Rockefeller Foundation New Media Fellowships 2003 Project Cover Form

NAME: Shawn Decker

Title A Small Migration

Genre Interactive Installation

Applicant's Role in

Production All construction, computer programming, etc.

Production Format Installation, either gallery-based or public space.

Anticipated Length N.A.

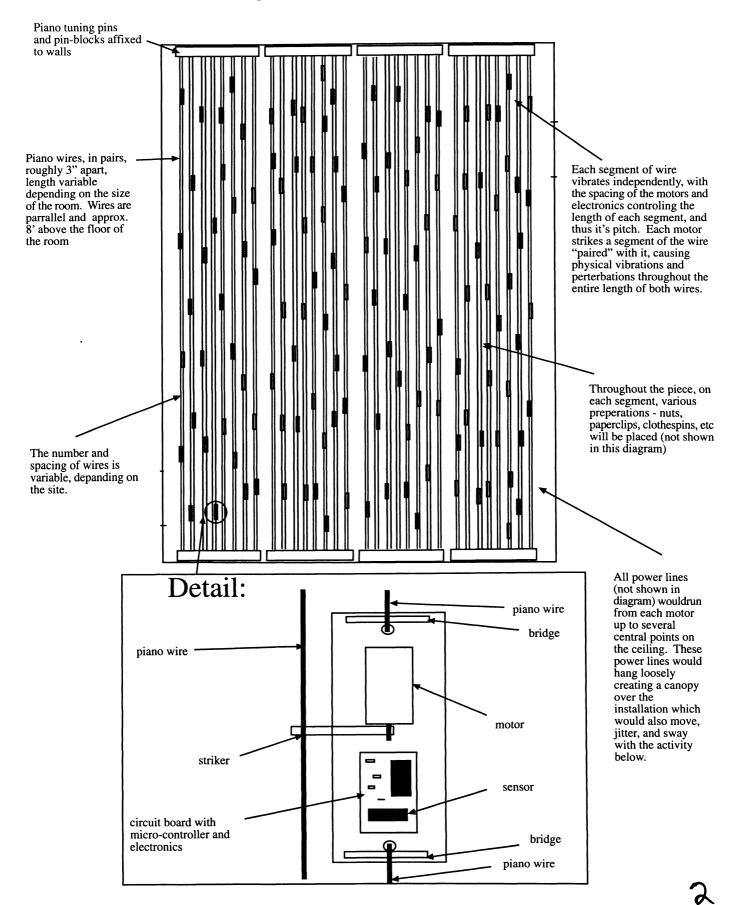
Color/B&W N.A.

Sound/Silent Sound,

Brief Project Description (do not exeed space given below)

A Small Migration consists of many piano wires strung roughly 8 or 9 feet above the ground across an open gallery or public space. The wires are attached directly to the gallery walls with tuning blocks, so that the walls of the gallery then act as a "sounding board" for the piece. Each motor is sent a series of short electrical pulses by the microcontroller, causing it to strike the wire, which creates a disturbance that generates sound and also visibly shaking the wire. The rhythmic patterns used are those found in nature. and are constantly accelerating and decelerating. The installation will contain a great many wires (variable given the space) and a great many motors (2 or three per wire)—minimum numbers would be 64 wires (32 pairs), and thus 180-200 motors. Additionally, each segment of these strings would be "prepared" in some way, in the manner of John Cage's "prepared piano" technique. The entire network of motors will be controlled by small individual microcontrollers, each programmed with a set of simple rules for interaction with each of the other elements. Each of the microcontrollers will also have a sensor attached that can detect the presence of people or things in the space around it. Thus, when a viewer enters A Small Migration, they will cause a small local disturbance via the immediate reaction of the motor elements near them, but more importantly, this disturbance will ripple outward throughout the piece, unpredictably modifying the behavior of the entire space. Visitors' movements within the space will continue to modulate an event already in progress after their initial "disturbance" of the system.

A Small Migration: Installation floorplan



Rockefeller Foundation New Media Fellowships 2003 Sample Work Form

NAME: Shawn Decker

If you are sending more than one sample, please copy this page. Sample(s) must be cued: indicate how long each sample should be viewed for a COMBINED viewing time of no more than 15 minutes. If slides are included in this application, please list the title and year of the work on this form.

Title See below		
Year See below		
Technical Info Original Format Software Web X Installation Other	Format Submitted for Viewing Software Web Installation X Other_Video	Prefered OS Windows Mac Unix
Web Info (answer only if sam_ URLbelow)	ple work is in Web format)(if more tha	n one please list them
Browser requirement Plug-in requirement This sample requires broad A local copy of the sample	band connection (fast Internet Connection) work has been included with the application	
Special Information Formation Format	r Viewing:(use an additional sheet if necess	sary)
I have submitted document	ation of three installations on one vid the following works in the order given:	••
Scratch Studies (2000), 4:0	0 running time.	
The Night Sounds (2000), 4	:00 running time.	
Wire Field (1997), 4:00		
Attached are additional she installations.	ets with written documentation for each	of the three

Shawn Decker – Installation Documentation

Notes

Scratch Studies (2000)

Scratch Studies is the latest in a series of new works that create immersive sound environments through physical means (in this case, the rhythmic sounds of scratching) rather than using speakers. The individual works in Scratch Studies make use of piano wire connected to digitally controlled stepper motors which scratch steel plates in various ways. These "scratching machines" in this series are of different sizes, ranging from 4' x 4' square floor pieces to smaller 6"x18" pieces which are hung.

These pieces explore the rhythmic territory between "mechanical" and "natural" rhythms as caused by various kinds of imitative behaviors. Each work contains its own embedded microcontroller programmed to control the motor's movements (and thus the scratching activity) by simulating various natural processes such as Brownian motion, 1/fnoise, and bird song rhythms.

Each of these works also electronically "listens" to the others, with each "scratcher" imitating the others in various ways. Various forms of imitation utilized include *reductive imitation* — where details are removed, *elaboration* — where details are added, and *literal imitation* where patterns are exactly copied. The resulting group behavior ranges from naturalistic group rhythmic patterns in which each individual "scratcher" is doing related rhythms (but with each machine still completely independent) to highly mechanical (and somewhat threatening) exact or near-exact imitation (when several "scratchers" are nearly completely synchronous with each other).

What is particularly interesting is how the group dynamic takes on complex emergent behaviors simply as a result of listening and imitating each other. If these works are turned on without any communication between them, they will simply each do exactly the same thing in unison (as they are all programmed identically). However, once these scratching machines are programmed to listen and imitate each other, the behavior of each individual immediately veers from that of the others (even though they are still programmed identically). Once this process begins, the group begins to develop a "collective memory" of rhythms which is passed from one machine to the next. None of the individuals possess this "memory" for very long: these "memories" only exist as they are passed from one machine to the next, constantly mutating and transforming during the process.

The installation documented on this video utilizes 10 separate pieces: 8 of the Scratch Study #1: Moths installed on the walls, and two of the larger Scratch Study #3: Mitosis installed in the center of the room. These works can be installed in various configurations, and this one was specific to the space at the Block Museum of Art. For the "scratchers to imitate each other, a minimum of two pieces must be installed at once. So, installations of this work might range from a pair of smaller wall pieces taking up a short segment of a gallery wall on the smallest side, to large immersive room-size installations.

Obviously, in addition to the sounds they produce, each of these works also has strong kinetic and visual elements as well. For instance, in *Scratch Study #3*, one of the works in the Block Installation documented on the video, two large 4' x 4' plates sit on the floor side-by side, each with a stepper motor in the center of the plate attached to a long gangly wire snaking up and then back down to the plate. As the motor jumps forward and backward, the wire skitters across the plate, gradually scratching a circular mark into the steel plate through time.

The Night Sounds (2000)

The Night Sounds consists of four corrugated metal water buckets, each approximately half-full of water, which are suspended from the ceiling by piano wire. The buckets are each placed in the corner of an 8' to 12' square space in the room. Attached to the top of each is a length of piano wire whose tension is supplied by the weight of the bucket, and is regulated by the amount of water in the bucket. Striking the piano wire is a thin cord attached to a small motor, which strikes the string once every revolution of the motor. A micro-controller controls the acceleration/deceleration and overall speed of each motor independently. The speed of the motors varies widely, from only a few revolutions per second (simple ticks) to several thousand revolutions per second (in the audio range, causing complex interference patterns between the frequency of the motor and the resonant frequency of the piano wire). The buckets themselves serve as a "sounding board" to amplify and radiate the sounds.

The sounds produced are designed to "coexist" with other environmental sounds in the gallery, and thus the piece does not require complete isolation (but a reasonably quiet location is best). The patterns of the piece as well as the nature of the sounds is modeled after crickets and cicadas found in the Midwest, both here in Chicago, where I now live, and also in Western Pennsylvania where I grew up. In both these locations, these sounds are ever-present in the summer, literally at times taking over the entire landscape with their sonic intensity. The means of sound production in this piece is, for me, highly organic, and extremely spatial in nature, with the metal buckets themselves serving as the resonators and sounding boards for all the sounds produced. These water buckets also reference my childhood days of farm life, where buckets just like these were hung from the rafters of barns to catch leaking water.

Wire Field (1997)

Wire Field was installed at the Turun Taidemuseon, Turku, FINLAND, from June 1 to Aug. 24, 1997. In this installation, 32 sets of piano wires were strung from wall-to-wall within a gallery space roughly seven feet above the ground, in 16 paired sets. The wires, which are arranged to fill the entire space and are tuned specifically to it, are struck by small motors spaced throughout the gallery. Each motors is activated by a computer program which monitors and reacts to the sounds inside the gallery as well as to the actions of the other motors throughout the space. In addition, microphones are placed outside of the gallery to monitor the environmental sounds from outside, in this case sounds from the surrounding garden.

The computer program in this work operates in a manner similar to a biological or ecological system, where each single sound is produced as a reaction to those sounds produced in the space

immediately around it, as well as by other sounds in the gallery. While the rules of behavior for each string are quite simple, in combination these 32 strings, each sensitive to several of its immediate neighbors, create a complex and delicate system of interdependencies which is intended as a direct analogy to natural systems found in the environment around us. In fact, the complex interrelations contained within this system make it impossible to predict - even for the artist - exactly the full range of responses and "sonic environments" which will emerge from the system over time.

Shawn Decker - Artistic Statement

Initially educated as a composer of both instrumental and computer-generated music, my work has gradually evolved from primarily performance and tape-based music composition to installations intended for galleries or other spaces, as well as to interactive performance works which make use of a variety of electronic media. My current work, which involves a variety of physical and electronic media, is positioned at the intersection of music composition, the visual arts, and performance.

In my most recent work, I have become increasingly interested in the processes found in nature and in other large and complex systems, and the potential of computer programs to model or simulate such systems within time-based artworks. Within my most recent interactive installations and performances, patterns of behavior are fixed and defined only by the algorithmic process specified within the computer program embedded within the micro-controller which is part of each work. These algorithmic processes are designed to simulate *the manner of operation* of physical and natural systems. This ongoing investigation of computer-mediated processes - both as a means of producing work, and more recently as the form of the work itself - has been central to my interest in the use of computers for creative purposes.

I have also recently become increasing dissatisfied with the electronic production of sound via speakers and have been investigating the use of mechanical and other "direct" sound production techniques that may be controlled by a computer program. These techniques include the use of small motors to strike metal objects, piano wires, etc. and are often kinetic in nature. Due to the physical nature of these works the distinctions between sonic, visual, and spatial elements begin to blur.

The use of simple mechanical devices such as surplus motors, inexpensive piezoelectric speakers, etc. also certainly has a modestly subversive anti-high-tech element to it that pervades my entire aesthetic. Rather than being interested in creating complex "high tech" systems (for instance, complex robotic systems) I instead focus on the complexity of interactions between many simple, even common, machines. In other words, I am interested in building robotic systems in an environmental /sociological manner.

Recent exhibitions include Klosterstrasse/Berlin sponsored by the city of Berlin, ISEA2002 in Nagoya, Japan, CADE 2001 in Glasgow, Scotland, ISEA2000 in Paris, and the MAXIS festival in Sheffield, UK, the Brussels 2000 and Helsinki 2000 cultural capital exhibitions, Malmö, Sweden, and the CAC exhibition at Art Chicago, 2001. I am also a visiting artist this November, presenting on my work as part of the Wexner Center's "Future Technology; Media Arts and Culture Colloquium" series.

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Shawn Decker Rockefeller Foundation New Media Fellowship – Project Narrative

WHY (& HOW) I MAKE INSTALLATIONS

Investigation of the human role in the physical world is an ongoing interest of mine, including the subtle ways in which technology is changing both our understanding and perception of our environment. As an installation artist, my work has been greatly influenced by the ideas of R. M. Schafer (author of Tuning the World) and others who have explored the ways in which technology has affected, and mostly diminished, the richness of the aural aspects of the world around us. Like Schafer, I believe that the overwhelming presence of recorded media (both video and audio)—in conjunction with the introduction of a host of other post-mechanical and electrical revolution sounds into our environment—has greatly desensitized us to the subtle and complex systems of interrelationships and causalities found in nature. One goal of my installations, following the tradition of John Cage, David Tudor and other American experimentalists, is to alert people to their immediate and specific environment—to help people to pay more attention to the minutia of the physical and cultural world around them, listening and watching carefully and thoughtfully.

As my artist statement discusses, one strategy I use to create a less mediated experience within my installations is to avoid all electronic "media" (i.e. video and audio playback) in favor of installations composed largely of sounds and actions produced by simple mechanical devices. These are hybrid systems, in which custom-programmed micro-controllers (small single chip computers used in industrial control, robotics, and other applications) are each physically attached to, and control, one mechanical element within an installation. Many sets of these computer program/mechanical element pairs are interconnected within each piece, with each separate pair reacting to the others in the installation, and also potentially to the surrounding environment.

Each of these mechanisms is programmed with a set of possible responses to the other elements of the installation. These rules, which incorporate indeterminacy, 1/f noise, Brownian noise, and other patterns taken straight from nature, create a complex system of interrelationships between the individual

devices. I do all the programming myself—these computer programs control the entire installation's behavior and are thus an important part of the work. The merging of the kinetic, aural, and visual in these immersive works, creates a language of actions, relationships, and complex causalities.

Having grown up in the country (northwestern Pennsylvania), I still find myself drawn to those rhythms, sounds, and motions found in the natural world in the minutia of everyday life. The interaction of the complex systems I create in my work behave in unpredictable and complex ways, resembling the "emergent behavior" observed in a wide range of natural environments and phenomena, as well as many "sociological" systems of interaction between humans as well. In my sound installations, I am obviously not interested in creating systems with repeatable interactions and simple causalities. For example, my works are not interactive in the sense that you wave a hand or step into a sensor's zone and get a repeatable, reaction from the work. Rather, the relationship I am after is more akin to the subtle and complex ways in which our presence in a living environment triggers complex changes which may not be fully understood, and are not always same, but which nonetheless focus our attention on the subtleties and richness of our environment.

DESCRIPTION OF PROPOSED WORK

I have conceived a large installation project (the working title is *A Small Migration*) that is a direct extension of the earlier work described above and shown on my videotape. This project extends both the scale and complexity of my previous installations, as well as the nature and complexity of the interaction with viewers, while continuing my work with hybrid physical/computational systems. Please refer to the attached diagram while reading this physical description.

A Small Migration consists of many piano wires strung roughly 8 or 9 feet above the ground across an open gallery or public space. The wires are attached directly to the gallery walls with tuning blocks, so that the walls of the gallery then act as a "sounding board" for the piece. Wires are stung in pairs, so that they are parallel, and roughly 3 inches apart, and as long as 30 or 40 feet (depending on the space available). This pairing of wires allows small motors placed along the length of each wire

(dividing the wire into two or three segments) to tap the adjacent wire with a striker attached to the shaft of the motor, causing sound. Each motor is sent a series of short electrical pulses by the microcontroller, causing it to strike the wire, which creates a disturbance that generates sound and also visibly shaking the wire. The rhythmic patterns used are those found in nature, and are constantly accelerating and decelerating. The installation will contain a great many wires (variable given the space) and a great many motors (2 or three per wire)—minimum numbers would be 64 wires (32 pairs), and thus 180-200 motors.

Additionally, each segment of these strings would be "prepared" in some way, in the manner of John Cage's "prepared piano" technique. This technique calls for attaching nuts, bolts, bits of felt, etc., to the strings in a piano, vastly enriching the available sounds. Applied in this context, these preparations would enhance both the variety of sounds produced by the work as well as the installation's dynamic and visual effect. For instance, a small metal nut hanging on the wire might dance along the wire, rattling each time the wire is struck. The sounds which will be produced are of a diverse nature, as likely to be muted "clunks" and buzzes as they are pitched sounds. While each sound is fairly quiet and subtle, the combined effect of literally hundreds of sources will be a considerable field of sound.

The entire network of motors will be controlled by small individual microcontrollers, each programmed with a set of simple rules for interaction with each of the other elements. Each of the microcontrollers will also have a sensor attached that can detect the presence of people or things in the space around it. Each will also be programmed with rules for reacting to these "intrusions". The rules for interaction will treat people in the space in very much the same manner that each of the motorized "wire strikers" in the environment are programmed to react to each other. Thus, when a viewer enters A Small Migration, they will cause a small local disturbance via the immediate reaction of the motor elements near them, but more importantly, this disturbance will ripple outward throughout the piece, unpredictably modifying the behavior of the entire space. Visitors' movements within the space will continue to modulate an event already in progress after their initial "disturbance" of the system.

FELLOWSHIP USE

In my work, I rely on physical simplicity and the use of industrial components to create reliable works which function without much service or intervention. While the individual components don't cost too much, the design and research involved in extending my techniques is significant in both time and expense. Thus, one major use of the fellowship would be to extend my normal sabbatical with extra release-time to a full year. Areas for research include increasing environmental sensing capabilities, allowing more precise detection and interaction with viewers, and improving the networking between the various individual components, allowing more sophisticated interaction and interrelationships.

Research in each of these areas greatly enhances my ability to use literally hundreds of these elements in a single installation. The research and development I am proposing for *A Small Migration* would clearly also allow me to apply these same extensions to other physical techniques as well, for instance the mechanical/robotic "scratchers" in *Scratch Studies* (see video). Another key budget item is the rental support for a larger studio space, which would allow me to experiment directly with these works in a appropriate space, and would also allow me to show curators and public space managers the actual work in the studio, rather than relying on diagrams.

FEASIBILITY/USE OF WORK

I have had significant interest in my work from a number of institutions both in the US and in Europe, where I have recently exhibited quite frequently and have shown works of a similar nature. I have proven my ability to do work such as this in a professional manner through a large number of exhibitions (see my C-V for details). As all the research, development, construction, and programming needed for my installations is done directly by me, I am confident of my abilities to extend my techniques and realize this work. In addition to showing this work within gallery venues as my previous work has been shown, I am also very interested in installing this work within public venues as well, and have done a number of public installations already. Increasing both the scale and robustness of my installations should make this work even more attractive for these public venues as well.

Shawn Decker - Rockefeller Fellowship Application

Budget

release time	\$13,500.00
rent for larger studio – 12 months @ \$500.	\$6,000.00
motors and motor drivers	\$600.00
sensors and related circuitry	\$1,800.00
microcontrollers and related components	\$1,600.00
misc. electronic components	\$2,000.00
fabrication of circuit boards, etc.	\$1,500.00
fabrication of mechanical elements	\$2,500.00
piano wire, and other misc. hardware	\$500.00
new microcontroller programming system	\$5,000.00
	\$35,000.00

Narrative:

Release time: This item is the amount needed to extend my regular 6 month sabbatical for my teaching position at the School of the Art Institute of Chicago to a full year. Because I develop all my work directly, doing all assembly, research and development, construction, and programming, *time* is the critical element for me in developing new works.

Larger Studio: This amount would allow me to rent a studio large enough to accommodate the scale of the proposed project.

Motors, Sensors, Micro-controllers, Fabrication, etc.: These items are for the physical elements use to make my work. These budgets reflect not only the specific components used in the work, but also those components needed for researching and developing new systems for sensing the environment around the installation, for networking the various motors together, etc.

Fabrication of Circuit Boards and Mechanical Elements: These items are for fabricators that I use for making industrial grade circuit boards and mechanical components necessary in constructing the work.

Micro-Controller Programmer upgrade: This item is for the purchase of a new micro-controller programming station, (a PC laptop with specialized attached hardware) updating my current (older) benchtop programming system in order to allow me to program works within galleries, public spaces, and generally allow more flexibility, speed, and compatibility with newer micro-controllers.

Shawn L. Decker

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EDUCATION

1987 Doctor of Music, music theory and composition, Northwestern University.

1982 Master of Music, music theory and composition, Northwestern University.

1981 Bachelor of Music, music composition, Oberlin College Conservatory of Music. Minor in

mathematics.

PROFESSIONAL EXPERIENCE

1991-present Associate Professor, School of the Art Institute of Chicago: Art and Technology and

Sound departments. Teach courses in experimental applications of computers to art, sound and music composition, acoustics, sound synthesis, media installation, computer programming, etc. Chair of Art

and Technology department, 1994-97.

1988-91 Visiting Artist, School of the Art Institute of Chicago: 1990-91: Full-time Visiting

Artist, Chairman of the Sound Department. 88-90: part-time visiting artist. Taught courses in beginning and advanced digital sound, sound synthesis and production techniques, computer

applications in music composition, and acoustics.

1982-88 Assistant Director of Operations, Northwestern Computer Music Studio,

Northwestern University: Coauthored grants and other fund raising materials which raised over one million dollars to support the studio's activities. Designed and implemented the primary sound generation and music software for the studio. Coordinated the development and usage of computer music systems by composers, musicians, and researchers, and was responsible for developing the principal music software used at the studio. Wrote and published articles and papers on this work. Composed and produced numerous music compositions and soundtracks for a variety of media. Coordinated and performed music and sound production work, including work done for the CBS

"Twilight Zone" television series.

1982-1985,

1988 Instructor in Music Theory and Composition, Northwestern University: Taught

graduate level courses in computer sound synthesis, computer-aided music composition, computer programming and MIDI production techniques, and undergraduate courses in aural skills. Was responsible for assembling studios for large-system computer music work, as well as for personal computer-based MIDI music production. Wrote various grants and received thousands of dollars worth

of equipment and software donations from numerous corporations in support of these studios.

1984-90 Member of the new music ensemble KAPTURE: Composed for and performed in dozens of

performances by the ensemble both as a composer and as a performer. Assisted in the production of self-produced sound recordings. Also served on the board of directors, and performed administrative

duties such as fundraising and public-relations.

SELECTED GRANTS, AWARDS and COMMISSIONS

2002	Illinois Govenor's International Arts Exchange Program, August, 2002
	Ragdale Foundation Fellowship and Residency, June, 2002
2001	Ragdale Foundation Fellowship and Residency, August, 2001
2000	Illinois Arts Council Individual Artist Fellowship (Interdisciplinary Arts category)
	Evanston Arts Council Individual Artist Project Grant
	First Prize, A4 Arnheim Architectural Award, Arnheim, NETHERLANDS. A collaborative computer animation with Joshua Mosley and Steve Waldeck for a proposal of a sound-light installation for the Atlanta Airport (this project is currently one of three finalists for this commission).
	Ragdale Foundation Fellowship and Residency, June, 2000
1999	Illinois Arts Council Individual Artist Finalist Award (Interdisciplinary Arts catagory)
1998	Commissioned permanent architectural sound installation, Kiipula, FINLAND.
1997	Named one of 15 "Chicagoans of the Year" in the Arts by the Chicago Tribune for 1997.
	2 week Residency in Turku and Helsinki FINLAND, sponsored by Chicago Artists International Program, the Turun taidemuseon, Turku and the Nykytaiteen museo, Helsinki. June and July, 97
1996	Chicago Artists International Program sponsorship, Oct. 96
	Ragdale Foundation fellowship and residency, June, 96
1995	Faculty enrichment grant, School of the Art Institute of Chicago, to support ongoing work.
1993	Illinois Arts Council Special Project grant to begin work on a piece utilizing field recordings of birdsongs.
	Ruth Page Award Nomination (Collaborative Artist) for the interactive live electronic score for Shirley Mordine's "Truth Spin".
	Faculty enrichment grant from the School of the Art Institute of Chicago to support ongoing compositional work utilizing field-recordings of birdsongs
1992	Commissioned by the Mordine and Company dance ensemble to write a interactive live electronic score for a new work. The piece "Truth Spin" premiered in spring 1993.
1991	Commission for a new work from the Chicago Saxophone Quartet, which was premiered in the winter of 1991.
1989	Chicago Access Network CAN award for "Best Music Video" with Annette Barbier for the collaborative video "My Country."

(SELECTED GRANTS, AWARDS and COMMISSIONS, continued)

1988 "Exchange", a week long sound and visual installation for the Lobby of the 440 S. LaSalle St.

building (which houses the Chicago Commodities Exchange), was commissioned by "One Financial Place" and the LaSalle Club in conjunction with the New Music Chicago Spring Festival '88. The

opening of the piece was featured in a live WFMT broadcast.

Received thousands of dollars in equipment support from corporations in support of music studios at Northwestern University. Donors included Opcode, Dr. T's, Mark of the Unicorn, Passport, Digidesign,

and others.

1987 "Wet Grass", a music and multi-image piece, was commissioned by Triton College as part of their

"State of the Arts" festival.

Illinois Arts Council Individual Artists Fellowship Award.

Grant from the System Development Foundation, with Gary Kendall and William Martens, for

continuing support of the Northwestern University Computer Music Studio. \$297,000.

Grant from the System Development Foundation, with Gary Kendall and William Martens, for support

of research and to expand the computer music studio at Northwestern University \$892,835.

INSTALLATIONS, MULTIMEDIA WORKS, CONCERT MUSIC, AND TAPE MUSIC

Installations and Performances

Klosterstrasse/Berlin – Site Specific installation at the ruins of a 12thcentury Church in the heart of Berlin (the oldest remaining building in Berlin). This site is used as a site-specific Sculpture park and is run by the City of Berlin. In this piece I hung small speakers throughout a tree in the church ruins, and created a canopy of smany mall sounds distributed at many points around the listener – these sounds were made up by "morphing" human whispers with various insect sounds.

Flight Paths – An accepted proposal with artist Steve Waldeck and Greg Mowery for a large (8000 sq. ft.) sound/light installation for Atlanta's *Hartfield Airport*. Installation date to be determined.

Scratch Studies – A series of networked electro-mechanical pieces using micro-controllers to control motors which scratch the surfaces of various sized metal plates (ranging from small wall-mounted works, to very largeand heavy floor pieces), scoring and marking the plates, and creating scratching sounds which are a study in natural rhythms and imitation, algorithmically produced. The first installation of these work was at the newly expanded *Block Muscum of Art* on Northwestern University's campus in Evanston, IL. Sept. 20 – Dec. 12, 2000

Worldwide Chocolate Heart Project. A sound Installation done in collaboration with Finnish artist Jan-Erik Andersson as part of Brussels 2000, Centrum Bruxelles, in Brussels, BELGIUM, and also exhibited as part of Helsinki 2000 (both installations are linked by Internet) in Helsinki, FINLAND at the Lasipalatsi Media Centre. (Sept. 1 - Sept. 30 2000) as well as in Malmö Sweden in March, 2002.

A History of Our Breathing. A collaborative piece with Kristine Thompson. This work used fans arranged in a semicircle, whose speed was controlled to reflect a history of our breathing patterns over a period of a week. The speed of the fans ranged from barely moving to myogin quickly, and reflected a sense of the rhythm of human breathing.

Desert Travels #3 - A "performative Installation" which was performed as part of the *Sound Field 2000* festival of experimental music and sound art in Chicago. This performance uses custom built motorized string instruments that completely surround the audience and are controlled via a single laptop computer (centered within the audience) to create a sound environment that is entirely "acoustic" and immersive. (2000).

(Installations and performances - cont.)

The Night Sounds - . This work consists of four buckets that are each hung from the ceiling, suspended by piano wire. A microcontroller controls the speed of 4 motors attached to each string creating constantly changing rhythmic patterns modeled after crickets and cicadas found in the midwest. (1999)

Kiipalo Puutarhaoppilaitos - A comissioned permanent sound installation which is installed in a WinterGarden in a Horticultural school in Kiipalo, Finland. The installation will use more than a dozen channels of environmental audio all recorded in the immediate area. "Idealized" short segments of sound are stored digitally and randomly combined via 8 loudspeakers to create a constantly changing fabric of natural sound.

Wire Field - This work consists of a set of 32 piano wires strung within a gallery which are tuned specifically to the space. The motors are activated by a computer program which monitors and reacts to the sounds inside the gallery as well as the surrounding outdoor environment. The program operates in a manner similar to biological and other natural systems creating a system of interdependencies direct analogous to the natural systems around us.

Music from the Well-Fed Abyss - A sound performance done in collaboration with Jan-Erik Andersson which utilizes primarily the sounds of eating and digestion (picked up with special audio equipment) both live and from recorded sources.

Divided Circle - an electro-mechanical sound sculpture/installation which consists of two large metallic semi-circles with steel pelements which are "spun" by motors to produce sounds. The entire piece is activated by a small microprocessor which incorporates rhythmic and spatial sequences based on bird-song and on "cyclical" Indonesian Gamelan patterns. (1994).

Exchange - an ambient sound and visual installation with visual artist John Boesche which ran continuously for one week at the One Financial Place Main Lobby (home of the Midwest Commodities Exchange), Chicago IL, , spring 1988. The opening of the installation was broadcast over WFMT in a special noontime live broadcast in conjunction with the New Music Chicago Spring Festival '88

Multi-media Works

Soundmap - a multimedia piece for the WWW which was premiered in the Maine New Media exhibition during the fall of 2001, as part of the Boston Cyberfest.

Last Friday Night - a multimedia piece for CDROM / WWW which was created for Annette Barbiers collaborative artists project "Home": works by various artists exploring the idea of home. This work is a sound and visual landscape of a quiet night in the Pennsylvania Mountains where I grew up. (2000) This piece was first shown at the International Symposium of Electronic Art 2000, in Paris, FRANCE

Concert Works (all pieces BMI)

Desert Travels #3 (home made string instruments, laptop, electronics), 2001

Desert Travels #2 (live electronics / laptop/ custom string instrument), 2000

Truth Spin Suite (tape or live performance), 1995

Desert Travels #1 (Bass Clarinet and electronic percussion), 1992

Wishing for the War to Cease (Saxophone Quartet), 1991

Rising Song (synthesizer, electronic percussion, sax, guitar, voice), 1990

Quartet. (synthesizer, electronic percussion, sax, guitar), 1988

(Concert works - cont.)

Northern Migration (tape), 1987

Wet Grass (tape), 1987

Nightbreak (vocals, keyboards, sax, clarinet, and vibes), 1986

A Vague History of Light (brass ensemble), 1986

My Country (2 synthesizers, marimba and computer controlled synthesizers), 1986

Movement Music (Violin and computer generated tape), 1984

Construction with Plains and Curves (tape), 1982

Music for Dance

Truth Spin - a 25 minute interactive electronic score commissioned by Mordine and Co. Dance Theatre. Light Sensors on stage were triggered by dancers to trigger an entirely "live" electronic score generated using a computer. This work received many performances in the Chicago area. 1993-94 and is being scheduled to tour abroad in 94-96.

SELECTED GALLERY SHOWINGS, PERFORMANCES, AND BROADCASTS

Gallery Showings, Installations, and Performances

Klosterstrasse/Berlin, site-specific installation, Klosterstrasse, Berlin, GERMANY, 2002

Scratch Studies, electro-mechanical installation

ISEA2002, Nagoya JAPAN, October, 2002 CADE2001, Glasgow, UK, May, 20001 Block Museum of Art, Northwestern University, Evanston, IL, Sep. 2000

Flight Paths – An accepted proposal with artist Steve Waldeck and Greg Mowery for a large (8000 sq. ft.) sound/light installation for Atlanta's Hartfield Airport. Installations date to be determined.

World-Wide Chocolate Heart, collaborative network installation with Jan-Erik Andersson.

Galleri 21, Malmö, SWEDEN, March, 2001

Brussels 2000: Centrum Bruxelles, in Brussels, BELGIUM,

Helsinki 2000 Lasipalatsi Media Centre in Helsinki, FINLAND (Sept. 1 - Sept. 30 2000)

(both these installations are linked by Internet)

Last Friday Night, multimedia and WWW work, included in Annette Barbier and Drew Brownings *Home* project, a virtual exhibition featuring various artists dealing with the subject of "home".

Block Museum of Art, Northwestern University, Evanston, IL, Sep. 2001 Gallery for New Media, Sao Paulo, BRAZIL, Oct. 2000 International Symposium on Eelectronic Art 2000: Forum des Images, Paris FRANCE, Dec. 2000

(selected gallery showings and performances, continued)

Soundmap - a multimedia piece for the WWW which was premiered in the Maine New Media exhibition during the fall of 2001, as part of the Boston Cyberfest.

The Night Sounds, electro-mechanical sound installation

ISEA 2002, Nagoya, JAPAN, October 2002

CADE2001, Glasgow, UK, May 2001

Betty Rymer Gallery, Chicago, IL, Nov. 2 1999- Jan 5, 2000

Ukrainian Institute of Modern Art, Chicago, IL as part of the group show Second Nature, May 9 - June 27, 1999

Desert Travels #3 - performative electro-mechanical installation

Sound Field 2000, Chicago, Oct. 1997

Global Body, participant in collaborative multi-media event organized by Jill Scott

ZKM, Center for Art and Media, Karlsruhe, GERMANY, Oct. 1997

Wire Field, electro-mechanical sound installation

Turun Taidemuseon, Turku, FINLAND, June 1 - Aug. 24, 1997 (12 weeks).

Music From The Well-Fed Abyss, installation/performance collaboration with artist Jan-Erik Andersson

Nykytaiteen museo, Helsinki, FINLAND, June 8, 1997
N.A.M.E. Gallery, Chicago, Nov. 7, 1997
upcoming installation and performance, Retretti Art Center, FINLAND, June, 2001

Divided Circle: Music for 16 Stirrers, electro-mechanical sound installation

Slusser Gallery, University of Michigan, Ann Arbor, MI as part of the Close Listening group show, Nov-Dec 2001 San Fransisco State University Museum, San Fransisco, CA as part of Sinusoidal group show. Feb-Mar, 1999 Rockford Art Center, Rockford, IL, Feb 1998-March 1998 (10 weeks)

Chicago Cultural Center, Sep 19-Nov. 9, 1997, (7 weeks), as part of F(x) group show.

Randolph St. Gallery, Chicago, Oct. 1996 (1 week)

Chicago Filmakers, October of 1994 (6 weeks), as part of the "Light, Space, and Time" show.

My Country, music video installation (collaboration with video artist Annette Barbier)

Artists Space gallery, New York, spring 1990.

Museum of Moving Image, New York, featured at a show of the same name, summer 1990.

Concert performances (all pieces BMI)

Truth Spin, collaboration with Mordine Dance Theatre: live electronics, using light sensors triggered by dancers

Evanston First Night, Evanston IL, 12/31/96

Harold Washington Library Theatre, "Chicago Dances" series, 4/7 - 4/9, 1994

Columbia College Dance Center, 11/19 - 11/20, 1994

Chicago Cultural Center, AIC benefit performance, 1994

Columbia College Dance Center, 5/6 - 5/15, 1993

International Parliament of Religions meeting, Chicago, 1993

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(concerts - continued)
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Desert Travels #2 (Live Electronics / homemade instruments), 1998

The Cliffdwellers, Chicago, IL, 1998 Art Institute of Chicago, 1998

Truth Spin Suite (tape/live electronics)

Lunar Cafe, Chicago, Sept. 27, 1996 University of South Carolina Computer Music Festival, April 12, 1995

Desert Travels #1 (Bass Clarinet and electronic percussion), 1992

Art Institute of Chicago, 1992

Wishing for the War to Cease (Saxophone Quartet), 1991

Curtis Hall, Chicago IL, 7/94
Harper College, Palatine IL, 8/93
Rossini Theatre, Pesaro ITALY, 10/92
St. Mary's College, Winoma MN, 3/92
Unity Church, Oak Park, IL, 2/92
Paine College, Augusta, GA, 11/91
Georgia State University, Atlanta GA, 11/91
LaGrange College, LaGrange GA, 11/91
Praire Performing Arts Center, Racine WI, 5/91

My Country (2 synthesizers, marimba and computer-controlled synth.), 1986:

USArts festival, Akademie der Künste, Berlin, GERMANY, 5/93
New Music Chicago Spring Festival '87, Curtis Hall, Chicago, 4/87
Triton College "State of the Arts" Festival, River Grove, IL 4/87
Univ. of Illinois Circle Center series, Chicago, 10/86
Links Hall performance series, Chicago, 1/86
Pick-Staiger Concert Hall, Evanston, IL, 2/86
Cernan Space Center, River Grove, IL 5/85-7/85
N.A.M.E. Gallery "Performorama Series", Chicago, 3/85

Rising Song (synthesizer, guitar, bass, electronic percussion, voice, sax), 1990

Edge of the Looking Glass, Chicago, 1990 Univ. of Ohio, Bowling Green, Ohio, 1990

Quartet (synthesizer, electronic percussion, sax, guitar), 1988:

Satori Gallery, Chicago, 6/88 Madison Arts Center, Madison Wisconsin, 1989

Wet Grass (for tape); from a multi-media piece of the same name, 1987:

Kapture concerts at *Links Hall*, *Grace Place*, and *N.A.M.E Gallery*, Chicago, 7/87 *Triton College* "State of the Arts" Festival, River Grove, IL 4/87

A Vague History of Light (brass ensemble), 1986:

Pitzen Brass Ensemble, 1986 concert series, St. Luke's Church, Evanston, 6/86

Movement Music (Violin and computer generated tape), 1984:

Moming Dance and Arts Center, Chicago, 7/85 and 1/87

N.A.M.E. Gallery, Chicago, 6/85

New Music Chicago Spring Festival '85, Chicago Public Library Cultural Center, 4/85

N.A.M.E. Gallery, 6/85

"Three Chicago Composers in Concert", presented by N.A.M.E. gallery, Chicago, 12/84

Nightbreak (vocals, keyboards, sax, clarinet, and vibes), 1983/86:

Univ. of Illinois Circle Center series, Chicago, 10/86

Artemesia Gallery, Chicago, 6/84

New Music Chicago Spring Festival '83, Chicago Public Library Cultural Center, 4/83

Construction with Plains and Curves. (computer generated tape), 1982:

Krannert Center for the Performing Arts, Urbana, IL 12/86.

"Three Chicago Composers in Concert", presented by N.A.M.E. gallery, Chicago, 12/84

Museum of Science and Industry Centennial Concert, Chicago, 8/83

New Music America '82 festival, Installation in Monroe street garage, Chicago, 7/82

Full-length performances

"Works by Shawn Decker" - A full-length concert presented at *Pick-Staiger Concert Hall*, Evanston, IL 5/86. which received city-wide attention, including a Chicago Tribune preview article.

Television Broadcasts

- PBS Broadcast of the Annette Barbier video "Woman's Movements", in 1990
- PBS broadcast of "My Country" (collaboration with video artist Annette Barbier), in 1989 and 1990
- PBS and Learning Channel broadcasts of Annette Barbier's "Table of Silence" video (soundtrack), spring/summer 1988.
- WTTW Chicago broadcasts of "Louis Sullivan, the Function of Ornament" (soundtrack) 1987, 1988

Radio Broadcasts

- Swedish Public Radio Broadcast of interview, sound recordings from "Wire Field", 6/97
- WNIB, WNUR and other local and nationwide broadcasts of a program on "Computer Music in Chicago" I produced for the Experimental Sound Studio's series "Sounds from Chicago", which included the piece "Wet Grass". 1990
- WFMT live Chicago broadcast of Exchange sound and visual installation (with interview) at 1 Financial Place, Chicago, IL. 4/88
- NPR broadcast of music from Cranston-Csuri, as part of a segment of "Morning Edition".
- NPR broadcast of "Nightbreak" on the "USA Ear" new music program, Fall 1985

(radio broadcasts - continued)

- New Music FM series broadcast of "Construction with Plains and Curves", a joint nationwide satellite broadcast by NPR radio stations in Chicago, New York, San Francisco, Minneapolis, Washington DC, and other NPR affiliates. The broadcast was also aired on various European stations via the European Broadcast System. beg. 9/83.
- WFMT Chicago broadcast of "Movement Music", 4/85 and 11/85.
- WFMT Chicago broadcast of "A Vague History of Light", 4/87.
- NPR affiliate WBEZ Chicago broadcast of "Movement Music", 4/85

CURATED EXHIBITIONS

Paradise Lost? e-commerce and the web - an exhibition of on-line work I organized at School of the Art Institute of Chicago which challenges and subverts conventional uses of the WWW driven by e-commerce and other "practical" uses of the web. Betty Rymer Gallery, Chicago April 6-May 31, 2000

Reinventing the Box - an exhibition of new electronic media art by international artists which was co-curated with fiber and computer artist Ingrid Bachman, and was sponsored by the School of the Art Institute of Chicago and by the Goethe-Institut Chicago. This exhibition was presented in conjunction with the Eighth International Symposium on the Electronic Arts. Betty Rymer Gallery, Chicago Aug. 22 - Oct. 1, 1997

FILM AND VIDEO SOUNDTRACKS

Soundtrack for the Annette Barbier video "Women's Movements", seen on PBS and other broadcast networks.

Sound design and music for the Tom Finerty film, "Trust Me", which has won numerous film festival awards.

Collaborated with video artist Annette Barbier on the music video "My Country" which has been featured at the New York "Museum of the Moving Image" and "Artists Space" galleries, has been seen on PBS and other networks, and won the 1988 CAN award for "Best New Music Video".

Composed and produced soundtrack for the Chicago Historical Society's "Streets of Chicago" video, which has been on exhibit since late 1988.

Composed and produced soundtrack for the 7 minute video "Louis Sullivan, The Function of Ornament," produced for the Chicago Historical Society and Carson Pirie Scott & Co. (9/86).

PUBLICATIONS

Decker, S. Without Speakers, Recent Sound Installations, CADE 2001 proceedings

Guest editor and contributor to special YLEM issue on Sound Installation

Decker, S. "Digital Creativity Inside Out", Leonardo, in "Planetary Collegium", special issue, in publication, 1998

Preview of the Eigth Inernational Symposium on Electronic Art, Leonardo Digital Review, electronic journal, Aug. 1997.

Review of "Ear Magazine" in Leonardo Digital Review electronic journal Oct. 1994.

(publication - continued)

Kendall, Gary S., Martens, W. and Decker, S. "Spatial Reverberation: Discussion and Demonstration", in *Current Directions in Computer Music Research*, Max V. Mathews and John R. Pierce Eds., MIT Press, Cambridge, 1989

Decker, Shawn L., Kendall, Gary S., et. al. "A Modular Sound Synthesis Software Environment", *The Computer Music Journal*, Winter 1986.

Decker, Shawn L. and Kendall, Gary S. "A Unified Approach to the Editing of Time-Ordered Events." *Proceedings of the 1985 International Computer Music Conference*, Barry Truax ed., August 1985.

Roth, James M., Kendall, Gary S., and Decker, Shawn L. "A Network Sound System for UNIX." *Proceedings of the 1985 International Computer Music Conference*, Barry Truax ed., August 1985

Decker Shawn L. and Kendall, Gary S. "A Modular Approach to Sound Synthesis Software." *Proceedings of the 1984 International Computer Music Conference*, William Buxton ed., June 1985.

SELECTED PRESENTATIONS

Sound Installation without Speakers, presented CADE 2001, Glasgow Royal College of Art and Design

Sound Installation without Speakers, presented at the 2000 International Symposium on the Electronic Arts, Paris, FRANCE.

Visiting Artist, Northwestern University, Art and Technology program, Evanston, IL 2000

Invited Speaker, Ultimakonferansen, Ultima Contemporary Music Festival, Oslo, NORWAY, Oct. 1999

Visiting Artist, University of Michigan, School of Art, Ann Arbor, Michigan, Feb. 1999

Invited Visiting Artist, Univ. of Wisconsin. Madison, Inter Arts and Technology Dept., April, 1997

Presentation on the Art and Technology Dept., School of the Art Inst. of Chicago, to the International Symposium on the electronic Arts, Rotterdam, the NETHERLANDS, 1996

Digital Creativity Inside Out, presented at the 1996 International Symposium on the Electronic Arts, Rotterdam, the NETHERLANDS.

Session chair, panelist, and presenter in the Total Museum conference Oct. 25 & 26, sponsored by the Art Institute of Chicago Museum Education Dept.

Guest Artist, Roosevelt University Dept. of Music Theory and Composition, 1993

Presented invited lecture/demonstration to Apple Computer executives and employees on current and future personal computer music applications and systems. 1990

Invited lecture/demonstration of digital techniques for spatial sound processing presented to Walt Disney Studios, Burbank, CA. with Gary Kendall and William Martens 1986

(publications - continued)

Invited lecture "An Insider's look at MIDI systems", presented with Brian Schmidt at the University of Chicago's 2 week FM synthesis and MIDI seminar. 1986

A Unified Approach to the Editing of Time-Ordered Events. Presented to the 1985 International Computer Music Conference, Burnaby, B.C., CANADA. 1985

A Modular Approach to Sound Synthesis Software. Presented to the 1984 International Computer Music Conference, Paris, FRANCE, 1984

OTHER PROFESSIONAL ACTIVITIES AND SERVICE

Chair of the <u>Eighth International Symposium on the Electronic Arts</u>, (ISEA97) hosted by the School of the Art Institute of Chicago. This symposium of electronic art, music, literature, architecture, etc. was one of the largest and most important of it's kind held in North America to date, attracting over 1,000 attendees from 23 countries, and including a city-wide festival of electronic art shows and performances.

Board member of the Inter-Society of the Electronic Arts, 96-98

Worked closely with the Museum Education Department of the Art Institute of Chicago, the Goethe-Institut Chicago, and the Center for Art and Media (ZKM), Karlsruhe, GERMANY to organize The Total Museum, a conference which examined the role of electronic media in the "museum of the future."

Member of review panel for <u>Leonardo Digital Reviews</u>, on-line electronic journal published by Leonardo and MIT-Press, 94-present.

Member of 10 year program review panel, Interarts and Technology Program, University of Wisconsin, Madison.

MEDIA RECOGNITION

Interviews and Articles

- "A Virtual Renaissance: Five Chicagoans who are reframing the notion of Art", Karla Loring, <u>Chicago Tribune</u> <u>Magazine</u> cover story, 2/25/2001
- Editor's Choice for Paradise Lost? e-commerce and the web, Margaret Littman, Crain's Chicago Business, 4/2/2001
- "Chicagoans of the Year: Chicago's Finest, 15 people who have enriched the arts in 1997", Chicago Tribune arts section cover story, 12/97
- "Symposium plugging into electronic art", Bill Stamets, Chicago Sun Times, 9/97
- "International Conference Becomes a Citywide Festival of Electronic Arts", Alan Artner, Chicago Tribune, 9/97
- "ISEA97", in "Electronic Art Blows into Windy City", Reena Jana, <u>Wired</u>, 9/97"Digital Display, Electronic Symposium Takes Modern Art Off the Wall and Into the Future", Abigail Foerstner, <u>Chicago Tribune</u>, 9/97
- "ISEA97", Mathew Mirapaul, New York Times, arts@large, 9/97
- "Wire Field", Helsinki Sonomat, 6/97
- "Wire Field", Åbo Underrättelser, 6/97
- "Music from the Well-Fed Abyss", Helsinki Sonomat, 6/97
- "Wire Field", Ilona Kangas, Turku Sonomat, 6/97
- "Dancers Trigger Light Sensors", Beth Anderson-Song, Subnation, 4/94
- "Dance Notes: Motion makes the music", T. Shen, The Reader, 5/93
- "WFMT and New Music Chicago Receive Broadcast Awards", New Music Chicago in Print, 9/90
- "Chicago is Alive with sound of new music", Chicago Sun Times, 4/88
- "Festival Links New Music and Landmark Sites", Chicago Magazine, 4/88

(interviews and articles, continued)

- "Music Notes: A Celebration of Sites and Sounds", The Chicago Reader, 4/88
- "Halls are alive with the sound of new music", The Chicago Tribune, 4/88
- "Computer Composer takes his cues from Mathematics", concert preview article, Chicago Tribune, 5/86
- "At Northwestern, they're reshaping world of sound," feature cover article, Chicago Tribune., 4/86
- "Northwestern's Computer Music Studio," Illinois Entertainer. 2/86
- "NU's Computer Music Studio Takes Sound To The Twilight Zone and Beyond," Midwest MicroTimes. 1/86
- Performance preview, "Music Notes: local composers expose themselves", The Reader, 4/85
- "Strike up the Computer", Cover story, Arts section, Chicago Tribune, 8/83
- Radio interview on the nationwide NPR "USA Ear" new music program, Fall 1985
- Radio interview for the NPR morning news show "Morning Edition", Spring 1984
- Radio interview for WFMT's program, "Music in Chicago", Spring 1984
- Radio interview on the nationwide NPR program "NEW MUSIC FM", Fall 1983

Reviews

- "Reinventing the Box", in "Interactive Art that Leaves the PC Behind", Matthew Mirapaul, New York Times, arts@large
- "Reinventing the Box", in "Bytes and Pieces, Viewers are Active Participants in the World of Electronic Art", Alan Artner, Chicago Tribune, 9/97
- "Reinventing the Box", John Brunetti, Dialogue, 11/97
- "ISEA97" in "An Electronic Artist and his Body of Work", Mathew Mirrapaul, New York Times, arts@large, 9/97
- "ISEA97", Carol Burbank, Chicago Reader, 9/97"Divided Circle: Music for 16 Stirrers", Fred Camper, Chicago Reader, 9/97
- "Wire Field", Tuike Alitalo, Helsinki Sonomat, 6/97
- "Divided Circle: Music for 16 Stirrers" in Leonardo Digital Review, Annette Barbier and Paul Hertz, 10/97
- "Divided Circle: Music for 16 Stirrers" in The New Art Examiner, Sheri WIlls, 11/94
- "Truth Spin", Sid Smith, Chicago Tribune 4/94
- "Truth Spin", Terry Brenan, The Reader, 4/94
- "Truth Spin", R. Christiansen, Chicago Tribune. 5/93
- "Truth Spin" in "Too Close for Comfort", L. Molzahn, The Reader. 5/93
- "Quartet", in "Kapture", D. Perna, EAR Magazine, 4/90
- "My Country", in "Minimizing Minimalism", E. Johnson, Chicago Haymarket, 2/86
- "My Country", in "KAPTURE at Links Hall", R. Wilding-White, Chicago Musicale, 2/86
- "My Country", in "Computer Music of the Second Generation", K. Gann, The Reader. 2/86
- "Nightbreak", in "Polished Surfaces", K. Gann, The Reader, 6/84
- Mention of work in the Reader's "Year in Review 1983: Classical Music, Progress in Programming", K. Gann, 12/83
- "Nightbreak", in "Democratic Convention", K. Gann, The Reader, 4/83