

MUSIC AT MILLS 84/85

March 30 / Saturday / 8 PM / Concert Hall

"CENTER FOR 21st-CENTURY MUSIC"



Asymmetry in the position of the outer ears
of the owl.

MILLS

"CENTER FOR 21st-CENTURY MUSIC"

- "Not Magic" (1985) David Heintz
- "8-7-6-5-4-3-2-1" (1985) Scot Gresham-Lancaster
Doug Carroll, cello; Ed Tywoniak, Chris Brown, Scot
Gresham-Lancaster, keyboard synthesizer; Tim Perkis,
Jay Cloidt, Scot Gresham-Lancaster, tapes.
- "White Night" (1984) Maggi Payne
- "Three, Four: Knock on the Door" (1985) Richard Povall
- "Chilean Drought" (1974) David Rosenboom
Larry Polansky, brainwave performer; Chris Brown,
piano; William Winant, percussion; Robin Engleman, Jacque
Beta text; Dug Spitznagel, Alpha text, Jacqueline Humbert
Humbert and Ellen Band, Theta text.

INTERMISSION

- "Musical Intervention I" (1979) David Rosenboom
(Dedicated to the memory of Salvador Allende)
- "Camo Talk" (1985) David Heintz
- "לְשָׁמֶן וְלִדְעָה" (V'leem'shol/..and to rule) (1984) Larry Polansky
Cantillation Study #2, for five flutes, for
Ann LaBerge and David Rosenboom:
Ann LaBerge, live and taped flutes
With introduction for voice, computer and guitar:
Jody Diamond, voice; Larry Polansky, computer and
guitar; Toyoji Tomita, trombone; Chris Brown, key-
boards; Richard Povall, audio.
- "Zones of Influence" (1984) David Rosenboom
Part III: "Given the Senses the Real Pregeometry"
William Winant, percussion
David Rosenboom, computer-assisted electronics

NOTES

"Not Magic" Interest in this kind of work stems from the inter-relationships between forms and media: theater, sculpture, writing, sound, film. Between the terror and the delight of the unpredictability of it, there seems to be a window of possibility, opening. For technical assistance on this and "Camo Talk," thanks to Ian Turner. (David Heintz)

"8-7-6-5-4-3-2-1" is a series of vignettes; a musical examination of the integer diminution of eight elements used in various ways to describe processes that are in varying ways perceptually obvious. The use of material for each section is based on my collaboration and interaction with the person(s) involved in that section and how we both can get material out of some process involving integer diminution. Section 8 examines the rhythmic aspect of this integer series and is a rhythmic canon at the interval of entrance. Section 7, for cello and electronics, investigates the harmonic aspect of ascending 8 semi-tones, then 7, etc. Section 6, for Macintosh computer and Harmonic Whistles, examines the just ratio progression (i.e., 8/7, 7/6, 6/5, etc.). The relationship of the Harmonic Whistles is reflected in this ratio: as time progresses, more upper partials of each fundamental are revealed at faster and faster rates, resulting in a just-intoned cloud of sound based on the dynamics of the series. Section 5, for three keyboard synthesizers, tape, and drum machine, contains harmonic material generated by the series itself, with harmonic rhythm based on the aural information passed to the performers by Tim Perkis's tape, which is itself a more involved investigation of the properties of the series. The drum machine track is an electronic realization of Section 8. Section 4, for tape, generated by Jay Cloidt and myself, and performers, deals with the intuitive reaction of the performers to the context of the series. Inter-relationships are established between the players and the tape and each other. Section 3, for solo Emulator II, is a restatement of the ideas and perceptual values of the previous section. Section 2, for all performers, is a summation of all previous performance gestures, incorporated in a mass tutti section. Section 1 is a single note played by all the performers within the context of the

rhythmic and dynamic constraints of the series.

Ultimately, this piece is about gestation and birth. My second child will be born between the time I am writing these notes and the performance date. It is the linear expression of time and its relationship to musical performance that evoked the initial concept of this piece. I apologize for any connotation of a rocket firing, the first image that many have expressed to me on hearing the title. Something approaches slowly at first and then with greater and greater speed until finally it arrives, in one glorious moment; then the moment is passed and something else is heard to rumble in the ancient distance.....

Special thanks to William Winant for percussion in Section 8.
(Scot Gresham-Lancaster)

"White Night"—The source material for this piece consists of digital delay processing of spoken names or portions of names of fellow artists. These fragments set up micro-rhythms which interlock, then slowly shift phase. Because the source fragments are essentially static in regard to texture, pitch and timbre, the composition is built on subtle rhythmic interactions among combinations of fragments, with amplitude and density determining the overall structure. White Night is a French expression for a sleepless night of the type characterized by the mind's relentless repetition of thought after thought, phrase after phrase, making sleep impossible. (Maggi Payne)

"Three, Four: Knock on the Door"—A vignette for a number of saxophones which pays tribute to the music of the swing era while bidding a (mostly) fond farewell to those bygone days of phase music. Goodbye, phase music, you were so easy to write and so anxious to please....what are we going to do now? (R. M. Povall)

"Chilean Drought"—Mechanisms operating in this performance system are based on the assumption that the presence of different relative intensities of energy in the Beta (13-18 Hz), Alpha

(8-13 Hz), and Theta (4-8 Hz) brain wave bands represent different states of consciousness in a given subject. These various states will all affect the manner in which he processes information presented to him in his external environment. The score provides for three different interpretations of material derived from the same text; in this case, a news description of a severe drought that occurred in Chile in 1968. Which of these three vocal interpretations one hears, or the mix of them that results in a given performance, is entirely dependent on which of the three brain wave bands is most prominent at a given moment in the solo brain wave performer. The text associated with the presence of Beta is a set of permutations of three paragraphs and is read in the declamatory style of a network news reporter. That associated with Alpha is a set of permutations on sentences from the text and is read as fast as possible by one person, being followed by a short delayed version of himself, and with all natural breaths removed. Finally, the Theta text is composed of four phrases used to form long, slow chants, realized by several female voices.

So, changes in the vocal collage follow changes in the consciousness states of the soloist, through whose mental filter we are presented with a mix of interpretations of simple information. A piano accompaniment is provided to encase the vocal assemblage and further articulate feelings aroused by our many Chilean friends, subsequent to recent tumultuous political events in Chile, which have further disrupted the lives of the citizens of that troubled nation, one of far too many. We dedicate the piece to those friends. (David Rosenboom)

"Chilean Drought" is available on A.R.C. Records (brainwave music, ST-1002). The score is published in the composer's book, Biofeedback and the Arts, available through A.R.C. Publications, Vancouver, Canada.

"Musical Intervention I"—After President Salvador Allende of Chile was so brutally murdered by the now prevailing military junta, that country's beautiful and lyrical national anthem was

rearranged to give the more martial feeling the new government desired. This work, composed for Chilean artist, Eugenio Tellez, subjects the militarized anthem to a counter-transformation in an attempt to intervene, at least symbolically, in the cultural inhumanity that exists in Chile today. (D. Rosenboom)

"Camo Talk"—A true story. It emerged as material for a piece simultaneously with images of objects arranged in a two dimensional plane. (D. Heintz)

"וְלֹמַדְתִּי" is the first complete work of a set of many pieces based on Masoretic Torah cantillation melodies in conjunction with intelligent morphological transformation systems, live and electronic. It is based on the second 17-verse section of B'rey'sheet, beginning with:

"And to rule by day and by night, and to divide
between the light and the darkness, and elohim saw
that it was good" (Translation by L. Polansky)

The flute parts are derived from computer generated transformations on the primitive melodic tropes of the shabbat morning Torah melodies. The work is essentially a canon for four flutes above the trope itself. The computer was used to select types of transformation of the trope shapes, beginning with the most complex (involving free figuration, inversions, embedding of recursive forms into the shapes themselves, transposition, and others), and gradually constraining the morphogenetic processes until at the end, a given voice is in unison with the trope in Flute V (on tape). In addition, each voice is telescoped in time to achieve its transformative path in less and less time directly proportional to its entry in the piece (at verses 1,5,9, and 13 respectively). In addition, a given voice will always, as closely as possible, directly reference the melodic material of a previous voice at the same stage in its transformation, and above the same trope. This means that ideally the first voice contains all the material for the piece, though I made certain non-algorithmic changes to the succeeding voices when it interested me to do

so. One such choice was to write a relatively simple chorale the two times the text and melody for the text "and it was evening, and it was morning, the (fourth, fifth) day" appeared, which has the rather abrupt effect of interrupting the active transformations.

The introduction is a reverse form of the piece, with all voices starting in unison (or no degree of transformation) to the voice (which sings the Torah section), and progressing towards a greater degree of change. The instruments and computer in the introduction deal with the trope in a similar way to the computer algorithms of the piece itself, both improvisationally and not. The computer follows the voice only.

One of the intents of the work is to use the primitive melodies as simple and fertile "ur" shapes upon which generalized ideas of motivic transformation might be made. Whether in fact this musical idea paratactically relates to a spiritual and intellectual morphogenesis from fundamental canons is left to the listener, but it is certainly my intent that the melodic transformations be direct attacks on orthodoxy of all sort. In addition, the complexity of the piece, particularly as expressed in the rather uncompromising flute sounds, is meant to be impenetrable and at the same time expansive and evolutionary, firmly believing that one's musical, political and social movement through the world must be of sufficient complexity to be a new language, one that generates its own grammar, semantics, syntax, paratax, and hypotax. Consequently, I hope that the piece will be both understood, and in a benevolent fashion, not understood.

The software for the piece was written in FORTH, and the piece was composed in March, 1984. The score was copied by Richard Povall with the assistance of a Mills Faculty Research Grant. It was recorded at the Center for Contemporary Music by the composer and Richard Povall. The introduction uses an MC68000 based system with Buchla digital oscillator, using hardware and software designed, integrated, or built at C.C.M. by C.C.M. staff and students. The software, written in a C.C.M. version of FORTH, is HMSL (Hierarchical Music Specification Language), designed by

David Rosenboom and myself. Many people have had some part in the building of this system, including Phil Stone, Phil Burke, Charlie Hiestand, Scot Gresham-Lancaster, Dan Kelley and John Levin, and I thank all of them. In addition, I thank two people who were instrumental in helping me gain fluency in cantillation, Jack Love and Todd Silverstein of Hillel Foundation in Berkeley.
(Larry Polansky)

"Zones of Influence"—It has been my intention for several years to compose a cycle of works for percussion and electronics which make use of the electronics as a tool for processing and transforming the percussionist's performance in a special way. This way involves not just the transforming of the percussion instruments' sounds on an acoustic level, but a processing based on information contained in the complex patterning manifested in the percussionist's performance. This could be likened to real-time algorithmic processing or algorithmic composition driven by the musical structure of what the percussionist plays.

This goal has been furthered by productive collaborations with percussionist William Winant. This collaboration began in Toronto in 1976 in the context of work with various performing groups in concerts around North America and has continued since we both moved to the Bay Area in 1979. During these performances I have tried to use the electronics to create a single, jointly-played instrument which receives inputs from two or more performers, comprising not only sounds for direct processing, but also acoustic patterns which result in changing the operating characteristics of this instrument or even affecting a major restructuring of its stimulus-response characteristics. My goal was to further the artificial intelligence capabilities of such instruments and to create a more intimate linking of the performance activities among the members of a group.

During 1984 I began composing a cycle of works-in-progress titled "Zones of Influence." It is conceived in five parts, the parts being: (1) "The Winding of a Spring," which is about evolution from disorder to order; (2) "Closed Attracting Trajectories,"

which explores a perceptual threshold occurring when one thing (in this case, a melodic shape) is transformed (bent) into another; and (3) "Given the Senses the Real Pregeometry," exploring in musical metaphor the process of the universe learning to perceive its own existence. Unlike Part 1, which is completely scored in all details, or Part 2, which is scored but which allows the percussionist to determine the pacing of musical material, Part 3 contains a score which is largely imbedded in the computer music instruments' software. The percussionist must use his senses, with some direction, to discover the form of the score, which is analogous to the "pregeometry" or the given order of the universe. He can only do this by initiating actions which trigger electronic responses, programmed in some respects to imitate bursts of percussion-like musical gestures. These actions on the percussionist's part will also modify the score, just as an observer imparts an influence on that which is observed. It is assumed that reality (the order of the piece) is the product of a consciousness (the percussionist) interacting with its environment (the electronic sounds), that the currency of reality is information, that this information flows in both directions between the consciousness and the environment, that theories or assumptions about reality reflect as much the characteristics of consciousness as of its relevance to the nature of the universe, to the process of consciousness perceiving itself and, ultimately, to the universe perceiving its own existence.

There are some important principles from the Quantum Theory which guide the musical structure of the piece.

A set of probability functions are used to express the likelihood of the percussionist's actions being followed by a reinforcing response. These produce "Eigenfunctions," or probability waves, controlling the potential match between that "given" by the "senses" and that "given" by the "pregeometry." A harmonic series of "Eigenvalues" determines a kind of stochastic "key." The musical process involves the audience observing the percussionist learning to play "in tune" with this key in order to establish the closest binding between his sounds and the electronic sound.

An important product of the quantum "Indistinguishability Principle"

is that entities with contrasting vectors (i.e., anti-parallel spins in particle theory), form the tightest bonds with each other. This binding of contrasting phenomena is considered a basic principle of nature and guides the musical metaphor at all times.

The idea of a "continuum" in this music is considered to be an illusion and is dependent entirely on one's scale of observation. Consequently, it is assumed that there must be discrete states in macroscopic as well as microscopic phenomena. These comprise large scale "catastrophes." The assumption follows that change in morphologies tends to be sudden and catastrophic and is followed by a period of tendency toward stability.

The Heisenberg "Interdeterminacy Principle" guides the formation of "musical complementaries" between the percussion and electronic sounds. The more a musical state becomes defined by "Eigenfunctions" of short wavelength, the more illusive its complement becomes as the wavelength of its "Eigenfunctions" become longer and more pure.

It is noted that human beings may have the most trouble perceiving the discontinuities of macroscopic morphogenesis and that this explains their relative inattention to the consequences of global consequences and changes.

Still to come are two remaining pieces in this cycle: Part 4, "Epigenesis, Ontogenesis, Phylogenesis, Parthenogenesis," which is about ideas of evolution on genetic, individual, and group levels and notions about self-replication; and Part 5, "The Buckling of a Spring," which is about the sudden release of energy through the dynamics of chaos.

The title, "Zones of Influence," reflects inspiration from and continued interest in writings by the great French thinker/mathematician Rene Thom, author of the book Structural Stability and Morphogenesis. A theory known as "catastrophe theory" is outlined in this book. It is an important new way of thinking about form and change. Two ideas from Thom may be worth repeating here. First, "the characteristic of all form, all morpho-

genesis is to display itself through discontinuities in the environment." Second, the global appearance of form results from the accumulation of local accidents, catastrophes of change. "Zones of Influence" refers to the region of space in which a structure of change known as a "chreod" can have an effect, much like the light cone in relativity. (D. Rosenboom)

DAVID HEINTZ, Lecturer in Fine Arts at Mills, teaches film-making.

SCOT GRESHAM-LANCASTER is a composer and Technical Director of the Center for Contemporary Music, Mills College.

MAGGI PAYNE is a composer, recording engineer, and Lecturer in Music at Mills.

RICHARD POVALL is a composer and Technical Assistant at the Center for Contemporary Music.

DAVID ROSENBOOM is a composer, Associate Professor of Music, and Head of the Music Department at Mills College.

JACQUELYN HUMBERT ROSENBOOM is a graphic artist, performer, and costume designer.

LARRY POLANSKY is a composer and Lecturer in Music at Mills.

WILLIAM WINANT, percussionist, is on the instrumental faculty at Mills.

FUTURE MUSIC AT MILLS

April 7 / Sunday / 8 PM / Concert Hall

ROBERT MANN THESIS CONCERT / "Simple Prayers (Choice of Words)" / Instrumental and electronic music, dance, text, and visuals. / Free

April 12 / Friday / 8 PM / Art Gallery

PHYLLIS POLLACK THESIS CONCERT / "Off the Cusp: Environmental Influences of Pop and New Music" / Melodic, electronic songs and videos, performed by the composer. / Free

April 13 / Saturday / 8 PM / Concert Hall

TED JOHNSON THESIS CONCERT / With display in Ensemble Room. / Free

April 18 / Thursday / 8 PM / Concert Hall

PAUL SCHALEGER THESIS CONCERT / Free

April 20 / Saturday / 8 PM / Student Union

JEFF MORRIS THESIS CONCERT / "New and Old Music" with special guests Diamond Bridge Gamelan, Daniel Kennedy, and René Fabré. / Free

April 21 / Sunday / 8 PM / Chapel

EMILY KLION THESIS CONCERT / Cantata for children's voices and other chamber music. / Free

April 26 / Friday / 4 PM / Chapel

J. S. BACH LECTURE / DEMONSTRATION / Presentation with excerpts from Bach's trio sonatas with Peggy Sampson, viola da gamba; Susan Summerfield, harpsichord; and Michelle Fillion, lecturer. / Free

April 28 / Sunday / 8 PM / Chapel

J. S. BACH CONCERT: PEGGIE SAMPSON AND SUSAN SUMMERFIELD / Trio sonatas for flute, gamba, and harpsichord, in honor of the 300th anniversary of Bach's birth. With guest artist. / \$5 / \$3

