also have right consciousness. This places the performer in the role of explorer of the interior in order to produce, and also being still in order to be active.

I heard Lucier perform his *Music for Solo Performer* again the same year at the Rose Art Museum in Boston. I was again struck by the mysteriously charged atmosphere surrounding the performance, perhaps brought on by the curious opposition of the apparently passive performer actively making music.

In 1967 I invited Lucier to the University of California at San Diego where he began his work *Chambers*. We also worked on a more or less successful performance of his *Whistlers*, which we both still joke about. Lucier had become interested in the "Whistler phenomena" (atmospheric sounds which result from pulses, caused by the striking of lightning, bouncing off the ionosphere; the results are whistling glissandi which must be detected with an antenna). He had obtained a recording of whistlers with the help of a physicist, and made a piece by altering the recorded whistlers with live processing. We thought a totally live performance could be more interesting. Our attempts to achieve this live performance led us into a near scrape with rattlesnakes when we attempted to find an area free of stray alternating current which interfered with signal detection. Our quest finally led to the glider field on a bluff near the university overlooking the Pacific. The best time for results was at night when the ionosphere was rising. Our problems were compounded by the lack of suitable portable amplification equipment and the fact that we had to wait for the random strikes of lightning. This required not only patient performers but a very patient audience. We worked nearly all night with very little result. However, I remained hooked on the idea, which seemed to me very poetic: to make an inaudible phenomenon (which emanates from such a powerful natural force as lightning bouncing between earth and the mysterious invisible barrier ionosphere) audible, and to reveal and transform that phenomena through artistic intention. In my mind, Lucier was the poet of electronic music. Certainly it should work, given the proper technical support. How exciting it would have been to actually hear one of those whistlers. Since we didn't, the actual result of the performance was not successful, but the intent was lively and imaginative. I felt the same charged atmosphere as a performer as I had when I first experienced the *Music for Solo Performer* as a listener.
Lucier's dedication to doing work which others are not doing has led him into delicate but powerful territory. His attention to detail and to attention has brought about a coalition of consciousness, technological and phenomenological for new music. Those who follow will find his book *Chambers* a rewarding primer of ideas, images, and processes which should be inspirational and directional.
On the Need for Research Facilities for New Music and the Related Arts

The following essay was presented at the first conference of the New Music Alliance, sponsored by The Kitchen Center for Video, Dance and Music, Mary MacArthur director, on June 14, 1979, New York City. Subsequently it was published in Performing Arts Review, Vol. 9, No. 4, 1979.

The existence of "Alternative Spaces" is one of the most important developments in contemporary Arts. Generally the Alternative Space develops and maintains for musicians and artists resources and facilities too extensive for an individual to support. It is an institution without academic or conventional box office goals. It provides space, facilities, and assistance for artistic research, and for performances for small, interested audiences. It is a meeting place for the exchange and development of experimental ideas. It often begins as a collective, usually interdisciplinary in nature, supported by several persons who are intensely interested, committed to such work, and who need an outlet or place to do their own work among peers.

As the energy has developed and the Alternative Space has achieved community recognition, funding agencies have helped to establish some Alternative Spaces more permanently. Many of these spaces exist outside of colleges and universities, but a few are on campuses.

In order to show the considerable impact of Alternative Spaces and the funding agencies behind them, their effects on my own career are traced below.

One of the critical times for a young composer or performer is the leap from the end of schooling into the professional world. If the person is
interested in contemporary music, particularly of the type designated experimental, the leap from school to the professional world may be into an abyss. When I faced this crisis as a young composer in 1957, there was very little support for the activities which most interested me. There was only one outlet for my work at the time. It was the Pacifica Foundation Listener Sponsored Radio Station KPFA in Berkeley, California. KPFA was an alternative station.

It was through the Pacifica Foundation National Prize for Composition that my first recognition as a composer came. My work was performed on KPFA, both in live studio presentations and taped, not only then, but up to the present. KPFA was responsible for educating me to trends in new music. I heard tape music, both electronic and concrete, on this station for the first time in the early 1950's. Robert Erickson was music director at the time. KPFA opened its studio facilities to Loren Rush, Terry Riley and me to explore group improvisation. We were able to record our work with high quality equipment and listen to the playback immediately afterward for critical analysis. We all benefited enormously from this (then) highly unusual activity.

In 1960 Erickson, who had begun teaching at the San Francisco Conservatory of Music, organized the American Composers' Workshop at the Conservatory. This workshop featured the music of younger composers as well as more established composers, and provided performance opportunities long missing in the community. Eventually, I met Ramón Sender, then a student at the Conservatory. We were both interested in working with tape music, but equipment of the kind we needed was nowhere available to us. Ramón managed to get space and modest funding from the Conservatory to start an electronic music studio. We launched this project together under the title Sonics in 1961. The first program we gave included first tape works by Ramón Sender, Terry Riley, Phil Winsor and me. We included an instrumental group improvisation as well.
Later, in 1961, Ramón and Morton Subotnick pooled their personal equipment and founded the San Francisco Tape Music Center. They were given access to an old Victorian Mansion soon to be condemned on Jones Street. The place provided studio space, a salon for concerts, and living quarters for some associated and needy artists. During their first year of activity they were joined by visual artists, poets, dancers, and dramatists. It was the prototype Alternative Space. The Jones Street Mansion was condemned, but Mort and Ramón found an old labor school headquarters on Divisadero Street. It was ideal; it had two large meeting halls and several offices. In order to meet the rent, a cooperative was formed between Radio KPFA, Ann Halprin's Dancer's Workshop, Canyon Cinema and the San Francisco Tape Music Center. The Tape Center moved equipment for the studio into the upstairs office space and shared the largest hall, which seated 150 persons, with Canyon Cinema for presentations and performances. Dancer's Workshop took over the other hall for its studio. KPFA used an adjoining office space for its remote broadcast studio. In order to meet its share of the rent, the Tape Center put on concerts repeated twice monthly for a subscription audience. The concerts involved multi-media and theatrical presentations centered on electronic and instrumental music made at the Center as well as at far away places.

Within the four years of its existence at the Divisadero Street location, the San Francisco Tape Center gained a unique position in the community. It was the only place for composers and performers to explore electronic music making and other experimental ideas. San Francisco music critics were supportive and aided in this endeavor. Most of the concerts were reviewed constructively and a faithful audience developed. The Tape Center attracted visitors from various parts of the world, interested in the only accessible West Coast Electronic Music Studio. Young composers floated through and took part in the research and activities. It became a meeting place for lively exchange of ideas. Impor-
tant premieres occurred such as Terry Riley’s famous *In C* for *Instruments* (1965).

Don Buchla showed up in answer to Mort’s and Ramón’s search for an engineer qualified to design an instrument specifically for electronic music making. On their advice, he built the prototype modular electronic music system for the Tape Center, and demonstrated it late in 1965. By this time, the Rockefeller Foundation was interested in the Tape Center and invested $15,000 that same year. In 1966 the Rockefeller Foundation was ready to give $400,000 for four years provided that the Tape Center be moved to Mills College where Mort was teaching. The foundation did not consider the Tape Center capable of administering the funds, so the move was deemed necessary in order to utilize the Mills College administration and to ensure continuity when the grant period was over.

I was designated the first director of the Tape Center at Mills since Mort was leaving for a position at NYU and Ramón was moving into different territory. My contribution to the negotiation between the Tape Center and Mills College was to insist that in order to preserve the character of the Tape Center, it must always be accessible to the public. In other words, it should be open to composers whether they were formally attached to Mills College or not. The Center has continued through the present as a lively force in new music serving many composers, performers and associated artists. The current directors are Robert Ashley and David Behrman.

From 1961-1967 the San Francisco Tape Music Center was my home in the music world. Without it, I had no real connection to a musical community. Within it, I was able to experiment with electronic instruments otherwise out of my reach, take part in a regular concert series (both as composer and performer) and meet with other people of similar interests and devotions. I was very poor at the time, never earning more than $200 a month, but the Center gave me direction and purpose. Accepting the directorship then with a salary had an enormous effect on me. Under the
auspices of Mills College and its public relations, my career escalated. The following year, I was offered the position of Lecturer at the University of California, San Diego on the basis of my career so far as a composer. My degrees stopped at the Bachelor of Arts so my professional experience was important in gaining this position. I accepted the position and moved to the San Diego area. The new Music Department at UCSD was founded by Will Ogdon and my old friend and mentor, Robert Erickson. Succeeding Erickson, Ogdon had been the Music Director at KPFA when KPFA joined the collective on Divisadero Street with the Tape Center. The new Music Department of UCSD was to be devoted to composition and performance of contemporary music. Ogdon was the first chairman, and right away began plans for a Research Center which would operate separately from the Music Department. It would be free of academic goals: a center for music experiment and related research with technical studios, performance space, documentary capability and resident experts. It embodied many of the old Tape Center ideals.

After five years of planning, the Center became a reality in 1972, under the direction of Roger Reynolds, with a $400,000 grant from the Rockefeller Foundation. The Ford Foundation contributed $100,000 for visiting fellows to come to CME to do their own research.

In 1973, I received three months release time from the Music Department to do a research project in the Center. For nine weeks, I worked two hours a day with twenty people exploring meditation techniques in relation to music. That opportunity, as described in "Meditation Project" and "On Sonic Meditation," had a far reaching effect on my work. My Sonic Meditations and, in fact, all of my work since then has been an elaboration of the experiences that took place during that project. The Center provided me with space, administration, expert consultants, technical assistance, and equipment which were beyond my reach as an individual.

I was affected by a relatively new agency in 1974 in combination indi-
rectly with my old friend, the Rockefeller Foundation. I received a commission from the Creative Associates at the State University of New York, Buffalo. The Center for the Creative and Performing Arts at SUNY was established by a Rockefeller Grant. The commission offered to me was funded by the National Endowment for the Arts. Later, I received another NEA-funded commission from the Experimental Intermedia Foundation (Elaine Summers, Director) in New York. There, I was guest artist in residence for two weeks, which allowed me to complete and present a new work with dancer Al Huang. Shortly after that, I was appointed to the Composer Panel of the NEA and served for five years. During that time, I worked to help establish a pilot program to fund Resource Centers for new music. The program is now established, and guidelines will appear shortly.

In 1977, I became the Director of the Center for Music Experiment. We have currently renewed our friendship with the Rockefeller Foundation and are receiving $150,000 toward a new and uniquely designed computer music facility at CME. It is the first system specifically designed for music. We have also received support from the NEA pilot program and the University of California.

Without a doubt, the Alternative Space has been and continues to be of major importance to my development as a composer and as a person. I am grateful to the University of California, individuals, and the foundations who have made this possible. The Rockefeller and Ford Foundations have been extremely effective in their support. However, neither foundation can offer continuing support for an old project. The National Endowment for the Arts is beginning tentative steps in this direction but will need considerable encouragement. Continuing support is a major problem for most Alternative Spaces.

Many colleagues and other individuals have benefited as much or more than I have from the existence of the Alternative Spaces I have described.
In the last few years other spaces have appeared, such as And/Or in Seattle, Washington; Real Art Ways in Hartford, Connecticut; 80 Langton Street in San Francisco, California; The Kitchen in New York; The Western Front in Vancouver, B.C., and many more. Some are within college and university campuses. All of these Alternative Spaces are involved with presentation, but most have some kind of research component. For musicians and artists in a technological age the research component is all-important and perhaps unprecedented.

There must be places where consultation with technical experts and experimentation with new materials can occur. Also many new art forms can only grow during performance with an audience. Such performances need an atmosphere of interest, unconditional support, and constructive critical feedback. Similar conditions are needed for research.

Speaking from my twenty years of experience with Alternative Spaces, I strongly believe that the future of Contemporary Music and Art in America will be well served by continued and escalated support, by individuals and foundations, of Alternative Spaces both inside and outside of colleges and universities. In summary, the characteristics of such spaces are as follows:

1. The Alternative Space begins as a collective out of mutual needs and interests.
2. Its policies are established democratically by the participants.
3. It exists for at least two years without outside funding.
4. It is open to community artists whose needs and interests can be well served by the facilities.
5. It provides and maintains, for research and performance, space and technical facilities with resident experts and technical assistance too extensive for an individual to support.
6. It provides an atmosphere for sympathetic interdisciplinary meeting and exchange.
7. It allows research to occur without performance pressure.
8. It maintains an archive with documents, in various media, of research and performance.
9. Its goals are flexible, reflecting the changes in the artistic community.
10. It reaches out to the community at large and disseminates information about its activities.

In the future, as more Alternative Spaces are established, a network for exchange is possible. It already exists informally. This conference at The Kitchen could be the focal point for the beginning of a more formal network. A newsletter similar to Canada's "Parallelogramme," which connects all of their Alternative Spaces, with schedules and news of activities, could be very beneficial. Concerts, resident experts, media, etc., could be exchanged. It would be wise for colleges and universities to participate in such a plan, thus forming a link with local artists.
Atlas Eclipticalis

This brief analysis of the notation of *Atlas Eclipticalis* was written in response to a request from Roger Reynolds, for the occasion of John Cage’s residency in January 1980 at the University of California, San Diego, in the Music Department. It was included in a catalogue, published by the Music Department, of an exhibition of Cage’s notation with critical commentary by several different faculty members.

La Monte Young traveled to Darmstadt, Germany in 1960 in order to take seminars with Karlheinz Stockhausen. He was greatly influenced by the presence of John Cage. When he returned to San Francisco he helped to provoke musicians in the area with Cage’s ideas. There was an atmosphere of controversy. Some of La Monte’s friends began to write chance pieces motivated by these ideas, outraging the more conservative composers in the area. La Monte began to write cryptic instruction pieces and to use any and all sounds. There was suspicion and doubt in the air about Cage’s methods and ideas.

Although many arguments were flaring around and about John Cage and his music, no one was presenting the music. In order to satisfy my curiosity, I organized a week-long festival with the help of David Tudor. The Tudor Fest, as it was called, took place at the San Francisco Tape Music Center in March of 1964. It included several works by John Cage as well as other composers associated with him. David Tudor performed with members of the San Francisco Tape Music Center, and John Cage was present for the concerts.

The Tudor Fest provided me with my first direct experience with the music of John Cage. Although all of the pieces were engaging, the most memorable for me was *Atlas Eclipticalis*. I loved the poetry, reading star maps as music. Our performances of *Atlas Eclipticalis* occurred during this Festival only two years after it was completed. Participating as a performer on the French horn in the *Atlas Eclipticalis* was a vital and expanding experience for me. It was a move toward a new kind of responsibility as a performer. That responsibility allowed me, by my choices, to effect the resulting form even though I was reading music.
What must the performer determine when faced with a graphic and verbal notation, "indeterminate with respect to its performance" such as is provided in the score to *Atlas Eclipticalis*? "Space vertically equals frequency. Since equal space is given each chromatic tone, notes not having conventional accidentals are microtones." The staff lines which overlay the stars in *Atlas Eclipticalis* give the performer a precise guide to pitch choice; however the performer is free to choose the register, so that choices made, although relative with respect to each other, might be in a different part of the possible range of an instrument. Choice of microtonal tuning might be variable within a half step; however, careful viewing of the position of the star, within the allotted space, shows the correct sharpness or flatness, if not precisely what division of the halfstep to make.

Since there is no established key note, the performer must tune (as usual) relative to A440, and maintain the tuning, without reference to a key note, individually. (Since tuning to A440 is standard orchestral practice, and no contrary direction is given in the score, it is assumed that the players must do this.) Conceivably two players, sharing the same part, might choose the same pitches if the selected register was the same; however the two numbers appearing above the staff are one of the guarantees that this will not happen, at least not very often. One number indicates the number of pitches to be played as short and soft as possible (the basic unit of the piece). The other number means how many pitches to choose from that particular field of possibilities.

The percussionist chooses what to play from an array of instruments (as many and as diverse as possible) which correspond in distribution relative to the one given staff line. Otherwise the considerations are similar. Where possible, two or more notes may be selected, simultaneously from the field, to "interpenetrate" one another. (If a tone is already sounding, another may sound within the resonance of the first.) This would be possible in either of the illustrated parts (cello 7, p. 157 and percussion 4, p. 309).

"Loudness is relative to the size of the notes." The smallest stars indicate the basic unit of the piece. They are to be played as short and soft as possible. Here there is some variation determined by the nature of the instruments and the skill of the players. Longer durations are determined by the players in accordance with the number of notes to be selected from the field (less the number of notes to be played as short and soft as possible). Silence corresponding to the spaces between each
group of stars is controlled by the conductor's indication of time passing. It is slow enough that the materials are used up, or there is no material available during part or all of a time cycle.

The notation of Atlas Eclipticalis is as accurate and precise as conventional musical notation, yet the performer has a new kind of freedom. The results guarantee a performance with details indeterminate, yet faithful to the overall character of the piece, as if viewing the stars and their relationships from ever different positions in space.
A Tarot Reading on the Life/Work of Xenakis

At an informal social gathering in the home of Susanna Dultzin in Mexico City, composer Iannis Xenakis requested a tarot reading. This was during an International Seminar on Musical Creation and the Future at the Universidad Autónoma de Mexico in December 1978. The reading was noted in a diary. When Editor Hugues Gerhards of Éditions Stock, Paris, requested an article to be included in an International Portrait of Xenakis, it seemed that the major issues had been answered by that tarot reading.

My most recent contact with Iannis Xenakis was in December, 1978 in Mexico City. There we participated at the invitation of Julio Estrada, in concerts and lectures at the University of Mexico concerning the future of music. Xenakis was the featured composer during the week-long schedule of seminars and concerts. I was impressed by the grand scale of his works: first by the virtuosity demanded of the musicians, second by the heroic framework or context within which this virtuosity must interact, and third by the deeply moving nature of the resulting music. Xenakis has succeeded in drawing his music from deep personal experience, bypassing conventional notational means and discovering appropriate analogous designs in architectural and probabilistic forms which best serve his inner needs as a composer.

It was my pleasure during an informal evening, at the home of Susanna Dultzin in Mexico City, to read tarot cards for Xenakis. Following is the form which I used, a description of the cards (which are illustrated in figure two) that were turned up, and my interpretation:
The form used was the Celtic Cross. (See Figure 1.) The eleven cards in order of their appearance:

1) **The Tower—XVI.** This card represents Xenakis. A tower is struck by lightning. A large crown is tossed into the night. Two individuals, a man and woman, accompanied by droplets of light, have fallen from the tower. Three windows are on fire and three storm clouds are in the background.

2) **The VII of Cups.** This card covers the tower and represents the atmosphere surrounding Xenakis' question. An individual dressed in black is seen from the back watching the visions of the seven cups emanating from a cloud. A castle, jewels, a laurel wreath with a skull below it, the red dragon of temptation, the head of a fair woman, the serpent of jealousy, the veiled figure of the man's angel surrounded by divine light, are shown in the cups.

3) **The Star—XVII.** This card represents that which opposes the atmosphere represented by the VII of Cups. A naked woman is seen pouring water from urns, from the right hand into the water and from the left hand into the ground. The ground water takes five directions. The woman is in a kneeling position with one knee on the ground and one foot on the water. An ibis, the sacred bird of knowledge is perched on the top of a nearby tree. The ground is covered with greenery and single flowers. There are mountains in the distance, and a large yellow, eight-pointed star is accompanied by seven small white eight-pointed stars.

4) **The III of Pentacles.** This card represents the foundation of Xenakis' question and is already a part of his experience. Here a monk and a nun are holding the plans for the church archway which has just been completed by the artist. They seem to be holding a discussion with the artist who is standing on a bench with a tool in his hand.

5) **The IV of Pentacles.** This card represents Xenakis' aspiration or that which is not yet accomplished. An individual wearing a crown and a heavy outer garment is seated. To his back is a city. He is balancing a pentacle on his head, holding one pentacle over his solar plexus with his arms encircling it, and he has a pentacle under each foot. He is gazing fixedly ahead.
6) The V of Pentacles. This card represents a past influence which is no longer operating in Xenakis' life. Two poverty-stricken individuals, the man crippled, the woman hunched over, pass by a church window as they walk in the cold, snowy night. Neither appears to see the lighted window.

7) The VI of Pentacles. This card represents a future influence which will operate in Xenakis' life. Here a philanthropist is shown distributing coins from a scale to two kneeling individuals. There are trees in the distance, and towers.

8) The VII of Pentacles. This card represents Xenakis' own attitude concerning his question. Here a gardener pauses in his work and leans on his hoe. He seems to be contemplating a tree which has borne fruit. There are mountains in the distance.

9) The VIII of Pentacles. This card represents the attitudes of family and friends toward Xenakis. Here a sculptor's apprentice is seated on a bench carving out a pentacle. Other pentacles are displayed one above the other. There is a path in the distance leading to an archway with a tower and adjoining buildings.

10) The IX of Pentacles. This card represents Xenakis' hope. A well dressed woman, with flowers on her outer garment, holds a hooded falcon on her gloved arm, in the midst of a beautiful garden. In the background there are two tall trees and to her left, a turret building.

11) The X of Pentacles. This card represents the outcome. Here a wise person sits before an archway which is inscribed with a coat of arms. He is at ease and is surrounded by two dogs, a child, a man and a woman. In the distance a tower and adjoining buildings can be seen.

Interpretation

The Tower, which represents Xenakis, is symbolic of a change in his consciousness. The forces represented are elemental and transpersonal and beyond individual control. The crown is representative of thoughts which can no longer reign. The man and woman fall to the ground while the droplets of light, or spiritual essences, escape into the air. The three fiery windows represent release, and
indicate that return to the former condition is not possible. The storm clouds were
the gathering forces necessary to bring about change. Three is the number
associated with the Holy Spirit and indicates that the change in consciousness is a
natural evolution of a spiritual nature: A preparation for a broader awareness.

The VII of Cups which covers the Tower and represents the atmosphere of
Xenakis' question is symbolic of an active imagination which is not yet stirred by the
transpersonal. The offerings in the cups are tempting, but transitory, illusory, and
will pass or lose significance or fascination.

The Star, which opposes the VII of Cups, represents deep meditation. The
naked woman symbolizes receptivity. Her actions produce mental and physical
growth. Her right hand pours water into a pond causing ripples, a stirring of mental
energy, especially in the unconscious mind. Her left hand pours water on the
ground. The five streams represent the five senses, which record the messages
from the fertile natural environment. The bird is ready to reveal its knowledge for one
who is ready to receive it. The yellow star of cosmic order shines brightly, directly
above the woman. Other more distant stars accompany and reflect this order. The
distant mountains indicate past accomplishments.

The III of Pentacles represents that which is already a part of Xenakis' experi-
ence. The cathedral is a permanent representation of a spiritual project. The artist
has received spiritual guidance and is following a spiritual path in his life and work.

The IV of Pentacles represents Xenakis' aspirations not yet accomplished. The
figure seems to be balancing all of his concerns. He is maintaining his position. He
has his back to the multiplicity of the city and seems content to look ahead, sur-
rrounded by his own world.

The V of Pentacles represents an influence which is no longer operating in
Xenakis' life. Here the two people, though very needy, seem to pass by the oppor-
tunity to receive help from a spiritual source. The light is shining but they do not see
it. Their awareness is blunted by the hardship of their situation.
The VI of Pentacles represents an influence which will operate in the future of Xenakis' life. This could be a measured dispersion of accumulated wealth: helping others, or being helped by others.

The VII of Pentacles represents Xenakis' own attitude concerning the question. Here a man has paused to contemplate the future of his work. The mountains represent past accomplishment. How will the future compare with the past? Will the harvest be bountiful?

The VIII of Pentacles represents the attitudes of friends and family concerning Xenakis. An apprentice fashions a pentacle after the models displayed. Xenakis can be seen as a model artist for others to emulate. There is an established pathway, leading to a tower. The towers represent what has been built.

The IX of Pentacles represents Xenakis' hope. The woman indicates receptive nature or influence. The falcon represents thought, ready to fly. The flowers on her garment are the same as the flowers in the Star card, showing that the messages of meditation were received. There is growth, abundance, accomplishment and contentment.

The X of Pentacles represents the outcome. This scene is of wealth and domestic contentment. The coat of arms represents a deep family connection and pride. The dogs are representative of friendly instinctual devotion; the child, of renewal; the couple, of continuity and relationship. The tower seen through the archway is a reminder of the change represented by the first card, but also represents that which was built or rebuilt over the years.

The remarkable run of pentacles in this reading indicates a consistency of character which is based in a spiritual concern. This consistency has sustained Xenakis through the cataclysmic forces which have operated in his life. The change in consciousness indicated is natural for a person of his standing and accomplishment. The results of his meditation will cast away all illusions and bring about contentment and wisdom concerning his relationship to his work/life and the world.
The CELTIC CROSS
Method of Reading

1. Significator
2. Atmosphere
3. Opposition
4. Foundation
5. Past Influence
6. Aspiration
7. Future Influence
8. Attitude of Querent
9. Attitude of Friends or Family
10. Hopes
11. Outcome

Figure 1

Figure 2
Figure 2 (cont.)
MMM
Meditation/Mandala/Music

MMM was presented April 14, 1980 at Walker Art Center in Minneapolis, Minnesota as part of a series of lecture demonstrations entitled Meanings of Modernism: Myth and Ritual: The Past Redefined, which was moderated by poet Jerome Rothenberg and organized by Melinda Ward of the Walker Art Center. Other participants in the series were Allen Ginsberg, Allan Kaprow, and Lucy Lippard. The presentation was recorded at Walker Art Center and broadcast in Minneapolis by National Public Radio. MMM is published here for the first time.

Figure A1 (as audience gathers)
My presentation will consist of three parts.

First Meditation, which we will explore as the interplay of attention states, or processes. This will include a practice we can do together as an illustration of the discussion. Following more discussion we will do another practice.

Second Mandala, a brief examination of traditional mandalas and some of their uses, a visualization practice, and then a discussion illustrated by slides of how the mandala emerged as an organizing principle and meditational focus in my work.

Third Music, a recorded example of a recent work entitled El Relicario de Los Animales, which integrates meditation and mandala as organizing principles.

Before beginning the discussion of Meditation, I would like to invite you to do a brief meditation using the triple M sonogram which is the title of my presentation. Last week Allen Ginsberg introduced you beautifully to following the breath. His sound “Ah” was the exclamation of the heart. My sonogram MMM is the exclamation of pleasure, joy.

The basis of meditation is relaxation. Make sure you are comfortable. Your feet flat on the floor, sit forward with the spine straight, resting your hands on the thighs (mudra for the empty mind). Let go of anything you don't need as you exhale, and follow your breath for a few minutes. Be gentle with yourself. If thoughts arise or physical sensations, observe them and let them go for emptiness, and just follow the breath.

GONG Five minutes passes. GONG

And now can you imagine an experience which is pleasurable to you, that gives you joy? Whenever you are ready, express your feeling by sounding MMM in your own way.

(The audience responds)

Good, now we can begin this discussion.
Meditation

I invite you to consider the circle with the dot in the center.

Although it has come down through the ages as a symbol with different meanings, I want to appropriate it for use as a meditation, and as a map of the two kinds of human attention.

The dot may represent focal attention, which is an exclusive linear process. We use it to see detail in an object, to move toward a goal, to hear a melodic line in a Bach Fugue either in the imagination, memory, or in the external world. In meditation, focal attention is concentration to a point, an all-or-nothing state. Nothing less than total devotion or intention will do. Once concentration is broken through distraction, attraction, lack of effort, or will, you don’t have it. Every instant of life is an opportunity for concentration. (Snap fingers)

The circle may represent global attention, which is an inclusive non-linear process. We use it to sense context, seeing many things at once such as the forest as a whole; to sense orientation in space; to hear all the voices in a Bach Fugue simultaneously, as well as what is sounding around us. It is an awareness of environment: imaginary, memorized, or external, without the focus of detail. In meditation, global attention is receptivity; it is openness, non-intention, or the empty mind.
THE ORGANIZATION OF ATTENTION

Focal and global attention states are complementary opposites operating in each of the human sensory modes (seeing, hearing, touching, tasting, smelling). One or the other kind of attention process may be emphasized or integrated in an individual during any given activity of daily life such as eating, dressing, conversing or in more formal activities such as music, dance, art making, martial arts, sports, scientific problem solving, religious ritual and so on. Meditation is the interplay of focal and global processes with the inner and/or outer world, and is usually characterized by singularity of purpose which may result in heightened or enhanced awareness or perception.

Now, let's try a practice to demonstrate focal and global attention in the auditory mode. This meditation has three parts. First is a ready-to-move global attention state; second is concentration to a point, an all-or-nothing focal attention state; and third, a receptive global attention state.
The first instruction is to prepare to do one handclap, together with everyone in this room. (It might be best to stand for the hand clap.) This means a readiness to move which does not anticipate, or follow, but responds exactly with a handclap at a precise moment (concentration to a point). It means being aware of all others as well as yourself, and the cue or stimulus (which will come from me). The second instruction is to just do the handclap. After the handclap, the third instruction is to listen, allowing yourself to receive all sound that is possible to hear from the external environment and the internal environment and being aware simultaneously of all other sensations, both internally and externally.

Prepare by programming yourself to just do the hand clap (everyone knows how) on cue from me and by expanding your awareness to include all of you and all that is other. Think for a moment of the handclap as a life or death reality — all-or-nothing feeling. If you miss the right moment you lose the opportunity to change the world from war to peace, or you fall off the cliff, or you are swallowed by the dragon, or obliterated by a nuke. You can do it — you can save the world by a unified act to the benefit of all beings! So let’s dedicate the handclap to the benefit of all living beings. Then listen — sense everything. Expand your awareness as far as possible. If your attitude is right (present-centered) you will become aware of the handclap slightly after the fact.
Ok let's do it! Let's all stand first. Remember, relaxation is the basis of meditation. Check your shoulders, your connection to ground; be aware of your body and of all others. Be aware of the cue when it comes. Prepare, act, then expand. (Audience prepares)

CLAP

(Audience sits down) I tried to catch you when your attention was on. Only you know if we succeeded.

The interplay of the focal and global attention processes with the inner and outer environment is the rhythm of life. Giving, Receiving. All the ebb and flow of life is a continual opportunity for expansion. The rhythmic interplay of focal and global attention is most natural in children from the time they are born up to school age (I'm making this statement as an artist, not a scientist). The focal mode is easily observed in the all-or-nothing attempts of an infant trying to pull up, walk, or make a specific sound for the first time. Each new developmental task brings on intense concentration which is precluded by a global state of receptivity to the environment. The baby takes in all it needs to know in order to try something new.

Play is the most natural form of meditation. The attention span of children at self-initiated play is often ardent and long, or at least appropriate to the activity. This natural rhythm of attention processes in children is usually pre-empted by the demands of the socializing institutions of family, school and church. Most of us have had our natural attention fragmented by the concept of time enforced by social demands: time to eat, time to dress, time to go to bed, time to stop whatever it is you are doing especially if it is engrossing, or interesting, and do something else probably not as interesting.

In school, teachers often bemoan the short attention span of children, at least for the subject at hand, while the child often turns inward and attentive to the pleasures of a nice long daydream.

As a result of devaluation and fragmentation of our natural meditations, some of us have great difficulty focusing attention in many situations. Others have great difficulty in defocusing attention in order to be open to the environment or the context.
Inappropriate focal attention can eventually cause physical or emotional pain (for instance, long hours at a desk doing one kind of thing with no relief and no sense of surroundings). Inappropriate global attention can bring about loss of the sense of self, alienation, a lack of focus, inability to connect anything, a kind of aimlessness. Proper balance of the two modes is essential for a healthy, functioning, continually learning human being and for the enjoyment of life.

Traditional forms of meditation are often an attempt to restore the natural balance, spontaneity, and integration of attention, although more often than not, the price to pay is the particular bias of the tradition. Even though the bias of a particular tradition may be beneficial, the traditional form may pre-empt an individual's most natural approach to meditational balance. Once the natural state is lost, return without bias may be impossible.

Take a moment now to again relax and follow the breath. Can you imagine returning to a pleasurable activity of your own childhood, before you went to school? Can you imagine observing yourself at this activity, anytime you want, and continuing without interruption until you are satisfied? (Audience meditates)
Lullaby for Daisy Pauline Oliveros
Born September 19, 1979

Now let's return to the sound of pleasure — MMM. I would like to invite you to try this Lullaby written for my brand new niece and namesake Daisy Pauline Oliveros. Hum the sound of pleasure as if you were serenading your best loved infant. Play with the MMM sound by adding vowels and diphthongs between the M's using any repetitions or prolongations. When you finish the soundings, stay open to your own sensations and imagine gradually expanding your awareness to sensing your surroundings. Can you imagine extending yourself to all that is you and all that is other with all of your senses? I'll just listen for the lullaby. (Audience sings)
II

*Mandala*

We have been working with a diagram, the circle with the dot in the center, to represent focal and global attention states. The diagram is a mandala, a word from the Sanskrit which means diagram, or plan. It is usually contained within a circle, or other symmetrical shape. Cultures throughout the world use the mandala form in many ways.

Each mandala is unique in its elaboration whether as art, process, or construction even though its basic properties include 1) a center, 2) symmetry, 3) cardinal points. Only the center is constant. Symmetry can be varied and diverse, bilateral, dynamic, rigid and well defined (as our circle with the dot) or absolutely fluid like the earth. The cardinal points may be precise in number, odd or even, many or few (the amount depending on the mandala), or the points may be infinite or non-existent as in a circle. There is always room for more in a circle as in the unlimited capacity of our expanding global attention. But in any case, and in all uses, the mandala is a plan for action of some kind or else it is not a mandala.
Figure 1
Plan of Moussoum Homestead
Daily life is organized by the mandala

Figure 2
Stonehenge
Currently used by a Druidic cult for ritual practice, but it is believed to have functioned as an observatory.

Figure 3
Mandala of the Later Heaven
One of the arrangements of the oracular hexagrams of the I Ching or Book of Changes from ancient China, used for important decisions when wisdom was needed.

*‘Mandala’ illustration reprinted by special arrangement with Shambhala Publications, Inc.; from Mandala © 1972 by Jose & Mirena Arguelles.*
Figure 4
The Wheel of Life
From the Tibetan tradition, a thanka
which is used by initiates for visualization
practice and empowerment.
Wheel of Life © 1983 Courtesy of Jack S. Weller. Not to
be reproduced without permission.

Figure 5
Aztec Calendar
Used of course for organizing the year and
determining the time for ritual practice.

Figure 6
Four Houses of the Sun
A Navajo sand painting used in the healing
ceremonies. The patient sits on the painting
as the medicine man chants, invoking the
spirits depicted in the painting to effect a
cure. The whole community surrounds the
patient to support the ceremony.
Let's try a simple mandala meditation before I begin the discussion of mandala in my own work.

Can you imagine allowing your vision to defocus and expand so that you are sensing the widest possible visual field without focusing on anything or any detail?

Can you imagine closing your eyes very slowly, remaining aware of the widest visual field including the eyelids as they close?

Can you imagine the space from behind the eyes to the back of the head?

Can you imagine now our white circle on a black background with a black dot in the center?

As you hold it in mind, can you imagine that the central dot represents you in relation to the world?

Can you imagine that no matter where you are on the surface of the earth you are always at the center?

Can you imagine that the circle is your own consciousness and that it can expand infinitely in all directions?

Can you imagine relaxing your eyes by trying to imagine a black circle?

In a few moments, while your eyes are still closed, I am going to cue you with a handclap. On that cue, blink your eyes open and shut once as fast as possible without trying to focus on anything. Keeping your eyes closed, consider what you have seen. Stay with your sensations — expand.

**CLAP**

Can you imagine allowing your eyelids to slowly and gradually open again without focusing on anything particular? (Audience responds)
In my childhood I protected myself from teachers and institutions by drawing constantly this mandala of the four pointed star all over my notebooks, book covers and in the margins of my papers. It was my way of centering in what seemed to be a basically threatening environment. (I hope the schools have changed a lot!) In 1964 I made this and the following three drawings. (I was vacationing at the Hotel Awahnee in Yosemite, California. There are many American Indian designs in the decor which must have triggered my memory.)

Each drawing seems to represent some different aspect of my personality which appears to be two sided; one side concerned with geometric order, and the other side with organic order. The four pointed star is centered and integral. The other geometric drawing shows discrete separate figures set apart from each other. I was always interested in the vibratory nature of red and blue and black and white.
The chicken-like character is a self-sufficient anthropomorphic figure, a dancer, mostly legs. The organic abstract shapes demonstrate my interest in composition, using positive and negative space to create an optically illusory pattern which is a kind of dance. I was fascinated by optical illusions as a child and drew them obsessively as well.
After recovering my childhood meditational ritual through these drawings, I began to make mandala-like sketches hoping to find a way of organizing musical materials which would be free of the conventional staff notation. At the time I was only vaguely aware that such notation could no longer serve my music; but I felt trapped by it. I liked that mandala sketch but I did not yet know how to utilize it.
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After Trio for Flute, Piano and Page Turner (1961) which was my last conventionally notated piece, a process of dissolution of notation begins.
In Sound Patterns (1961), pitch is only approximately notated in order to guarantee that what the singers sing will result in clusters of sound rather than group focusing on single pitches. Rhythm is still strictly controlled through conventional notation.
In *Outline for Flute, Percussion and String Bass* (1965) there is more freedom from conventional notation though it is still occasionally present. Sometimes the players are given exact pitches and rhythms; sometimes approximate rhythms and pitches, and sometimes blanks to fill in.

Although I did not clearly realize it, I was searching for a way to deal with sounds as well as pitches, and organic rhythm as well as metric rhythm. The conventional staff notation is well designed for pitch and metric rhythm, but it is not so good for these other concerns. That is part of the reason why most of the world’s music is not notated but transmitted orally. Accordingly, since the end of the 1950s, I had been involved in solo and group improvisation: tape and electronic music which did not require notation. My tape and electronic music was played in real time, edited on the tape rather than with the cut-and-splice method. By 1964 I needed a way to share my process with others. A breakthrough occurred with *Pieces of Eight* (Smith Publications) (1964), and the mandala emerged as an organizing principle.
I did not know it was a mandala. *Pieces of Eight* was a pivotal piece involving diverse materials. There were visual and theatrical components as well as sound. The sounds were made by musicians with instruments as well as mechanical devices and pre-recorded tape. I needed a way to deal with all of this material.
I made this sketch of *Pieces of Eight* using a circle which enabled me to sense the piece as a whole. Each sectioning of the circle was a structural cue representing two minutes of time.
PIECES OF EIGHT

CUE IV. WARNING SIGNAL GOES OFF

CONDUCTOR: Continue to open the packing case; squeaking, cracking.

ALL PLAYERS: a) Soft, long tone, as long as possible in one breath. (Releases may be independent)

Flute, Clarinet, Bass Clarinet, Contra Bassoon: 6) Repeat briefly the raucous, irritating sound from CUE III, hold another long tone, then rest for 15-20 seconds.

Trumpet, Horn, Trombones: 6) Rest 15-20 seconds, repeat briefly the raucous, irritating sound from CUE III, then hold another long tone.

Flute, Trumpet, Bass Clarinet: c) Play long tones PP ——— SS

Clarinet, Contra Bassoon: c) … … … SS ——— PP

Horn:

Trombone:

(c independent)

All Players: d) Approximately 7:30" after the downbeat of CUE I, begin trilling long tones, gradually add slaps, glissandi, and high, loud shakes or flutter tongue. Crescendo as much as possible up to CUE IV. This 70 seconds should have the feeling of a raucous fanfare. You are anticipating the arrival of the missing OBOE player.

OBOE: Anticipate CUE IV. Run through the audience from the stage as from the most distant point, possible. Time yourself to sit down exactly 8 minutes after the downbeat.
From there I was able to write out verbal instructions for the players for the first time. Staff notation was used very briefly in only two places when it was appropriate. From this point a new world of possibilities very gradually opened up for me.

In 1967 I became a member of the academic community when I joined the music faculty at the University of California at San Diego. Typically, as in my childhood, I responded to the threat of institutional situations by drawing on the backs of department memos during committee and faculty meetings.

These drawings are from the 1968-1969 school year. I was hired to teach Electronic Music among other things. In this first drawing there are ordinary and nonordinary electronic circuit symbols. Note the transformer circuit with a small snail at the input and a large snail at the output. No doubt some kind of comment on the meeting in progress. The snail also represents a spiral mandala which turns up in a piece in 1978. The spiral is also a growth symbol. In the upper left-hand corner there is the five-part mandala which occupied me for fourteen years (as you will see later).
My drawings became a little more fantastic, mixing circuits with geometrical and anthropomorphic figures.
Check list:

1. Who is in charge of Student Engineering? Larry
2. Smooth program change
3. Check cascade inputs and outputs
4. Check volume of all the before console
5. Set level at output
6. Control level at input

As the year progressed, electronic symbols began to move out of the drawings or be transformed, and mandalic shapes began to take over.
I was moving away from my preoccupation with electronic music and into more conscious meditative and ritualistic forms.

This drawing reminds me of a non-ordinary experience I had in 1965. I was living in a room on Pine Street in San Francisco. One night I awoke and felt the bedclothes moving and a heavy weight pressing on my chest. I was paralyzed with fear and could not use my voice. Then the covers were still, the weight lifted and all was well; there was nothing to be seen or heard. I shrugged it off. But a few days later, the same thing occurred—the moving bedclothes, heavy weight, paralysis and loss of voice. This time I could see and hear buzzing discs hovering around me very much like the discs in this drawing. Then they disappeared and all was well again with nothing to be seen or heard. It never happened again. I know that I was not dreaming. (Figure below left.)

The snail is getting more ornate here, more fascinating figures; and in the lower right corner, the five-part mandala. (Figure above right.)
In the upper left-hand corner, a seven-part circle mandala.
Going towards the end of the year, things are getting more intense.
And this last drawing done in June, 1969 must have been an incredible meeting. But the mandalas are there.
Following are examples of my work which use the mandala as an organizing principle, usually as a floor plan for the actual positions of the performers. Inner connections within the mandalas increased during the evolution of this work as I used the mandala more and more consciously.

In 1968 I used this mandala floorplan to compose AOK. I played the accordion in the center on an eight-foot wooden spool which revolved in both directions; in the second circle were eight country fiddlers; the third circle was a ring of chorus; the fourth, four to eight conductors trying to influence the chorus members as they passed; the outer circle was the audience who could also chant; and finally in the four corners are symbols for speakers, which represented a tape delay system which picked up sound from the accordion, delayed it and distributed it around the four speakers.
Following are examples of my work which use the mandala as an organizing principle, usually as a floor plan for the actual positions of the performers. Inner connections within the mandalas increased during the evolution of this work as I used the mandala more and more consciously.

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This is the diagram for *The Wheel of Fortune* (1969), a magical theatrical ritual for clarinetist William O. Smith. In the outer circle, the small circles represent yellow construction flasher lights which he set out as part of the ritual; next he drew a chalk circle, placed his favorite pair of shoes toward the audience (inside the circle) then made a triangle with masking tape with a different hat at each corner representing different aspects of his life. He performed the piece from the center. (Figure above left.)

In 1970 I composed *Meditation on the Points of the Compass* (Media Press) for chorus. Here the conductor is at the center; in each quarter of the inner circle is a bowl gong player. There are twelve soloists, each of a different ethnic origin, surrounding the center, three in each quarter. The audience is in the next circle represented by the dotted line; finally the large chorus surrounds the audience in a single line with a gong player at each compass point. (Figure above right.)
Bonn Feier (Smith Publications, 1971) is a large-scale meditational theater piece which includes many different ritualistic tasks accumulating over a long time period. The performers begin in circle formation, each with a sound source which can be heard for a long distance out-of-doors. Each makes a distinctive signal. They play together for a while in the circle, then move gradually apart. The meditational focus is to try and keep in touch by hearing at least one other person no matter how far they move from the circle. Audiences which gather are left in circle formation.
In this activity, children painted the manhole covers each day, making art mandalas. This eight-day performance took place in Bonn, Germany in May 1977.
In 1974 I composed Crow Two (Alcheringa: Boston University Press). There is a human mandala with a poet in the center, a beautiful woman of seventy with silver gray hair who sits smoking and dreaming; at the compass points around her are the four crow mothers whose only task is to sit; the dotted line is the orbit of the two mirror meditators, male and female, who dance slowly, mirroring each other. The large circle contains seven drummers, rock players, and others who are meditating.
Outside the circle are four dijiridoo players. (The dijiridoo is an Australian aboriginal instrument made from a hollowed out eucalyptus branch. It is a buzz lip instrument and sounds like a humming bird dropped several octaves.) The meditation is attacked by Heyokas or Sacred Clowns. They use the mandala as a playground and try hard to distract the meditators whose only protection is their meditation. The Heyokas are a risky presence because they could actually succeed.

I played a tape of Crow Two for my friend Elaine Summers, who is a film maker and choreographer. She knew nothing about my preoccupation with mandala. She visualized this structure while listening to Crow Two.

Her response is a 3 dimensional mandala.
Film is projected on all four sides of the structure, and a dancer relates to each side.

Crow's Nest was premiered at the Guggenheim Museum in January 1980 with 100 singers in single file up to the top of the spiral building doing my Tuning Meditation. The Guggenheim is also a three dimensional mandala and a most gorgeous sound space. It was one of the best sound experiences of my career.
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Rose Moon (1977) is another choral piece. It is designed to be performed as a full-moon meditation lasting from moonrise to moonset.
There is a marathon runner circumambulating the outer circle with a sounding belt made of sticks and bells. The runner influences the timing of sounds in the outer circle as the people represented by the small circles sense the runner passing the spine.

The vocal sounds result from various meditations, sometimes involving the names of the moon in many different languages.
6 in the 9th place.
7. Leave by death, pass through the tunnel,
take down the path, meet the dragon
from the earth.
8. Return to the top
when the dragon unfolds his energy
from the river.

This mandala is the traditional Yellow River map, supposedly of mythical origin and
the basis of the I Ching, the Chinese Book of Changes, which is an oracle. I used it in
collaboration with Chinese dancer Al Chung Liang Huang for a river meditation which
involved listening to a river, blending one voice with it, and representing the move-
ments of the water.
This is a Sonic Meditation entitled The Wheel of Life. The participants lie on their backs and sense the breathing of their partners. When the breathing is synchronized, the group sings together (first in synch then independently or together with one or both partners). (Figure below left.)

There is no way to verbalize the title of this piece because the title is the map or plan of the piece. Here I finally realized that snail that tried to crawl in and out of the electronic circuits in those 1968 drawings! (Figure above right.)
Now briefly I want to return to 1964 to the mandala sketch which I could not realize at the time. I tried to read it as a piano piece.
I was still too tied to the details of conventional notation. I tried to use the boxes as optical illusions thinking that the performer would be influenced by the ambiguity of the oscillating sides, each side with a different meaning. These were unsuccessful. I had not yet come to an understanding of the mandala as spatial orientation.
El Relicario De Los Animales

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Finally 15 years later, I realized the use of this mandala in *El Relicario de Los Animales* completed in March 1979. The mandala is used again as the floor plan for the positions of the singer at center and two twin groupings of twenty instrumentalists.
(Music is played)
I want to play a part of El Relicario de Los Animales from a California performance last March as Part III of my presentation—Music. El Relicario de Los Animales means the reliquary of the animals. A reliquary is a box or structure in which relics are kept, usually in some sacral relationship. The piece is based on the images of four different animals: Tiger, Owl, Wolf and Parrot. Each is evoked, and then represented by the singer and a few instrumentalists with the others providing the environment. The improvisation of the singer and the other musicians is guided by the image of each animal and its environment and by eight guide words; LEAD ECHO FOLLOW BLEND EXTEND EMBELLISH FREE SILENCE. These words are used in different groups to characterize each section.

The piece begins with the singer already in place. Then conch shell calls begin. The example I am going to play is the final image, the Parrot. When the conch shell trumpets sound, it signals the end of the piece. The audience is invited to sing with the conch shells as the players make their endings and begin the slow procession out of the mandala as they entered it, leaving the singer slowly revolving in the center on a circle of red earth.

The Parrot represents exuberance and joy. [Music of El Relicario de Los Animales is played.]
That ends my presentation.
May the pleasure of life always be yours.
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