

# **PULSE FIELD**

## **SoundScape III**

**REAL**

**~ and ~**

**IMAGINARY**

**Program by: Robert S. Thompson, Ph.D.  
December 2002**

# PULSE FIELD

## SoundScape III

### Disc I

#### **Rachel Holstead** (Ireland)

**Rachel Holstead** is from Co. Kerry in the south west of Ireland. She is currently a PhD student in composition at Queen's University, Belfast, where she studies with Dr. Michael Alcorn. Her music has been performed in concerts and festivals in Europe and the USA including the Sonorities Festival and the Florida Electroacoustic Music Festival. Rachel's output includes works for instruments and for electronic media. Previous studies include a BA (Hons.) in Music at Trinity College, Dublin, specializing in composition under the guidance of Kevin O' Connell and Donnacha Dennehy. Rachel has attended the Dartington International Summer School in the UK and has received several awards including the Clifford Parker Bursary (Dartington), a William and Betty McQuitty Travel Award and a travel award from the Arts Council of Ireland.

Rachel's first composition, *Cath Fionntrá* was heavily influenced by Irish traditional music. As she began more formal compositional training, first with Aidan O' Carroll at the Kerry School of Music and later with Kevin O' Connell and Donnacha Dennehy at Trinity College, Dublin, she began to move away from this folk-influenced style towards a more abstract expression. Her first introduction to electroacoustic composition came at the Ennis IMRO Composition Summer School where she studied with Martin O' Leary (1998) and Dr. Michael Alcorn (1999). Her current concerns centre around issues of structure and coherence above and beyond the implications of pitch. Rachel has a strong interest in creative education and has facilitated composition workshops in several schools in Northern Ireland. She is involved in an administrative capacity with the Sonorities Festival of Contemporary Music and the Belfast Festival at Queen's. Rachel Holstead is a member of the Association of Irish Composers and Sonic Arts Network.

#### **1) Rain Between the Showers**

**6:58 2001**

Completed in August 2001, the title refers to the weather patterns of the south west of Ireland. While the sound material sounds vaguely rain-like in places, the title refers more directly to the structure of the work. The language of the piece is one of gradual unfoldings and increases in tension where the contrast between semi-pitched sounds and more noisy material plays an important part. This is a largely monophonic work which focuses on the gestural qualities of the original source recordings. The piece reaches its most sustained climax in the fifth minute before giving way to a still coda which brings the work to a close. *Rain between the Showers* was premiered at the Belfast Festival at Queen's in October 2001 and received its US premiere at the 11<sup>th</sup> Florida Electroacoustic Music Festival in March 2002.

#### **Mario Verandi** (Argentina / Germany)

Mario Verandi (1960) is a composer and sound artist born in San Nicolas (Buenos Aires). He studied music in Argentina and later at the Phonos Studios in Barcelona. He continued his studies with Jonty Harrison at the University of Birmingham (UK) where he completed a PhD in Composition in 2000. While in Birmingham he was a member of BEAST (Birmingham Electroacoustic Music Theater).

His works have received a number of prizes and mentions in the Bourges International Electroacoustic Music Awards (France) in 1999, 1998 and 1996; Main Prize in the Musica Nova Awards (Prague) in 1996, Prize in the CIEJ Musics Electronics Awards '89 in Barcelona, Honorary Mention in the Prix Ars Electronica '97 in Linz and in the Stockholm Electronic Art Awards '97 .

In 1997 he was awarded a prize in the III International Competition on Radio Art in France which enabled him to undertake a residency at the Studios of La Muse en Circuit in Paris. He was selected to participate in The Exchange '96, a course for composers and choreographers held at the Royal Festival Hall as well as in the ICPCC98 (International Course for Professional Composers and Choreographers) held at Bretton Hall University. In 2000 he was a guest in the artists-in-Berlin programme of the DAAD (German Academic Exchange Service). In 2001 he was composer-in-residence at the cesare Studio de Creation Musicale in Reims, France.

Mario Verandi has received commissions from institutions such as the BBC (UK), Sonic Arts Network (UK), The Arts Council of England, DAAD (Germany), DeutschlandRadio Berlin, Sender Freies Berlin as well as from a number of dance companies and visual artists. His works are performed and broadcast worldwide and have been featured at various international festivals such as The 2001 Florida Electroacoustic Music Festival (USA), The Inventionen 2000 Festival in Berlin, ismc World Music Days '98 in Manchester, Festival Musica '97 in Strasbourg, The State of the Nation '97 in London, Rumours Concerts '98 and '97 in Birmingham (UK) and the Stockholm Electronic Music Festival '96.

In addition to composing, he has collaborated extensively with visual artists and choreographers in sound design for art installations, dance, theatre, film, and radio.

His music is available on several CD labels including EMF (Electronic Music Foundation) from New York.

As a composer and sound artist I have primarily been working with new technologies as an aid to exploring and expanding the boundaries of music and sound. A distinct characteristic of my work has been the exploration of the musical, poetic and evocative potential of concrete and environmental sounds and their incorporation into musical compositions including acoustic instruments and computer processed sounds. Most of my compositions explore the interplay between recognizable or familiar soundworlds and unfamiliar or abstract soundworlds originated through computer manipulations. (M.V.)

## **2) Plastic Water**

**8:00 2000**

The sounds used in this composition are recordings of water sounds and different improvisations that I played on a plastic bottle, squashing and crushing it in such a way as to produce different rhythmic sequences. Those original sounds were edited, processed, and combined with additional abstract material that was generated through spectral manipulations and time expansion / compression techniques. The sounds were then positioned and made to move through space using the Sigma 1 (APB Tools Berlin) System available at TU Studios Berlin. This is a stereo version of the original eight-channel piece, composed with the assistance of Folkmar Rein.

*Plastic Water* was produced at the Electroacoustic Music Studios in the Berlin !j Technical University. It was commissioned for the Klangwerkstatt 2000 Festival in Berlin and premiered at the Kfinstlerhaus Bethanien.

## **3) Faces and Intensities**

**1:20 1996**

"This work reveals its beginning and ending only as transient moments, without any sense of rest. The movements are slow and methodical. Sounds are constantly moving through space, continually multiplying, ceaselessly establishing connections between diverse gestures, elements, particles, and dimensions, a chain of varying speeds with accelerations, transformations, and changes in direction."

The preceding text was inspired by some concepts found in Deleuze and Guattari's *A Thousand Plateaux*. In this composition, the main sound sources were drops of water and other abstract sounds taken from previous compositions. Since my aim was to work only with abstract sounds, I processed the sounds extensively with a computer.

*Faces and Intensities* was composed at the Electroacoustic Music Studios in the University of Birmingham (UK) and premiered at the 1997 Rumours Concerts in Birmingham. It received a Main Prize at the Musica Nova 1996 Awards held in Prague and a Finalist Prize in the Bourges Electroacoustic Music Competition 1998, and it was later used in an audio-visual installation.

## **Pierre Thoma** (Switzerland)

Biography unavailable.

### **4) Le souterrain**

**35:54 2002**

2002, commission from the Archipel Festival, Geneve

Two big loudspeakers diffuse sounds of a city who are necessary for its daily running, but inaudible and unknown. All sounds are "natural", no any of them has been modified" All recorded subterranean. The sounds are those of sewerage system, hydraulic turbines, water pumping and garbage destruction .

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## SoundScape III

### Disc II

#### **Bruce Hamilton** (United States)

Bruce Hamilton holds degrees in Composition and Percussion from Indiana University, where he received the Performer's Certificate, the Dean's Prize in Composition and the Cole Porter Memorial Composition Scholarship. His music is published by Non Sequitur Music and can be heard on the SEAMUS and Mark labels. Hamilton has received honors, awards and commissions from ALEA III, AMC, ASCAP, PAS, ACF, Harlow Endowment, Carbondale Community Arts, National Society of Arts and Letters, Pittsburgh New Music Ensemble, Russolo-Pratella Foundation, and SEAMUS. Hamilton is currently a Professor of music theory and electroacoustic music at Western Washington University.

"I find comfort in the fact that music does not represent the corporeal world; curiously, I gravitate towards the physical and kinetic qualities of music in my work." (B.H.)

#### **1) reverie** for electric toothbrush, computer and recorded sounds **6:05 2002**

*reverie* (2002) was conceived in my bathroom. Let's start over. I've always been fascinated by drones, particularly from mechanical sources: a freezer, a propeller, a noisy fluorescent light, those big electrical utility transformer boxes (?) we played on when we were kids, etc. Often such sounds are quite rich, providing complex overtones and timbral shifts as one's proximity to the source changes, or as one's perception adapts to the nearly constant stream of sound. Many of us can be transported to different mental states when we focus on sounds in our environment; for me, mechanical drones serve as doorways to sonic daydreams. This piece grew naturally out of the aural wonders of the Sonicare PR-4 (Philips) toothbrush, which produces a two-minute C4 drone with Db5 beeps at 30-second intervals (pitches are approximate). The timbre of the toothbrush drone is altered as the user creates formant shifts and noise bursts through the simple act of brushing.

#### **2) Motto** **7:15 1998**

*Motto* was completed at the Indiana University Center for Electronic and Computer Music in 1998. The title refers to the motor rhythms (real or implied) which drive a few simple melodic ideas through a variety of sonic environments. Samples of marimbas, guitars, fireworks, thunder, bugs, birds, vehicles, jackhammers, and other sounds, were edited with Sound Designer, SoundHack, and the Kurzweil K2500. These sounds were sequenced using Digital Performer with effects from a Lexicon PCM 80. Additional processing and mixing were done with Pro Tools software. *Motto* was commissioned by the Society for Electro-Acoustic Music in the United States (SEAMUS) with funding provided by the American Society of Composers, Authors and Publishers (ASCAP).

#### **Erdem Helvacioğlu** (Turkey)

Erdem Helvacioğlu was born in 1975, Bursa, Turkey. His musical career started during his high school years by playing electric guitar. He was initially apart of many Istanbul-based rock and jazz bands. In time, he began to get more interested in electronic music and contemporary classical music. During his university years, he began to shape his own style in electroacoustical music.

His music is a combination of intriguing ambient electroacoustic textures, processed sounds of various Turkish instruments, and adventurous harmonies and programming of synthesizers. This original and inspirational style, has received very positive comments from highly accomplished composers of electroacoustic music, like *Peter Batchelor*, *Pete Stollery* and *Karlheinz Esslo*.

He has mainly worked with *Ken Valitsky*, whose compositions were played by *Kronos Quartet*, and well known American electroacoustic composers like *Pieter Snapper* and *Mark Wingate* at the Istanbul Technical University where he is still continuing his masters degree on composition and sound engineering.

Three of his pieces "*Nemrut*", "*Living in Istanbul*" and "*Journey to the broken dream*" have had their world premiers, in ITU concert hall, Istanbul. The piece "*Living in Istanbul*" was among the finalists of *Luigi Russolo Electroacoustic ..Competition 2001*. He got the 3rd prize for his composition "*Blank mirror*" at *Luigi Russolo Electroacoustic Competition in 2002*. In 2001 he received "*Best Performance Award*" in the 6th Roxy Music competition, with his electronic band HAZ.

In 2003, he is invited as one of the participants in 3 major festivals: *Essl Collection Sound Art Biennial, Vienna (curated by Karlheinz Essl)*, *11th Young Mediterranean Artists Athens Biennial, Greece ( organized by BJCEM)* , *1st Istanbul International Electronic Music Festival, Turkey (organized by IKSIV)*.

Among his other working areas are *theatre, film and other performing arts*. He has composed and produced numerous pieces of music, all of which have been used in various movies, plays, dance performances and installations. In the meantime, he is composing new pieces for *installations and video-art at biennials* as well as music for *chamber orchestras with tape and live processing*. He is a multi instrumentalist, playing guitar , keyboard, bass, baglama and other Turkish instruments. He is highly qualified in programming, sound designing and composing. Some of the softwares he uses extensively are Cubase Sx, Protools, Logic Audio, Metasynth, Soundhack, Max-Msp and Csound.

My music is an integration of sounds from traditional Turkish instruments and their digitally processed versions. I feel that these two aspects in my music symbolizes, and in away , combines two different centuries. And this musical and historical integration, moulds the wide time span into one immediate moment, where the listener actually is: the present. As a composer I see myself as a texturalist. At all times, Turkish music has been a mixture of melody and rhythm. There is hardly harmony found and no textural composition what so ever. Hence, by composing textures from the sounds of traditional Turkish instruments, I invite the listener to let his / her imagination go beyond reality and have intuitive guesses. (E.H.)

### **3) Blank Mirror**

**9:32 2002**

Blank mirror is about a man seeking salvation. In our modern world, it is getting harder and harder for people to face themselves and confront. Unfortunately, it is only after big catastrophic incidents, we feel the urge for self exploration.

The story of the piece starts with a man looking at himself in the mirror. This is the first time that he takes a deep look into himself, after losing everything he has got in just one night. He is scared and uncertain of what he sees. But suddenly, he realizes, he has to take this long and painful journey into the deepest parts of his soul to find the meaning of his existence.

At the end, it is him, fading an equilibrium and peace in his mind. The times in between those incidents is the story of this journey itself.

### **4) Living in Istanbul**

**6:42 2001**

Living in Istanbul is an attempt to tell the listener how it is like to live in Istanbul. The composition has an overall low-fi feel, use of synthesizers and many heavily processed sounds. The over all low-fi feel was preferred for the illustration of the city's lost of innocence. Use of synthesizers and rather simple harmonic structure is for illustrating the energy of the city .Also, the composition has processed Turkish violin sounds and its makams. These resemble the Eastern influences on the city.

## **Elzbieta Sikora (France / Poland)**

Born in Lwow, Poland, **Elzbieta Sikora** studied piano at Liceum Muzyczne in Gdansk. She completed her first Master of Arts in 1968 at Akademia Muzyczna in Warsaw where her studies included sound engineering. In the two years that followed she studied electronic music with Pierre Schaeffer and Francois Bayle at the Groupe des Recherches Musicales in Paris. Returning to the Akademia Muzyczna in Warsaw she completed, in 1977, her second Master of Arts in composition with Tadeusz Baird and Zbigniew Rudzinski. In 1973 she founded, with W.Michniewski and K.Knittel the Group of Composers KEW. She studied also the composition in Paris with Betsy Jolas. Scholarships from the French Government at IRCAM, Paris, the City of Mannheim, and the Kosciuszko Foundation at CCRMA (Computer Center for Research in Music and Acoustics), Stanford, have enriched the composer's international outlook.

Elzbieta Sikora has received prizes at the Composers Competition in Dresden (1978, II Prize for her opera "*Ariadna*"), at the Experimental Music Competition in Bourges (1979,80, Mentions for "*Waste Land*", "*Letters to M.*", 2000, Prix Magisterium for "*Aquamarina*" ), at Young Composers Competition in Warsaw (1978, Mention for ("*... according to Pascal*") and at the Women Composers Competition in Mannheim (1981, I Prize for "*Guernica*"). She has been awarded twice in 1994 by SACEM, France: Prix Pédagogique for her work "*Chant'Europe*" and Prix Stephane Chapelier-Clergue-Gabriel-Marie for her work in general. In 1996 she received the SACD Prize: Nouveau Talent Musique. In 1997 Elzbieta Sikora was awarded Poland's Cavalier Cross of Merits. In October 2000, she received Künstlerinnenpreise in Heidelberg, Germany.

Elzbieta Sikora works were commissioned by: French Government, Polish Ministry of Culture, French Radio, Ballet of Monte Carlo, IRCAM and many others and were performed in many countries and festivals of contemporary music: Avignon (1969) - Festival Estival, Paris (1975) - Fylkingen, Stockholm (1975) - Bourges, France (1973, 1976, 1978, 1980, 1982, 1999) - Warsaw (1974, 1976, 1981, 1989, 1991, 1992, 1995, 1997, 2000, 2001) – Dresden (1979) – Braunschweig (1980) - Berlin (1981) - Brighton (1984) - Bath - Newcastle (1993)- "Presences", Paris (1999, 2003), Heidelberg (2000)...

Performers of her music include: Elisabeth Chojnacka (harpsichord), Ivan Monighetti (cello), Pierre-Yves Artaud, Robert Dick, Karin Levine (flute), France Lynch, Elena Vasilieva, Elisabeth Grard (soprano), Daniel Kientzy (saxophone), Jean-Efflam Bavouzet (piano), Warsaw National Philharmonic Orchestra and Nouvel Orchestre Philharmonique of the French Radio with Michel Tabachnik, The Poznan Philharmonic Orchestra with Wojciech Michniewski, Ballet of Monte Carlo, National Opera of Warsaw, NOSPR, Katowice with Antoni Wit and Gabriel Chmura, Orchestre Poitou-Charentes with Pascal Verrot, Ensemble Itinéraire, Ensemble 2E2M, Paris...

Publishers: PWM, AA, Stoklosa Editions, Poland, Ariadne Verlag, Austria, Chant du Monde, Heugel, France

### **5) Aquamarina**

**9:52 1998**

Over its limitless horizons, following upon sea-trails constantly smoothed away by trackless waves, sails the memory-ship that will tie up at unknown quays. Past and coming pieces are mixing with intimate conversations while giving themselves away on white sands. A boat or a house interior and the outside world open towards the imaginary world are keeping their ambiguity.

"Aquamarina", dark colour and luminous flaws, plays on the opposition of violent sounds and of an attractive calmness. Narrative, although, somewhat not, the piece is painting out sound pictures far from being univocal. Sea sounds have been recorded in Etretat, on a stormy day and in Cabourg on a silent weather. Other sound sources come from diverse places and amongst them: Composers' House in Bourges. Digital sound processing and final mixing have been engineered in the studios of the Institut International de Musique Electroacoustique de Bourges/IMEB. Commissioned by IMEB in 1998. Magistere Prize, 1999 Bourges Competition.

## **Hildegard Westerkamp (Germany / Canada)**

Hildegard Westerkamp emigrated to Canada in 1968. After completing her music studies in the early seventies her ears were drawn beyond music to the acoustic environment as a broader cultural context or place for intense listening. Whether as a composer, educator, or radio artist most of her work since the mid-seventies has centered around environmental sound and acoustic ecology.

She has taught courses in Acoustic Communication at Simon Fraser University (1981-1991) in Vancouver (BC) ; and has conducted soundscape work- shops internationally. She is a founding member of the World Forum for Acoustic Ecology (WFAE, 1993) and was the editor of *The Soundscape Newsletter* between ;, 1991 and 1995.

The majority of her compositions deal with aspects of the acoustic environment : with urban, rural or wilderness soundscapes, with the voices of children , men and women, with noise or silence, music and media sounds, or with the sounds of different cultures, and so on. She has composed film sound tracks, sound documents for radio and has produced and hosted radio programs such as *Soundwalking* and *Musica Nova* on Vancouver Co-operative Radio.

In a number of compositions she has combined her treatment of environmental sounds extensively with the poetry of Canadian writer Norbert Ruebsaat. More recently she has written her own texts for a series of performance pieces for spoken text and tape. In addition to her electroacoustic compositions, she has created pieces for specific 'sites: such as the *Harbour Symphony* (1986) and *ecole poly technique* (1990). In pieces like *Visiting India*, she explores the *deeper* implications of transferring environmental sounds from a foreign place into the North American context of electroacoustic composition and audio art culture.

#### THE MUSIC AND SOUNDSCAPES OF HILDEGARD WESTERKAMP

Sound surrounds us. We are sound inside and we resonate with the soundscape even if we are not listening. Hildegard Westerkamp is sensitive to soundscape. She ably shapes fanciful, imaginative music from her recordings, mixing and transformations of the soundscape. Westerkamp creates new possibilities for listening. One can journey with her sound to inner landscapes and find unexplored openings in our sound souls. The experience of her music vibrates the potential for change. Her compositions invite interaction -a chance to awaken to one's own creativity. One can transform through listening as she has. In the music and soundscapes of Westerkamp we feel memory and imagination as we hear through to the future.

PAULINE OLIVEROS,  
KINGSTON (NY, USA), AUGUST, 1995

#### TRANSFORMATIONS

I feel that sounds have their own integrity and need to be treated with a great deal of care and respect. Why would I process a cricket's voice but not my daughter's? If the cricket had come from my own garden, had a name and would talk to me every day, would I still be able to transform it in the studio ? Would I need to?

The moment of recording the cricket in the Zone of Silence (a desert region in North Eastern Mexico) had been a magical moment (see *Cricket Voice's* note). So, studio 'manipulation' of the sound seemed somehow inappropriate. Its transformation into a composition had to become a new sonic journey of discovery to retain the level of magic first experienced. I remember when I had to say 'Stop' to electroacoustic experimentation: the cricket was in danger of being obliterated.

I hear the soundscape as a language with which places and societies express themselves. In the face of rampant noise pollution, I want to be understanding and caring of this 'language' and how it is 'spoken.' I compose with any sound that the environment offers to the microphone, just as a writer works with the words that a language provides. It is in the specific ways in which the language is selected, organized and processed that composition occurs.

I like to use the microphone the way photographers often use the camera. searching for images, using the zoom to discover what the human eye alone cannot see. I like to position the microphone very close to the tiny, quiet and complex sounds of nature. then amplify and highlight them for radio or any other electroacoustic medium: to make them audible to the numbed urban ear. Perhaps in that way these natural sounds can be understood as occupying an important place in the soundscape and warrant respect and protection.

I like walking the edge between the real sound and the processed sound. On the one hand I want the listener to recognize the source, and thus want to establish a sense of place. But on the other hand I am also fascinated with the processing of sound in the studio and making its source essentially unrecognizable. This allows me as a composer to explore the sound's musical/acoustic potential in depth. But I abstract an original sound only to a certain degree and am not actually interested in blurring its original clarity. I

transform sound in order to highlight its original contours and meanings, similar to the manner in which a caricaturist sharpens the contours and our perception of a person's face.

These compositions are now on this disc, an altogether abstract place, far away from the places in which the sounds originated. They now may have to put up with bad playback equipment and noisy living rooms, with car radios or distracted ears. A forest piece in an apartment by a freeway... can it draw the listener back into the forest ? An urban piece in quiet country living... is it necessary ?

HILDEGARD WESTERKAMP,  
VANCOUVER, AUGUST 1995

## 6) A Walk Through the City

16:02 1981

A Walk through the City is an urban environmental composition based on Norbert Ruebsaat's poem of the same name. It takes the listener into a specific urban location -Vancouver's Skid Row area -with its sounds and languages. Traffic, car horns, brakes, sirens, aircraft, construction, pinball machines, the throb of trains, human voices, a poem, are its 'musical instruments.' These sounds are used partly as they occur in reality and partly as sound objects altered in the studio. A continuous flux is created between the real and imaginary soundscapes, between recognizable and transformed places, between reality and composition.

The poem is spoken by the author and appears throughout the piece, symbolizing the human presence in the urban soundscape. Its voice interacts with, comments on, dramatizes, struggles with the sounds and other voices it encounters in the piece.

A Walk Through the City was realized in 1981 at the Sonic Research Studio at Simon Fraser University and, in its final stage, at the CBC studios in Vancouver, with the technical assistance of Gary Heald. The piece was commissioned by and first broadcast on CBC Radio's *Two New Hours*, in April, 1981. Many of the sounds were taken from the World soundscape Project's environmental tape collection at Simon Fraser University in Vancouver, including two of the street old-timers, recorded by my friend and colleague, the late Howard Broomfield. Some were recorded by myself.

## 7) Cricket Voice

10:55 1987

*to Norbert Ruebsaat*

*It's hard to be a night in the desert  
without the crickets.  
You make it with stars.  
You make it with the skin  
of the desert night.  
You stitch those two together  
sky and earth.  
You find it with your cricket voice.*

-Norbert Ruebsaat.

Cricket Voice is a musical exploration of a cricket, whose song I recorded in the stillness of a Mexican desert region called the Zone of Silence. The quiet of the desert allowed for such acoustic clarity that this cricket's night song - sung coincidentally very near my microphone - became the ideal "sound object" for this tape composition. Slowed down, it sounds like the heartbeat of the desert, in its original speed it sings of the stars.

The quiet of the desert also encouraged soundmaking. The percussive sounds in Cricket Voice were created by 'playing' on desert plants: on the spikes of various cacti, on dried up roots and palm leaves, and by exploring the resonances in the ruins of an old water reservoir.

Cricket Voice was completed at my own studio Inside the Soundscape with the assistance of the Canada Council. It was premiered in June, 1987 at the Community Arts Council in Vancouver.

# PULSE FIELD

## SoundScape III

### Disc III

#### **Chantal Dumas (and Christian Calon) (France / Canada)**

Sound artist, composer, radio artist, organizer and coordinator Chantal Dumas works with sounds. She studied in music, specialization: Rythmique Jacques Dalcroze (Laval University, Quebec City).

As radio artist, Chantal Dumas explores new forms of narration through sound. As an independent artist, she has realized and produced over 25 radio works since 1993. Her 'stories' are performed in festivals and broadcasted on national radios in Canada, Europe and Australia. Her work has been awarded internationally.

As improviser and sound artist she played electronics with Danielle P.-Roger drums (02), with the *GRAND ORCHESTRE D'AVATAR*, group of sound and visual alterations (99-00), did the sound conception of a poetry performance of Geneviève Letarte.

-the performances: MOIS MULTI of TLC, Mtl + Vancouver (00); Festival musiques au Présent, organized by the Quebec Symphony Orchestra; Le Navire Night, Radio-Canada live performance; Festival of Victoriaville; resonance Fm in duplex with the London Musician Collective (London), Radio-Basse-Ville and AVATAR .

As organizer and coordinator:

- ZONES RADIO FICTIVES, radio days; co-artistic dir. and organizer with Christian Calon. Goethe-Institute, Mtl (ix-00); LA GALERIE VU, coordination of the sound ~~volet~~ of the project LE SON DES IMAGES, (Qc, Qc) 99; AVATAR (Qc, Qc) 98-99 Responsable of the promotion and the distribution of the label OHM éditions/AVATAR; MEDIALE Hamburg '93, Coordination at Marseilles of Klangachse- sound Sculpture of the Bill Fontana simultaneously involving in Hamburg, St-Petersburg and Marseilles; SOCIÉTÉ DES CONCERTS ALTERNATIFS DU QUÉBEC (SCAQ-Code d'accès) Mtl (88-90) Dir. of the communications; RADIO CENTRE-VILLE (CINQ FM), Mtl (86-88) organization of promotional and founding events.

On the radio,

- Participations to various programs: Le Navire Night, SRC, Out of the Blue Radio, Resonance FM, London (England), coord. Chris Cutler, ...
- part of a 10-part radio series "Radiant Dissonance", featuring the work of 10 Canadian audio artists produced by The Canadian Society for Independent Radio Production.
- Digital Weekend Sofia, an international micro-festival of digital media arts in Sofia, Bulgaria, 12-14-iv-02 (artstream web site) Curated by Chris Byrne and Colin Fallows a New Media Scotland project.

98-99 • *EXCAVATION SONORE* (CKIA,Qc): curator of a monthly radio art show.

93-86 • host of many music and radio art shows on community radios:: Radio GRENOUILLE (Marseilles/Fr), CKUT and CINQ FM (Mtl).

IN THE PROCESS OF REALIZATION autumn 02 ...

- THÉÂTRE : composition of the soundtrack of the *LE COURS DES CHOSES* by Josette Trépanier, Stage Director : Diane Dubeau production: Nouveau Théâtre Expérimental (Mtl) diffusion : 03
- Project of research for a sound installation (autumn 02)
- TV : documentary Serie *Artistes dans l'âme*, produced by CINIMAGE, Moncton for Art TV, as sound artist with Gwen Noah, choreographer from Halifax.

# 1) The Little Man in the Ear

56:59 2000

chantal Dumas - christian calon  
Production Mario Gauthier for "L'espace du son", Radio-Canada.  
duration 57 mn  
Realization Studio Blue Moose, Montreal. © 2000

Grand Prix du documentaire Phonurgia Nova 2001

Thanks to Mike Krutko, Lillian Ireland, Rob Dramer and to all the anonymous voices who inspired us to create this sound travel.

Summer.  
July 9th - September 9th 1999.  
20000 km on Canadian roads and trails.

From Montreal across the Prairies to the North-Western Arctic, down to the Pacific and back through the Badlands. The Mercury minivan took the road, loaded with recording equipment, tools, DAT cassettes, tent, Coleman burner, sleeping bags and cooking apparatus, spare tires, beer and camera, boots, books and maps.

In The Little Man in the Ear materials are presented with little transformation. Only to better the listening clarity did we apply some processing. On the other hand we took at times the liberty to radically transform the original sound materials.

1	Austin, MB	2'00	11	Cathédrale	4'57
2	The princess of the stars	2'19	12	Wawa Junction	1'29
3	Stampede	2'29	13	NW Passage	3'18
4	Yellowhead	2'52	14	Mécaniques	5'35
5	Mike	2'34	15	Km 0	4'28
6	Histoires d'ours	4'38	16	Redberry	1'16
7	'Ksan	3'06	17	Ouimet Canyon	1'55
8	Sweet potatoes	2'39	18	Spirit Sands	1'53
9	66°33' N	1'40	19	Prairies	5'05
10	Pink Mountain	2'46			

The sequences are built after the following sound materials:

1. Austin, MB — plane and children games at the 45th Annual Threshermen's Reunion and Stampede; wind in trees and leaves at the Medicine Wheel, Spirit Sands, MB; wind in a corn field near Austin, MB.
2. The princess of the stars — ambience, voices and fiddle competition in Austin, MB.
3. Stampede — carriage race and voice at the Stampede in Austin, MB.
4. Yellowhead — Yellowhead Hwy around Lanigan, SK; cricket, Jasper National Park, AB.
5. Mike — conversation with Mike Krutko in his camper, Dawson City.
6. Bear stories — 6:30 AM, Fish Creek in Hyder, AK.
7. 'Ksan — Columbia Icefield, AB (source of the Sunwapta River); Duke River, YK, in the Kluane National Park; steel bridge on the Skeena River, BC.
8. Sweet potatoes — driving, voice and music on the Dempster Hwy, YK.
9. 66°33' N — at the polar arctic circle on the Dempster Hwy, YK.
10. Pink Mountain — thunderstorm and wind in Pink Mountain, BC.
11. Cathedral — raven in Beaver Creek, YK; meeting of chiefs in the Gitksan village of Kispiox, BC; acoustics of the cedar forest and train in Goldstream Park, BC; raven and ambience in Dawson City, YK.
12. Wawa Junction — windmills on the Crownest Hwy, AB; children in Crowsnest, AB; Mike K.; pork chops cooking, tent, minivan, Demolition Derby; chimes in Wawa, ON.
13. NW Passage — on the Dempster Hwy: Mike K., minivan side door, Inuvialuit voice and music on CBC, short wave signals; song and calls by Rob Dramer.
14. Mechanics — trains and level crossing in Cranbrook, BC and Thunder Bay, ON; diesel and steam agricultural machines in Austin, MB; bakery in White Horse, YK and chimes in Wawa, ON.
15. Km 0 — Pacific Ocean; sirens and ferry for Nanaimo, BC; fog-horn near Tofino, BC; Victoria, BC.
16. Redberry — train and level crossing in Watrous, SK; Redberry Lake, SK.
17. Ouimet Canyon — voices and echos in the Ouimet Canyon, ON
18. Spirit Sands — wind in a corn field on route 2, SK; wind Spirit Sands, MB.
19. Prairies — night birds and insects on the Lake of the Woods, ON and Redberry Lake, SK.

Montreal, April 4th, 2000

Writing with sound. Writing with sonic accidents. Writing with squeaks, lisps,  
sonic parasites, sirens, broken glass, grindings, scratches.

Writing with sound to testify of physical places, of the architecture of the places:  
exterior, interior, little, big, limited, opened, closed.

Writing to make one's self heard the geography, the morphology of the natural  
spaces, (mountain, lake, river, canyon, plain); natural acoustic phenomenae  
(thunder, wind, rain, wave).

Writing with acoustics, with echo, with reverberation  
with signs of the human activity  
Writing in the inalterable course of time  
Writing to make life be heard.

Writing with sound to testify of the diversity, the complexity, the permanence and  
the beauty of the sound.

Sounds which could annihilate the inner listening  
which parasite until suffocation  
which provoke the alteration of the soundscapes.

The sound as a photography that catches a silence, a point of view, a rhythm, an  
hesitation,  
The sound to express the inner movement of things.  
The sound, free and volatile, in the air.

Writing with sound to catch the world in his ensemble.

Writing with sound what words do not know how to say,  
what words leave to silence.

*Chantal Dumas, 12 October 02*

# PULSE FIELD

## SoundScape III

### Disc IV

#### **John Cage (United States)**

*"I am for the birds, not the cages that people put them in." - John Cage*

John Cage was born on September 5, 1912 in Los Angeles, California and died in New York City on August 12, 1992. He studied liberal arts at Pomona College. Among his composition teachers were Henry Cowell and Arnold Schoenberg. Cage was elected to the American National Academy and Institute of Arts and Letters and received innumerable awards and honors both in the United States and in Europe. He was commissioned by a great many of the most important performing organizations throughout the world, and maintained a very active schedule. It would be extremely difficult to calculate, let alone critically evaluate, the stimulating effect and ramifications that Cage's work has had on 20th century music and art, for it is clear that the musical developments of our time cannot be understood without taking into account his music and ideas. His invention of the prepared piano and his work with percussion instruments led him to imagine and explore many unique and fascinating ways of structuring the temporal dimension of music. He is universally recognized as the initiator and leading figure in the field of indeterminate composition by means of chance operations. Arnold Schoenberg said of Cage that he was an "inventor – of genius".

#### **1) Cartridge Music**

**18:53 1960**

*Cart ridge Music*, composed at Stony Point, New York, July 1960, makes use of phonograph "cartridges;" the old-fashioned kind in which a needle could be inserted. In its performance, various objects are used; pipe cleaners, wires, feathers, Slinkies, matches, etc.; anything which fits the aperture of the cartridges. In practice, it was found convenient to attach the cartridges to pieces of furniture (tables, ladders, moveable carts, chairs, waste baskets, etc.), to which contact microphones are attached.

Each performer makes his own part, from score materials supplied by the composer. These consist of sheets of paper having biomorphic shapes, overlaid by transparent sheets having points, circles, dotted curving lines, a "clock"; these sheets can be superimposed in any manner; to obtain "readings." These readings will give instructions as to which cartridge to use, when to change the object in the cartridge, when to make changes in amplitude or equalization by means of associated amplifiers, when to produce "auxiliary" sounds on the various pieces of furniture to which the cartridges have been attached. The readings can also give indications for the performance of - "loops" - repeated periodic actions to be associated with either the cartridges or contact microphones. Since each player prepares his own part independently, indications can easily arise which will contradict or interfere with the actions of other players. This situation helps to make *Cartridge Music* one of the first theatrical pieces of "live electronic" music. The composer has remarked about this work: 'I had been concerned with com- position which was indeterminate of its performance; but in this instance performance is made, so to say, indeterminate of itself.'

*-David Tudor*

#### **Larry Austin (United States)**

**Larry Austin** (b. 1930, Oklahoma), composer, was educated in Texas and California, studying with Canadian composer Violet Archer (University of North Texas), French composer Darius Milhaud (Mills College), and American composer Andrew Imbrie (University of California-Berkeley). He also enjoyed extended associations in California in the 'sixties with composers John Cage, Karlheinz Stockhausen, and David Tudor.

Highly successful as a composer for traditional as well as experimental music genres, Austin's works have been performed and recorded by the New York Philharmonic, Boston Symphony, the National Symphony orchestras, as well as many other major ensembles in North America and Europe. Since 1964, he has composed more than seventy works incorporating electroacoustic and computer music media: combinations

of tape, instruments, voices, orchestra, live-electronics and real-time computer processing, as well as solo audio and video tape compositions. Austin has received numerous commissions, grants, and awards, his works widely performed and recorded, including the 1994 premiere performance and recording by the Cincinnati Philharmonia of Austin's complete realization of Charles Ives's transcendental *Universe Symphony* (1911-51), that performance followed at the 1995 Warsaw Autumn Festival by the National Philharmonic of Warsaw and, in May, 1998, a festival performance in Saarbrücken, Germany, by the Saarland Rundfunk Sinfonieorchester, a new recording of that performance to be released on a col legno compact disc in 2001. In 1996, Austin was awarded the prestigious Magistre (Magisterium) prize/title in the 23rd International Electroacoustic Music Competition, Bourges, France, for his work *BluesAx* (1995-96), for saxophonist and computer music/electronics, and for his work and influential leadership in electroacoustic music genres through the past thirty-five years. Austin was the first US composer to receive the Magistre. In summer, 1997, Austin was Magistre composer-in-residence at the BEAST studios at the University of Birmingham, UK, working on two commissions: *Djuro's Tree* (1997), solo octophonic computer music, commissioned by Borik Press and a sound-play for baritone Thomas Buckner, *Singing!...the music of my own time* (1997-99), for baritone voice and octophonic computer music. In summer, 1998, Austin was awarded a month-long composer residency at the Rockefeller Center at Bellagio, Italy, completing his commission from tarogato player Esther Lamneck, *Tarogato!* (1998), for tarogato and octophonic computer music. In February, 2000, Austin was a guest research fellow in the Electroacoustic Music Studios, University of York, UK, working on a commission for the London-based Smith Quartet, completing ambisonic recordings for his recently completed *Ottuplo!* (1998-2000), four inter-episodes for real and virtual string quartet. In September, 2000, Austin had a month-long composer residency at the International Institute for Electroacoustic Music, Bourges, France, which commissioned his newest work, *Williams [re]Mix[ed]* (1997-2000), for octophonic computer music system.

From 1958 to 1972 Austin was a member of the music faculty of the University of California, Davis, active there as a conductor, performer, and composer. There, in 1966, he co-founded, edited, and published the seminal new music journal, *SOURCE: Music of the Avant Garde*. Subsequently, he served on the faculties of the University of South Florida, 1972-78, and the University of North Texas, 1978-96, founding and directing extensive computer music studios at both universities. In 1986 he founded and served as president (1986-2000) of CDCM: Consortium to Distribute Computer Music, producer of the CDCM Computer Music Series on Centaur Records, with thirty-one compact disc volumes released since 1988. On the Board of Directors of the International Computer Music Association, Austin served as its president, 1990-94. Retiring from his 38-year academic career in 1996, Austin resides with his wife Edna at their home in Denton, Texas. Working in and out of his Denton studio, gaLarry, Austin continues his active composing career with commissions, tours, performances, writing, recordings, and lecturing, anticipating future extended composer residencies in North America, Japan, and Europe.

## 2) Williams [re]Mix[ed]

20:41 2001

Octophonic computer music based on John Cage's *Williams Mix* (1951-53) for eight magnetic tapes, in eight movements:

- The Theme Restored (Williams Mix)
- Six Short Variations
  - A – city sounds
  - B – country sounds
  - C – electronic sounds
  - D – manually produced sounds
  - E – wind produced sounds
  - F – small sounds
- The Nth Realization

The process of creating the original realization of *Williams Mix*, as Cage explained, involved the precise cutting/splicing of recorded sounds to create eight separate reel-to-reel, monaural, 15-ips magnetic tape masters for the 4-minute 15-second, octophonic tape piece. The 192-page score is, as Cage referred to it, a kind of "dressmaker's pattern--it literally shows where the tape shall be cut, and you lay the tape on the score itself." Cage explained further in a published transcript of a 1985 recorded conversation with author Richard Kostelanetz that "...someone else could follow that recipe, so to speak, with other sources than I had to make another mix." Later in the conversation, Kostelanetz observed, "But, as you pointed out, even though you made for posterity a score of *Williams Mix* for others to realize, no one's ever done it," to which Cage replied, "But it's because the manuscript is so big and so little known." (Kostelanetz, Cage Explained, Schirmer, 1996, pp. 72-75)

Intrigued by Cage's open invitation to "...follow that recipe..." I embarked on a project in summer, 1997, to create just such a new realization of and variations on the 192-page score of John Cage's second tape piece, *Williams Mix* (1951-53), the first known octophonic, surround-sound tape composition. Presignifying the development of algorithmic composition, granular synthesis, and sound diffusion, *Williams Mix* was the first piece completed in the *Project for Music for Magnetic Tape* (1951-53), established in New York by Cage and funded by architect Paul Williams. Involved as collaborators were, first, pianist David Tudor, then composers Earle Brown, Morton Feldman, Christian Wolfe, and electronic music pioneers Louis and Bebe Barron, among others. The score for the piece was completed in October, 1952, as well as much of realization itself for the eight magnetic tapes, finally completed by Cage and Earle Brown on January 16, 1953.

In early 1998 the John Cage Trust provided me with a color-xerographic copy of the 192-page score, as well as associated sketches and commentary by Cage on the compositional process involved in the original (and only) realization for eight magnetic tapes. The Trust subsequently provided me with digital tape copies of the eight earliest extant generation, reel-to-reel masters of the piece from the Trust's Archive of Cage's works. With the score and tapes I began the restoration and analysis of the precise relation of the recorded sound events with their *I Ching*-determined parameters in the score. Out of this first, two-year phase came the restoration of the original eight tracks of tape, transferred to the digital, octophonic medium for playback on either computer or eight-track digital tape recorder. This newly restored *Williams Mix* is heard here, in fact, as the first movement, *The Theme Restored of my Williams [re]Mix[er]*. Since first starting my project I have, meanwhile, been collecting new sounds for the new, recorded library of nearly 600 sounds (the actual number of different recorded sounds used in the Cage score is 350, their iterations totaling 2,128), according to Cage's six sound categories of city, country, electronic, manually produced, wind produced and small sounds.

The final phase of my project is the design and implementation of an interactive computer music program I have named the *Williams [re]Mix[er]*. It's functionality is modeled on Cage's *I Ching* compositional processes, extrapolated and applied from my years-long analyses of Cage's score, sketches, and tapes for *Williams Mix*, as well as his writings and recorded interviews about the piece and his compositional method. In fact, the *Six Short Variations* and *The Nth Realization* heard here are the very latest, computer-generated output of the *Williams [re]Mix[er]*. What took Cage and his collaborators months and months of recordings, coin-tosses, notation, and thousands of small pieces of tape spliced together to complete the first realization of the *Williams Mix* score is accomplished--after collecting the recordings and interacting with the program--in only a few minutes of computation time. Indeed, the default settings I have used in designing the *Williams [re]Mix[er]* are Cage's own parameters for the piece's structure and morphology of sound/silence events. On the last page of the score for *Williams Mix*, Cage inscribed, "(4 min. 15 sec. +) End 1st Part. N.Y.C. Oct. '52 Splicing finished Jan. 16, 1953." Dare I imagine that John's spirit is slyly laughing now, asking the oracle, "Is this the 2nd Part?"

**Larry Austin**  
**John Cage's *Williams Mix* (1951-52):**  
**A New Realization of the First Octophonic, Surround-Sound Tape**  
**Composition: *Williams [re]Mix[ed]* with the *Williams [re]Mix[er]*--an**  
**Octophonic, *I Ching*, Composing Program**

**ABSTRACT**

Demonstrated here is the composer/presenter's project to design the protocols and to implement, with the co-presenter/programmer, an interactive, octophonic, *I Ching* composing program, the ``*Williams [re]Mix[er]*`` (*WRM*). Its functionality is modeled on the compositional processes used by American composer John Cage (1912-92) to create his ``*Williams Mix*`` (1951-53) (*WM*), the first octophonic, surround-sound, tape composition. These processes were extrapolated and applied from years-long analyses by the composer/presenter of Cage's 192-page score, his sketches, and the eight monaural, analog tapes for *WM*. Presignifying the development of algorithmic composition, granular synthesis, and sound diffusion, *WM* was the third of five pieces completed in the Project for Music for Magnetic Tape (1951-54), established in New York City by Cage. What took Cage and his collaborators nine months of recordings, coin-tosses, score notation, and thousands of small pieces of tape measured, cut, and spliced together to complete the first realization of the *WM* score and tapes is accomplished--after collecting the requisite library of recorded soundfiles--in only a few minutes of computation time. Indeed, the default settings used in designing the *WRM* are Cage's own, derived from the analyses. With the program's graphic user interface, the default values for the parameters may be changed by the user to experiment and substitute alternative, weighted distribution values to achieve a variety of individualized compositional results.

**Background**

The process of creating Cage's first realization of *WM* involved the precise cutting/splicing of tape recorded sounds to create eight separate, reel-to-reel, monaural, 15-ips, analog, magnetic tape masters for the 4-minute, 15-second piece. The work's score is, as Cage referred to it, a kind of ``dressmaker's pattern--it literally shows where the tape shall be cut, and you lay the tape on the score itself.`` (See Fig. 1, page 5 of the *WM* score.) Cage explained further in a published transcript of a 1985 recorded conversation with author Richard Kostelanetz that ``...someone else could follow that recipe, so to speak, with other sources than I had to make another mix.`` Later in the conversation Kostelanetz observed, ``But, as you pointed out, even though you made for posterity a score of *WM* for others to realize, no one's ever done it,`` to which Cage replied, ``But it's because the manuscript is so big and so little known.``

Intrigued by Cage's open invitation to ``follow that recipe`` the composer/presenter embarked on a project in summer, 1997, to create just such a new realization of and variations on the score of *WM*. In early 1998 the John Cage Trust provided me with a color-xerographic copy of the score of *WM*, as well as associated sketches and commentary by Cage on the compositional process involved in the original realization for eight magnetic tapes. The Trust subsequently provided digital audio copies of the eight earliest, extant-generation, reel-to-reel masters of the piece from the Trust's Archive of Cage's works. With the score and tapes the analysis could begin of the precise relation of the recorded sound events with their *I Ching*-determined parameter settings in the score. Out of this first, two-year phase came the restoration of the original eight tracks of tape, transferred to the digital, octophonic medium for either digital soundfile output from the computer or playback on an eight-track digital audio tape recorder. This newly restored *WM*, in fact, becomes the first movement, *The Theme Restored*, of the composer/presenter's ``*Williams [re]Mix[ed]*`` (1997-2000) octophonic tape piece. Since first starting the project the composer/presenter has continued to collect sounds for the new, recorded library of nearly 600

sounds, according to Cage's six sound categories of city (A), country (B), electronic (C), manually produced (D), wind produced (E) and small sounds (F).

### **Cage and the *I Ching* (The Book of Changes)**

In *WM* Cage invoked *I Ching* chance operations for compositional decisions: 1) the duration of successive time-segments, which are the ``structural division of the whole into parts`` of the piece; 2) the density and relation of sounds-to-silences, which is the form and ``morphology of continuity`` of the piece; 3) the choice of which sounds in which of six categories of sounds; 4) the determination of the duration of sounds and silences; 5) the single or double combination of these sounds; 6) the attack/sustain/decay ramps of each sound; 7) the timbral variation (*v*) of the frequency, overtone structure, and amplitude or the timbral constancy (*c*) of each sound; 8) the striation (pulsation) or not of each sound; and 9) the panning among tracks and/or the overlapping of sounds on the same track. Cage's method of mapping numbers to parameters of the piece derived from consulting the *I Ching* three-coins oracle, where heads = ``1`` and tails = ``0``: three coins are tossed six times to create, from bottom to top, two trigrams combining to form a hexagram or *gua*. Where the compositional choice to be made was simply yes or no, Cage tossed one coin, heads or tails to obtain the answer; in other situations he drew a number from a deck of cards like the Tarot deck to replenish the numbers in the 8 by 8 charts with non-repetitive numbers, 1 to 64.

### **The Williams [re]Mix[er]**

Cage, by 1966, already understood that a computer program could be written which would invoke the *I Ching* and could, for example, yield ever-new *WM* scores. Such new realizations could be based on the same protocols of music composed by process and chance operations that Cage had created in his pre-compositional sketches, a program that creates ever-new ``dress patterns`` and ``recipes`` modeled on the *compositional process*--itself derived from the *I Ching*--of creating that first ``pattern`` or ``recipe``. In fact, in 1968 he and Lejaren Hiller engaged programmer Ed Kobrin of the University of Illinois to write such an *I Ching* program as one of the key subroutines in the main program, *HPSCHD*, to use in their collaborative computer music composition, ``*HPSCHD*`` (1967-69). Cage did, indeed, go on to use that *ICHING* program and subsequently other *I Ching* programs written for him as a compositional tool for many other pieces.

### **The Williams [re]Mix[er] computer program execution protocols**

The composer/presenter intensively analyzed Cage's *WM* score and sketches, noting in each parameter its characteristics and statistical distribution in the piece. From these analyses, programming protocols were designed which could be implemented in the way Cage used his own chance processes. Through analysis--mainly listening, comparing, counting, and measuring--trends were uncovered in the piece's morphology that established distributive weightings of its parameter values statistically, shaping the form of the piece. These trends became models for the protocol designs that, when extrapolated and implemented in the *WRM* computer program, could replicate the original piece with new choices, freshly made: ever-new realizations and variations. What follow are brief summaries of the protocols designed for the computer program algorithms implemented for the *WRM*.

### **Score to sound output**

The *WRM* interactive computer program functions in two overall phases: 1) the first phase, where the *I Ching* sub-programs calculate and write parameter data to the software sound synthesis *csound* score textfile; and 2), the second and final phase, where the *csound* orchestra ``plays`` or ``perfs`` the *csound* score to an 8-channel digital soundfile, ready to be performed to eight speakers surrounding the listener in a 360 degree circle.

## Program execution

1. At execution time the program orders and labels all soundfiles in the soundfile library directories, A, B, C, D, E, and F, then generates sixteen, 8X8, 1-64, non-repeating *gua* charts (arrays). *Note: As explained, the default values for the parameters may be changed by the user at each stage with the program's graphic user interface enabling the user to experiment and substitute alternative, weighted distribution values to achieve a variety of individualized compositional results.*
2. The program now asks the user for the number of time-segments to be generated from the *gua* charts, in multiples of 6--called *hexads*. The time-segment (TS) default parameters come from Cage's 66 successive ``structural units``, time-segments marked by Cage at intervals by a vertical line through the score system. (*Hexads* are successive, patterned groups of six time segments. The default is Cage's number of 11 multiples of 6 hexads or 66 time-segments.)
3. The program now generates the parameter values of each successive time-segment, including the density of sound-events in each successive time-segment following the determination of the number and parameter values of the time-segment hexads.
4. The program now determines the category (A, B, C, D, E, or F) combination (single or double sound), variation type (constant (c) or varied (v) in its frequency (f), overtone structure (os), and amplitude (a)), and length of sound sources in each successive time-segment, tracks 1-8, with each sound followed and preceded by a silence of N duration, including zero silence.
5. The program now determines the type and duration of the attack and decay ramps of each sound event, track by track.
6. The program now determines which sound events in which of the tracks will be panned to which other tracks through its duration.
7. The program now determines whether a sound event in a time-segment in a track will be striated (pulsated) completely or partially and at what rate.
8. The program now compiles the parameter data and writes the final *csound* score, ready to be ``perfed`` by the *WMM csound* ``orchestra``, with its numerous ``instruments`` for playing the selected soundfile extractions, processed (v) or not (c) by various *csound* instruments (comb, bandpass, hi/lo pass, alpass, transpose, pulsate). At output the 8-channel soundfile is generated, ready to be played and heard.

## The *Williams [re]Mix[er]* computer soundfile library

``I think that the principle of collage is very important in all aspects of the century, hmm?...in our hearts,`` Cage mused. The heart of the *WRM* is the computer soundfile library of sounds for its ever-new, *I Ching*-determined spatial collages of sounds. Cage, too, intended his own library of sounds to be a dynamic, not static, collection. At this point in time, there are 548 total stereo soundfiles in the *Williams [re]Mix[er]* library, specifically by category: A, 127; B, 92; C, 81; D, 60; E, 146; F, 42. As time goes on, one can choose or not to remove or add soundfiles to each category. Or, as is the case in its present compositional manifestation, ``*Williams [re]Mix[er]*`` in its six middle movements, the composer/presenter has chosen to place just one category of sounds in all six soundfile directories to create the ``*Six Short Variations*`` for ``*A-city sounds*``, ``*B-country sounds*``, ``*C-electronic sounds*``, ``*D-manually produced sounds*``, ``*E-wind produced sounds*``, and ``*F-small sounds*``.

In the present *WRM* library, the duration of each different soundfile ranges from as short as 20 seconds to as long as 90 and averages about 60 seconds. These nominal durations have been found to allow a variety of different sound events. In each run of the program, of course, the *I Ching* chooses a different number and combination of soundfiles and durations of sound-events to be selected from the soundfile library. When a particular soundfile with a particular duration is chosen from a particular category, the program extracts that duration from the current beginning of the soundfile. If the soundfile has been previously selected and a sound-event duration extracted, the new sound event duration is extracted from the end of the previous selection's

sound event duration, so marked or ``flagged``. If subsequent selections of that soundfile reach the end of the soundfile, the program ``wraps around`` or ``loops back`` to the beginning of the soundfile selection. This process is modeled on the tape-segment cutting/extraction system that Cage and Brown described; that is, such extractions would always be measured and cut from the head of the particular tape segment pulled out of the appropriately labeled envelope, which apparently contained a sizable number of such tape segments. Of course, then, there was no way to ``loop back``, once a tape-segment length was exhausted or the duration of the sound event called for was longer than the remaining tape segment.

The sounds found, categorized, and collected for either Cage's ``library of sounds`` or its modeled incarnation as the *WRM* ``computer soundfile library`` were subject both to chance and taste in gathering their collection. Cage's six broad categories were conceived and selected by him, even though he, the composer, gave great freedom to the recording team, Louis and Bebe Barron, to choose the actual sound sources of the recordings themselves. The composer/presenter embraced Cage's categories but was nevertheless selective in what sounds or sound situations were recorded and included in each category. In both, the final arbiter of choice for the material chosen was the *I Ching*.

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## John Cage

### 3) Imaginary Landscape Number 1

8:21 1939

2 variable speed phono turntables, frequency recordings, muted piano, cymbal

## Iannis Xenakis (Greece / France)

Iannis Xenakis is one of the leaders of modernism in music, a hugely influential composer, particularly in the later 1950s and 1960s, when he was experimenting with compositional techniques that soon entered the basic vocabulary of the twentieth-century *avant garde*.

Xenakis was born, not in Greece, but in Braïla, Romania, of Greek parents, on 29 May 1922. His initial training, in Athens, was as a civil engineer. In 1947, after three years spent fighting in the Greek resistance against the Nazi occupation, during which time he was very badly injured (losing the sight of an eye), he escaped a death sentence and fled to France, where he settled and has subsequently become an important element of cultural life.

Xenakis was first active as an architect, collaborating with Le Corbusier on a number of projects, not least the Philips Pavilion, designed by Xenakis, at the 1958 Brussels World Fair. It was in the 1950s, too, that Xenakis' compositions began to be published. In 1952 he attended composition classes with Olivier Messiaen, who suggested that Xenakis apply his scientific training to music.

The resulting style, based on procedures derived from mathematics, architectural principles and game theory, catapulted Xenakis to the front ranks of the *avant garde* – although there was never any suggestion that he was a member of a clique or group: he was always his own man. He never, for example, embraced total serialism, and he also avoided more traditional devices of harmony and counterpoint; instead, he developed other ways of organising the dense masses of sound that are characteristic of his first compositions. These stochastic, or random, procedures were based on mathematical principles and were later entrusted to computers for their realisation.

But for all the formal control in their composition, Xenakis' scores retain an elemental energy, a life-force that gives the music an impact of visceral effectiveness: works like *Bohor* for electronics (1962), *Eonta* for piano and brass quintet (1963-64), *Persephassa* for six percussionists, placed around the audience (1969), and the ballet *Kraanerg*, for 23 instrumentalists and tape (1969) all exhibit a primitive power that belies the complexity of their origins. *The Sydney Morning Herald* said of *Kraanerg*, for example, that it "remains staggeringly powerful and clamorous, an essay in constantly renewed energy that shows not the least sign of faltering". Married with this primordial power is the composer's fascination with ritualism, most often that of ancient Greece, finding fullest theatrical form in his setting of the *Oresteia* (1966).

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### 4) Concret PH

2:42 1958

Iannis Xenakis is without a doubt one of the major figures in the development of music in the 20th century. In 1957, he joined Pierre Schaeffer and others at the GRM (Groupe de Recherches Musicales) in Paris, and it was there that Xenakis composed his early works for electronic tape.

Xenakis' distinct sound is already apparent in 'Diamorphoses' (1957) which incorporates sounds of distant earthquakes, car crashes, jet engines, and other 'noise-like' sounds. His distinct sound is also apparent in 'Concret PH' (1958), based on the sounds of burning charcoal. 'Concret PH' was played along with Varese's 'Poème Electronique' in 1958 in the Philips Pavilion at the Brussels World's Fair, which Xenakis (also architect, mathematician and engineer) designed.

# PULSE FIELD

## SoundScape III

### Disc V

#### **Mathew Adkins (United Kingdom)**

Mathew Adkins is a composer, performer, and lecturer of electronic and electroacoustic music. He was born in 1972 in Leamington, England. He was introduced to electronic and acousmatic music during his music studies at Pembroke College, Cambridge. After he graduated from Cambridge in 1993, he pursued postgraduate research in electronic music at the University of Birmingham with Jonty Harrison and later at the University of East Anglia with Simon Waters.

He first came to international attention in 1995 with two works: *Melt* and *Clothed in the Soft Horizon* which were awarded the Stockholm Electronic Arts Award, Prix de Residence at Bourges and the Grand Prix of Musica Nova Prague. He has since been awarded prizes at the Bourges International Competition in 1997, 1999 and 2001; Luigi Russolo Competition in 1994, 2000 and 2001 as well as at EAR'95, and Musica Nova 1996.

In 1994 he was awarded a British Academy Travel Scholarship which enabled him to work at EMS (Institute for Electroacoustic Music in Sweden). He has also worked at the Cesare Studios in Reims, France. Since 1996 virtually all of his works have been created in his own studio.

He was a member of the Birmingham Electroacoustic Sound Theatre from 1993 -1995 and a Director of the Sonic Arts Network of Great Britain between 1995-1997, before moving to Dublin for a year. In 1998 he became co-artistic Director of the annual Electric Spring Festival in Huddersfield, and is co-founder of the recently formed multimedia group r.a.r.e. experimental.

His works have been broadcast and performed worldwide and have been featured in numerous international festivals including the Bourges Synthese 1995 & 1997 (France), the Aspekte Festival (Austria), Futura (France), the Stockholm Electronic Arts Festival (Sweden), A.C.M.C. (New Zealand), I.C.M.C. (China) Symposium VII (Brazil).

Recent works include *Noumena* for cello and electronics commissioned by Sonic Arts Network of England, *Deepfield* for octophonic tape, commissioned by Cesare Studios, Reims, and *Still Time* for flute and electronics commissioned by Alejandro Escuer. Future projects include a new work for ensemble and electronics commissioned by IRCAM, a new electroacoustic work co-commissioned by the Huddersfield Contemporary Music Festival, Sonic Arts Network and the GRM, and a collaborative project with James Saunders to be realised at the Heinrich-Strobel Studio, Freiburg.

#### **1) Deepfield**

**20:11 2000**

For many years the Hubble Space Telescope has been sending back to Earth images of astronomical events that stretch further and further back into the history of the universe. Deepfield is a sonic exploration of these terrae incognitae -a world of violent explosions, extreme temperatures and velocities.

The structural model for the work are the most distant stars yet discovered - Quasars (quasi-stellar-astronomical-radio-source) -discovered in 1963. A quasar is an object of stellar appearance of exceptionally high luminosity. The spectrum of a quasar exhibits emission lines that have very high redshifts. They are the nucleus of primordial galaxies at the centre of which is a huge black hole which is continually sucking in all surrounding gas.

The quasar accretes material in the form of a spiral faster than the speed of light. This material is subject to huge pressures as it collapses passing through the event horizon into a singularity - where an infinite mass occupies an infinitesimally small space.

The work is in four interconnecting movements -

- I -Deep Field Perspective (00'00 -05'33)
- II - Accretion (05'33 -10'35)
- III -Luminosity (10'35 -15'30)
- IV -Event Horizon (15'30 -20'00)

The source materials for the work were a Chinese cymbal (metal), fountains (water), aerosols (gas), pebbles/stones (rock) and a cello (metal/wood). These materials were recorded by the composer in the Studios of the University of Huddersfield, February 2000.

## 2) Melt

11:49 1994

This work initially grew out of my daily travels to the studio in Birmingham in from my home some twenty miles away. The work also draws on Turner's painting '*Rain, Steam, and Speed*' (1844) and by its very subject matter makes reference to Schaeffer's early work the *Etude aux Chemins de Fer*. The quality of Turner's later work that appeals most to me is the sense that more definable objects have been painted over, hard lines dissolved. There is a sense of implication and suggestion. Melt is a poetic depiction of a train journey. The work is based on the mediation between extremes:

- ii smooth to pulsed motion
- ii) raw to processed sonic material

Melt draws upon all three levels of event-gesture:

- i) Raw recordings of trains, station announcements and station concourses
- ii) Synthetic materials which are modeled after the motion and characteristics of the raw source materials
- iii) Synthetic materials of a dream world.

Throughout the work, sounds of the real world melt/ morph into their dream-world equivalent as a traveler lapses in and out of a daydream. All of the material employed in the work is unified spectromorphologically thus allowing for a high degree of integration between the differing event-gesture levels of sonic material.

## 3) Clothed in the Soft Horizon

13:20 1994

This work is based on the painting '*Fuji seen through the waves off Kanagawa*' by the Japanese artist Katsushika Hokusai (1760-1849). Wave paintings on screens and doors were characteristic in the Edo period. Hokusai's work is a summing up of this tradition. The painting has a quasi-fractal 'look' in the self-similarity of the wave tips to the waves themselves, this is an aspect that is exploited in the work.

The work presents an interplay between event-gestures constructed in the studio and their natural counterparts. These are modeled after both individual water droplets and the motion of a wave that builds, crashes and breaks. The latter model permeates not only the overall structure of the work but also the spectromorphological design of many of the individual sounds. Anecdotal references included in the work stem from the concept of a 'flow' of ideas resulting from the stimulation of the imagination by a given word, in this instance 'water'.

The work is not only a physical portrayal of the flow and motion of water, but also a personal response to it. The work is presented as a continuous but always changing expanse of sound.

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