

PULSE FIELD

SoundScape I

Acousmatics

and

Musique Concrète

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

PULSE FIELD

SoundScape I

Disc I

Brian Schorn (United States)

Brian Schorn was born in Alpena, Michigan in 1961. His education includes a BFA degree in Photography and MFA degrees in Photography, Creative Writing (Poetry), Graphic Design and Electronic Music and Recording Media (expected May 2003 from Mills College). He has exhibited his art nationally since 1983 including several one-man exhibitions. His book of poems, *Strabismus*, was published by Burning Deck. His design has been published in numerous books and journals. Schorn's improvisations and graphic scores of electronic and computer music have been performed nationally and internationally including the "Literature Sound Barrier" festival in Vienna, Austria.

ARTISTIC STATEMENT

I am compelled to develop a musical environment that aggressively integrates other mediums such as poetry, art and design. Within this integration, technology plays an essential role. Sounds, words, images (still and moving) and systems of information exchange become the raw material to be worked. The content of this material is driven by an interest in the human body that provides a rich source for psychological, physical, social and philosophical exploration. The specific nature of this exploration lies in the vibrating gap between such dualities as organic/inorganic, life/death, internal/external, and historic/futuristic. (B.S.)

1. Music for Two Pierres

1:39 2000

Using Pierre Schaeffer's *La Musique Concrete* as a source text, two passages were selected describing the work of Schaeffer and his collaborator Pierre Henry. This original, French source text was used to generate a poetic translation based on visual associations. The translation was recorded and processed using Groupe de Recherches Musicales software. The musical material for the score was generated entirely from the original source text using letters, punctuation marks, table of contents and page numbers to determine pitch, dynamics, articulation, rhythm, etc. The form was also determined (spelled out) by the source text's sentences.

TEXT 1: *You press the waters into trees with ants and elongation, you pretend to touch at musk discretely, don't you prefer yesterday, the billowing residue of the uses of little mites. You are the preliminary ovum of Pierre Schaeffer asked as a question billowing into conclusions of lanced dogs arranged in a natural veil of drenched thuds certainly seen as matter eaten and snored then departed.*

TEXT 2: *You are the next morning of another quiet tantrum laid out in three directions detem1ined to be brutal, the preliminary ovum of Pierre Henry revealed in a pile of a billion logs or set routinely via laps of smeared churning developed as decorative quills neatly packed in musk with tints of laughter and fabulous bricks, in other words, you are the mental ceiling tucked quite literally and shoved straight down to a lemon core.*

2. Tape (Case) Music

6:56 2000

Tape (Case) Music is a self-reflexive response to the historical genre of Tape Music. Based on the word play of the title, it uses the amplified manipulation of a plastic cassette tape case as the sole sound source.

3. Possible Compositions

5:04 2001

In homage to the early Fluxus work of LaMonte Young and Yoko Ono, these conceptual text scores are intended to actively involve the audience in the creation of the music. The poetic texts were generated from looking at the Surrealist collages of Max Ernst.

4. A Catalogue of Numbers

2:16 2000

This work references the historical contribution of Risset's *An Introductory Catalogue of Computer Synthesized Sounds*. Risset's vocal numbering before each of the synthesized sounds was sampled and sequenced by improvisation which developed a natural wavering buildup and removal of sound layers.

Francis Dhomont (France / Canada)

http://www.electrocd.com/bio.c/dhomont_fr.html

Francis Dhomont studied under Ginette Waldmeier, Charles Koechlin and Nadia Boulanger. In the late 40's, in Paris (France), he intuitively discovered with magnetic wire what Schaeffer would later call "musique concrète" and consequently conducted solitary experiments with the musical possibilities of sound recording. Later, leaving behind instrumental writing, he dedicated himself exclusively to electroacoustic composition. An ardent proponent of acousmatics, his work (since 1963) is comprised exclusively of works for tape bearing witness to his continued interest in morphological interplay and ambiguities between sound and the images it may create.

The Conseil des arts et des lettres du Québec has recently awarded him a prestigious career grant. In 1999, he was awarded five first prizes for four of his recent works at international competition (Brazil, Spain, Italy, Hungary and Czech Republic). In 1997, as the winner of the Canada Council for the Arts' Lynch-Staunton Prize, he was also supported by the DAAD for a residence in Berlin (Germany). Five-time winner at the Bourges International Electroacoustic Music Competition (France) — the Magisterium Prize in 1988 — and 2nd Prize at Prix Ars Electronica 1992 (Linz, Austria), he has received numerous other awards.

He is the editor of special issues published by Musiques & Recherches (Belgium) and of "Électroacoustique Québec: l'essor" (Québec Electroacoustics: The Expansion) — for Circuit (Montréal). Musical coeditor of the Dictionnaire des arts médiatiques (published by UQAM), he is also lecturer and has produced many radio programs for Radio-Canada and Radio-France.

Since 1978, he has divided his time between France and Québec, where he has taught at the Université de Montréal from 1980 to 1996. He is an Associate Composer of the Canadian Music Centre (CMC, 1989) and a Founding Member (1986) and Honorary Member (1989) of the Canadian Electroacoustic Community (CEC). Great traveller, he participates in several juries.

He now focuses on composition and theory. [v-01]

Cycle du Son (1998)

in four parts

This Cycle celebrates sound (a major discovery of the twentieth century) and music concrete. It is a fiftieth-anniversary homage to the inventiveness of Pierre Schaeffer, who created an upheaval in the world of music that has had no precedent. Drawing on the same sound material—which was in parts forged from the first movement of Schaeffer's *Étude aux objets*—these four pieces go through a process where they develop out of each other, question each other, echo each other, and complete each other through allusions, commentaries, metonymies, and continuations. Years after its composition, *Novars*, the third part of this cycle but the first to be composed, remains the section around which the entire work turns.

5. Objects Retrouvés

5:20 1996

in memoriam Pierre Schaeffer

Both a lamento and a funeral march, this paraphrase of Pierre Schaeffer's *Etude aux objets* is not without connection to ornate, figured choral style. Three voices (in the contrapuntal sense of the term), developed from elements drawn from the first movement of the *Etude*, embroider and animate the long values of the original subjects that make up the "choral": which constitutes the fourth voice of this polyphonic composition. The choice of a classical form, so important in Bach, was a conscious one that was designed to honor the memory of Schaeffer. I like to think that he would have enjoyed the allusion.

6. AvatArsSon

18:11 1998

in six connected parts: Fondation; Avatars; Voix; Aventures; Paysages; A suivre...

to "*the inventors of the treasure...*"

*Bayle, Berio, Chion, Dufour, Ferrari, Henry, Malec, Parmegiani, Reibel,
Risset, Schaeffer, Stockhausen, Teruggi, Xenakis, Zanesi...
And others too numerous to name...*

A metaphor for, and a short cut across, some of the stages of the sound odyssey – heard for itself and for its unveiled "images" (Bayle) – and its performance. It also recalls the fertile guiding drift that allows the attentive ear to discover the furtive traces of homage.

7. Novars

19:06 1989

to *musique concrète* and Pierre Schaeffer, its "unfortunate inventor"

Without *descending* into simplistic symmetry, it may *be* possible to suggest that, even across a span of six centuries, a relationship exists between Vitry and Schaeffer, two theoreticians of this "new art:"

An ear attuned to classical music can recognize the fragments of Pierre Schaeffer's *Etude aux objets* and Guillaume de Machaut's *Messe de Notre Dame*. In effect, these roundabout borrowings, along with a third sound element in the style of Henry, constitute all of the material that is needed to give birth to a multiplicity of variations. A sign of change is that "spectromorphological" mutations (Smalley) give the sonorities of both *ars nova* and the "new music" (as Schaeffer called it in 1950) the sound of our time.

A sign of continuity is that something from the original works (their colors, their structure, and so on) are still present, and indestructible.

8. Phonurgie

12:43 1998

to Ines Wickmann and her found objects

Phonurgie. "making, working. and creating sound" Phonurgie brings the sound of this legacy to a close; on the other hand. the first part, *Objets retrouvés*, draws all of its material and its structure from it. Paraphrased elements from **Novars** can, of course, be found -- elements that themselves paraphrase *Etude aux objets*, making them commentaries on commentaries - while the opening and conclusion make reference to *AvatArsSon*. Nevertheless, in this fourth homage, the allusions to the origins melt away before the original propositions; filiation is not renounced. but here the child, finally grown. reveals its identity.

While the "sound color" may no longer be the same, morphological thought and writing still remain, in all of their many forms, true to the 'spirit' of the first "concerts de bruit" (Noise concerts).

Francis Dhomont Acousmatic, what is it?

The term acousmatic appears frequently in the texts of this book. Yet, what does it mean?

An English neologism, which comes from the French *acousmatique*, has its origins with Pythagoras (6th century BC) who was (it is said) delivering his—uniquely oral—teaching behind a curtain to prevent his physical presence from distracting his disciples, allowing them to better concentrate exclusively on the content of his message.

Closer in time to us, at the beginning of this century, one finds in the two-volume French dictionary *Le Larousse pour tous*:

Acousmate. n. (from the Greek *Akousma*, what is heard). Imaginary sound, or of which the cause is not seen.

In 1955, the writer and poet Jérôme Peignot, at the beginning of *musique concrète*, used the adjective *acousmatic*, meaning ‘a sound that we can hear without knowing its cause’, to designate “the distance that separates a sound from its origins” by obscuring behind the impassivity of the loudspeaker any visual element that may be connected to it. In 1966, Pierre Schaeffer mused about giving his *Traité des objets musicaux* (Treatise on Musical Objects) the title “*Traité d’acousmatique*” (Treatise on Acousmatic). Finally, around 1974, to mark the difference and to avoid any confusion with incidental or transformed musical instruments (ondes Martenot, electric guitars, synthesizers, real-time digital audio systems...), François Bayle introduced the expression *acousmatic music* as a specific kind of music, as the art of projected sounds which is “shot and developed in the studio, projected in halls, like cinema.”

It is true that over the past twenty years, under the term *electroacoustics* there has been a proliferation of sound pieces which have little in relation to each other except a common use of electricity. It was therefore important to affirm, with precise terminology, aesthetic choices, a body of thought, and a language. It is also in this spirit that, since 1989, the *Rencontres acousmatiques* (Acousmatic Meetings) of composers in the south of France have been organized.

Thus, this music—or better: *Acousmatic Art* (Denis Dufour)—was conceived from its beginnings to be heard without the use of visual intervention. It does not involve any instrumentalist on stage—with the exception of the person who projects the work during a public performance in order to maximize the use of the given space. It organizes morphologies and sonic spectra, “images of sound” (François Bayle), coming from a multiplicity of sources, but that the absence of visual identification makes anonymous, unifies and prompts a more attentive listening. (Is it by pure coincidence that the hearing of blind people is reputed to be so refined?)

It follows its very own mechanisms that, due to their newness, require coherence and intuition. It is a *causa mentale*. Finally, it sets or fixes onto a medium (magnetic tape, computer disk or other) with precision and no maybes, the most subtle nuances chosen by the composer: what we hear doesn’t resemble what is wanted, it is what is wanted. This last point is very well presented by Michel Chion in his recent book, *L’art des sons fixés, ou la musique concrètement* (The Art of Fixed Sounds, or Music in Concrete Terms).

Further, let’s stress a fact that remains underrated. If music has always been closely associated with its reproduction by performers, as opposed to many other art forms that are once and for all fixed on a medium (painting, literature, cinema, video...), it is due to the impossibility to do so differently, and not by choice. Never before, until this day, could one capture, keep, and reproduce a faithful image of sound phenomena. Before it was necessary to use a more or less precise symbolic notation to capture the ideas of composers. This gave birth to a quasi-universal practice that we have no reason to complain about or tire of.

However, this situation is neither a fatality nor a law since today we know how to fix sound as we do for visual images or text. To pretend the opposite is only to rely on habit and on the largely publicized fetishism of the performer.

Acousmatic, the art of a century that prevents the disappearance of sound, is a new and autonomous art form which certainly finds in the compact disc—a genuine sound book—one of its most convincing vehicles. The seven works brought together here belong to this reality, still young but already engaged in the next millennium.

—Francis Dhomont,
Saint-Rémy-de-Provence, July-August 1991

SOURCE: electrocd.com Francis Dhomont: Acousmatic, what is it? 2002|08|30

Acousmatic Update

Francis Dhomont

For the past few years, Québec has been considered one of the bastions of acousmatic art. Therefore, one would think that this art is well documented, and perhaps find it a bit odd that there should be an introductory article on this subject in a specialized publication. Actually, I was surprised by Contact!'s request. Still, I was told that there is a need for more information on this subject, for beginners in electroacoustics, as well as for some established composers.

Here then are several key elements extracted from some of my previous articles, along with thoughts on specific issues. I hope that the 'experts' will pardon some redundancy on my part; in bypassing the familiar information, perhaps they will find refreshing ideas.

Laying the Foundation

First announced by several precursors in the first decades of this century (Russolo, Cahill, Trautwein, Martenot, Theremin, Cage, Varèse, etc.), electroacoustic music (not named as such at the time) was born in the sound studios of the RTF [French National Radio] in 1948, in Paris, with *musique concrète*. Its inventor, Pierre Schaeffer, had the considerable merit of formulating the practical and theoretical notions for a music that required a new way of thinking about composition, and created a new sound world through the use of equally original production techniques. Indeed, in *musique concrète*, materials are selected from our sound environment, without prejudice.

All sounds, regardless of their origin, are of equal value and can be musically organized.

These elements, *sound objects*¹, originally of an acoustic or electronic nature, are recorded, then processed, edited, mixed (note the analogy to techniques used in cinema) and 'orchestrated' in the studio, through the use of an ever-evolving technology. Finally, —and this is the most important point— the organization of complex "spectromorphologies" (Denis Smalley), far removed from the 'musical note', cannot be fully realized with traditional conceptual tools; a change of such profundity requires *new compositional strategies, and very different aesthetic and formal preoccupations than those found in instrumental music composition.*

This original compositional method begins with the concrete (pure sound matter) and proceeds towards the abstract (musical structures) —hence the name *musique concrète* — in reverse of what takes place in instrumental writing, where one starts with concepts (abstract) and ends with a performance (concrete). Consequently, *musique concrète* pieces asks of its listeners that they un-program their hearing (accustomed to the matrix of pitch, scales, harmonic relations, instrumental timbres, etc) and develop an attitude of active listening based on new criteria of perception. This music is also called *concrète* because it is fixed on tape through the recording process ("sono-fixation", M Chion), in

the same way that an image is fixed on a canvas or a film. François Bayle refers to *sound images*.

Two years later (1950), electronic music, realized through sound synthesis, emerged from the WDR Studios (West German Radio) in Cologne. Antagonistic at first, the schools of *musique concrète* and electronic music finally shared their sources and techniques, and were globally identified as electroacoustic music.

Since then, this single term has come to designate an infinite number of sound realizations with little in common, aside from their reliance on electricity; it refers to popular music (electronic instruments, synthesizers, samplers), serious research institutes (CCRMA, GRM, IRCAM, MIT...), works on tape, instruments and tape, live electronic music, interactive works, etc. “The term Electroacoustic Music has expanded to such a degree that it has become a meaningless catch-all “, wrote Michel Chion in 1982. ⁽²⁾ Today, this expression reveals little of what we may expect to hear, and its use is analogous to applying the term *acoustic music* to define the entire instrumental repertoire. For these reasons, a group of composers, descendants of the school of *musique concrète*, found it necessary to find a term that clearly designates the genre ⁽³⁾ in which they work, and which calls for a particular reflection, a methodology, a craft, a syntax, and specific tools.

This term is *acousmatic* ⁽⁴⁾. It refers to a theoretical and practical compositional approach, to particular listening and realization conditions, and to sound projection strategies. Its origin is attributed to Pythagoras (6th C. BC) who, rumor has it, taught his classes —only verbally — from behind a partition, in order to force his students to focus all their attention on his message. In 1955, during the early stages of *musique concrète*, the writer Jérôme Peignot used the adjective acousmatic to define a sound which is heard and whose source is hidden. By shrouding ‘behind’ the speaker (a modern Pythagorean partition) any visual elements (such as instrumental performers on stage) that could be linked to perceived sound events, acousmatic art presents sound on its own, devoid of causal identity, thereby generating a flow of images in the psyche of the listener.

In order to avoid any confusion with performance-oriented electroacoustic music, or music using new instruments (Ondes Martenot, electric guitars, synthesizers, real-time digital audio processors, etc), François Bayle introduced the term *acousmatic music* in 1974. This term designates a music of images that is “shot and developed in the studio, and projected in a hall, like a film”, and is presented at a subsequent date. ⁽⁵⁾ Bayle has stated that, “With time, this term – both criticized and adopted, and which at first may strike one as severe – has softened through repeated use within the community of composers, and now serves to demarcate music on a fixed medium (musique de support) – representing a wide aesthetic spectrum – from all other contemporary music.” ⁽⁶⁾

Today, the act of hearing a sound without seeing the object from which it originates is a daily occurrence. This happens when we listen to an orchestral symphony on our home sound system, when we listen to the radio, or when we communicate by phone, etc. In fact, we are unsuspecting acousmatic artists. But in these examples, it is not the message that is acousmatic but rather the *listening conditions* for the communication of that message. Mozart, as he wrote the symphonies which we now hear in our living rooms, was not thinking of the CD but rather of live performances by an orchestra. In order to be designated as acousmatic, a composition should be *conceived* for an acousmatic listening environment, giving priority to the ears. This fundamental distinction is not always clearly understood by neophyte listeners.

An Art of Time Occupying Space

The term *Acousmatic Music* (or *Art*) designates works that have been composed for loudspeakers, to be heard in the home —on radio or on CD/tape— or in concert, through the use of equipment (digital or analog) that allows the projection of sound in 3-dimensional space. However, though the concert may provide the ideal presentation for an acousmatic work, it is not a *sine qua non* criteria for its existence; like books collected for our home libraries, the quality of today's commercial recordings allows us to have at our disposal a wide repertoire of pieces. Moreover, and in contrast to recorded instrumental performances, an acousmatic work on CD is an exact replica of the composer's master. While the CD may serve only as a (good) reduction of an instrumental concert, the acousmatic concert serves as an impressive enlargement of a work *composed on a fixed medium*. One who has not experienced in the dark the sensation of hearing points of infinite distance, trajectories and waves, sudden whispers, so near, moving sound matter, in relief and in color, cannot imagine the invisible spectacle for the ears. Imagination gives wings to intangible sound. Acousmatic art is the art of mental representations triggered by sound. (7)

Certain Objections

Sometimes, people complain that there is nothing to see at acousmatic concerts. That may be because there's much to hear, often unheard-of sounds. Our focus is limited; if our senses are reacting to a strong stimulus, our attention to other stimuli will diminish. Given the priority of the visual in our present society, at a time when it is no longer certain that music 'is created for the purpose of listening', the public's need for the spectacular does not leave room for the kind of concentration that befits a good audition: 'the eyes block the ears' (is it really coincidence that a blind person's hearing is often very good?). It is for this reason that acousmatic composers, inspired by Pythagoras, limit the amount of stimuli at their concerts. Instead of offering us glimpses of its existence, the act of *hearing without seeing* (Bayle) allows our mind to concentrate on the music itself.

Another critique that is often leveled at this rebellious sonic art: where are the instruments and the performers? If there are no performers, can we still call this music? As an example, allow me to quote Nil Parent, from an article in the last issue of *Contact!*

[Fall, 1994]: “Music is an art of performance, that is to say, by definition, an art in the image of time, unstorable.”⁽⁸⁾ This statement is questionable, and I have often discussed it. What has become of this supposed intangible credo? Have we ever questioned the inevitability of the fact that music, since the beginning of time, has only come to us by way of generations of performers? Instead of accepting that it is so ‘by definition’ (a concept yet to be proven), should we not instead question history itself?

Of course, music originates from oral expression and instrumental gestures. But, soon after its birth, man needed to find ways of reproducing it, of storing it; laborious efforts were made at developing notation. In order to save this ephemeral art form, this volatile phenomenon from extinction, man had no other solution than to turn to *performance* or, in other words, to a musician’s *translation* of conventional symbols. Today, in fact, we confuse the end with what was once the means: because throughout history, music has had only one way to exist —through performance— it has come to be identified with performance. Though it is obvious that this situation is what has allowed music to become an accomplished art form, the idea that this fact is unchangeable is a limitation imposed by prejudice and force of habit. We must at least admit that an invention that allows us, after several millennium, to capture, store, and reproduce sound phenomena (like what film allows us to do to movement), has truly changed our relation with time. By allowing composers to ‘stop sound’, by giving them the possibility of getting back sound organizations in their precise original state, in precise detail, and exactly where they left off, recording techniques offer music new areas to investigate, as well as new ways of realization. What will reach the listener is not a music that approximates the intentions of the composer, but rather, exactly what he intended, with all its material characteristics. This music no longer depends on performance, nor does it act as its substitute.

In passing, I would like to reply to Nil Parent, in regards to the supposed ‘devastating progress through accumulation’ that he makes reference to in his article, which, though not lacking in quality, ties nevertheless too many problems to a single cause. While he calls for the “urgent revaluation of the performer⁽⁹⁾ that the return to ‘directness’ implies”⁽¹⁰⁾, I would like to remind him that recording must not be such a terrible medium, if Glenn Gould, not what one would call your ‘average’ performer, chose it over live performance.

Perspectives

Since music, considered for many years an art of performance, can now also be presented in the form of a fixed medium, like cinema, why should we not investigate this new creative space? Let’s stop comparing it to a ‘performing’ art. It is not the sheer physical presence of performers that guarantees the authenticity of a work, but rather what is transmitted in the act of hearing; in that sense, live music is no more or less alive than music on a fixed medium; both can take on meaning if their message reaches us. In fact, though McLuhan may disagree, the *message* is not the medium, but rather the message.

We will soon celebrate the fiftieth anniversary of *musique concrète*. The evolution of this art is measured by the abundance of the repertoire that is now available. But theories concerning this art change quickly and we are only now beginning to explore its resources. Here and there one can find conferences, concert series and festivals dedicated to this art, particularly in Europe; more and more articles and books are appearing and helping to shape new approaches to composition. This is undoubtedly a new artistic path for the upcoming century; it can no longer not be taken into consideration.

Montréal, 1995

Francis Dhomont

Francis Dhomont's acousmatic art plays on spectromorphology and ambiguities between sound and meaning. He is a five time winner at the Bourges International Electroacoustic Music Competition (Magisterium - 1988); has won the Prix Ars Electronica 1992; and has his pieces regularly selected at major international conferences and festivals. He has authored and edited theoretical writings on electroacoustics and teaches at the University of Montréal. He is a founding and Honorary Member of the CEC.

1) It is important to make the distinction between *sound object* (perceived sound) and *material object* (resonating body).

2) Chion, M., 1982, *La musique électroacoustique*, PUF, Paris, P.9

3) As many others have done in other genres: serial, minimalist, spectral, rock, country, etc.

4) Michel Chion would rather keep the term *musique concrète*, since it is well entrenched. The main objection that he has faced is that it refers to a historical period. Although *musique concrète* is still alive in its contemporary form, it is likely that a renewal of terminology may trigger a similar renewal of its theory.

5) Sometimes referred to as *cinema for the ears* (this analogy should not be taken literally).

6) Bayle, F., 1993, *Musique acousmatique, propositions... positions*, Buchet/Chastel-INA-GRM ed., Paris, P. 18

7) For more information, please refer to Bayle's previously cited work, as well as the following: Chion, M., *L'art des sons fixés ou la musique concrètement* (1991), Fontaine, France, Éditions Métamkine/Nota-Bene/Sono-Concept; and, Vande Gorne, A., *Vous avez dit acousmatique?* (1991), Ohain, Belgium, Éditions Musiques et Recherches.

8) Parent, N., 1994, *Contact! 8.1: Play. The Decline of a Musical Culture*, CEC, Montréal, P. 50.

9) Is there really such a need for reevaluation of the performer in our media-star epoch?

10) *ibid*

My Sound Experience

Francis Dhomont

1st act.

I lived in Paris during World War 2. France was already occupied by the Nazi army who took into Germany a considerable part of the nourishment from the conquered countries. In the big cities, the population had almost nothing to eat, which caused serious nutritional needs which were in turn responsible for many diseases, namely among the children and adolescents.

I was fourteen at the time and there I was, with a sick eye. I was told to stop all visual activity for the period of one year: leave school, no reading, no cinema, no shows, no sports. I was supposed to live most of my time in darkness, my eyes protected against the light to avoid suffering. Not too attractive for a young kid!

In order to be occupied, and as I had always shown some inclination towards music, my parents thought of buying a piano for our house. I started improvising intuitively on that instrument, "experimenting" with impetuosity, all day long, in darkness, for several months, using nothing but my ears. I also started going to classical music concerts assiduously, where I listened with concentration - my eyes closed - to the works of the repertoire. At home it was the radio and the 78 rpm records.

After one year, I had lost my right eye but I had found a vocation. As long as my health would permit me, I would then undertake serious musical studies and do nothing else.

This is how I became a composer.

2nd act.

In the late 40s, I had the opportunity of getting acquainted with magnetic recording (on steel wire). This was with a Webster magnetophone, originally from the USA, that was being used as a dictaphone in an office. Fascinated with the sound manipulation capabilities of this machine, however rudimentary it was, I ventured, for amusement, in some studies with noises, unaware at that time of those done by Pierre Schaeffer which would lead to the birth of "musique concrete."

This is how I spontaneously discovered electroacoustic music.

Epilogue.

A long time later, already in the 60s, I abandoned instrumental composition completely and devoted myself exclusively to "acousmatique" music. What then happened to make me make such a radical decision?

Among all the logical explanations that I could give, here is one which is perhaps subjective but is probably the most important one: "Acousmatique," a derived genre from musique concrete, is an art of the audible perception, "to listen without seeing" (Bayle), a music without partition and without spectacle.

I think that my unshakable love for this kind of composition, free from notation and from the visuality of instruments, can be understood in an unconscious manner by the strictly aural conditions of my musical initiation, at a time when LISTENING meant for me the only way of communicating with the world, and where music did not have any other reality than the sonic.

Francis Dhomont, Montréal, Sept. 1998
(translations from French to English by Carlos Fernandes)

PULSE FIELD

SoundScape I

Disc II

Nicolas Vérin (France)

Nicolas Vérin was born in France in 1958. He studied at the University of California at San Diego, USA, and obtained a PhD in composition, working with Roger Reynolds, Jean-Charles François, Robert Erickson, Joji Yuasa, Julio Estrada and Gordon Mumma. He also taught there electronic music and theory as Associate in Music.

Before this, he followed the class of electro-acoustic composition at the Paris Conservatory, with Pierre Schaeffer and Guy Reibel, after classical studies in piano, theory, etc. in several conservatories and universities.

Nicolas Vérin has collaborated in 1985 and later with *musique concrète* pioneer composer Pierre Henry, who later invited him to do a piece in his studio, and also worked with many groups. In 1988, he was chosen by Jean-Claude Eloy to be in charge of the computer music studio of his new computer music center. He then joined the creation group at IRCAM, where he participated to the elaboration of several works and gave lectures and workshops.

Now an independant composer, he is the co-founder of the Ligys Studio. He teaches electro-acoustic music and composition at the Conservatoire d'Evry, near Paris.

He recently received the Prix "Villa Médicis hors les murs" by the French Ministry of Foreign Affairs, for his project to compose an electroacoustic piece in hommage to Georgia, the independant Caucasian republic, based on field recordings of music and sound in Georgia.

Web site : "<http://nverin.chez.tiscali.fr>".

Several of his pieces are available on CD :

In vino musica in Musique des vignes, GMEA MP01 (distr. Métamkine) ; *Solo Violin Piece I* in Dedications to János Négysesy, Neuma 450-95 ; *11, avenue du Midi* in Hörspiele 2, Radio France/Sacem/la Muse en circuit ; *Oui* in Arrêts fréquents, 70 works under 30" performed by Ensemble Aleph, Vandœuvre 9813, distr. Disques Concord ; *Solo III* in Paysaginaire Concrètement, PAYS9810, distr. Métamkine ; *Chassé-croisé III* in Contemporary Violin duets, by János Négysesy and Paiviki Nykter (Aucourant Records 0010-1) ; solo CD with *Courant Statique*, *Miroirs déformants II*, *Rhapsodie Parisienne* et *Transe métal*, to be published in 2003 by Aucourant Records.

Current projects :

Solid Noid, for piano, Disklavier and computer. Commissioned by the Festival Why Note in Dijon.
Vents du Monde, for saxophone, electric guitar, contrabass, drums and tape. Commissioned by Radio-France, to be premiered in September 2003 by Daniel Kientzy, Marc Ducret, Jean-Paul Céléa and Gérard Siracusa at the opening concert of Radio-France's season. Piece for bass clarinet and live electronics, commissioned by the GRM, it will be written for Louis Sclavis, who will premiere it in 2004.

Compositions

Works by Nicolas Vérin, whether for instruments, tape, or mixed music, have been performed in over one hundred concerts, including the following Festivals : Futurs-Musiques (Val de Marne), Des sons pour les oreilles (Albi), Lüneburg (Allemagne), Pacific Ring Festival (San Diego, USA), Computadora y Musica (Mexico), New Music and Technology (New London, USA), Musiques en Scène (Lyon), Festivals Bartok et d'Automne (Budapest), Auch Danse/Musique Contemporaines, Evreux, Futura (Crest), Musica e Scienza (Rome), Forum Electro-CD (Radio-France), Aujourd'hui Musiques (Perpignan), 38^{èmes} Rugissants (Grenoble), Sons d'Hiver (Val de Marne), Présence (Radio-France, Paris), Festival d'Automne de Moscou,

Why Note (Dijon), Musicalta (Alsace), Elektrokomplex (Vienna), Musique Action (Nancy), etc. They have been broadcasted on several radios (France-Musique, France-Culture, R.A.I. 3, WDR-Cologne, NDR-Hamburg, National Radios of Hungary, Greece, Spain, KPFA Berkeley, KPFK Los Angeles, etc.).

They have been performed by Philippe Cambreling, Paul Méfano, János Négyesy, Nicolas Brochot, Linda Bouchard, Daniel Kientzy, Claude Barthélémy, Daniel Tosi, Fabrice Pierre, Rémi Lerner, Cécile Daroux, Pierre Roullier, Jean-Marie Cottet, Jean Dautremay, Mark Dresser, Bertram Turetzky, Dominique My, Michael Riessler, Gérard Siracusa, Jean Pierlot, Jean-Marc Foltz, Gianluca Ruggeri, Dominique Clément, Christophe Roy, Philippe Cuper, Francis Duroy, Nathalie Geoffray, Thomas Nee, Denis Harper, Jean-Louis Jacopin, Steve Brundage, Ricardo Gallardo, Pierre Ti-Boum Guignon, Rémi Salaün, Alain Huteau, Hervé Lenoble, Drake Mabry, Jean-Luc Menet, Simon Spang-Hansen, Mariane Bitran, Luis Naon, Pascal Gaigne, Paiviki Nykter, Loie Wheeler, Bertrand Augé, Agnès Gottschewski, Nathalie Chabot, etc. and by the following ensembles : Ensemble Itinéraire, San Francisco Contemporary Music Players, Orchestre Chalon-Bourgogne, Ensemble 2e2m, Ensemble Orchestral Perpignan Languedoc-Roussillon, Ensemble Aleph, Ensemble CMC, Ensemble Harmonique de Lyon, Ensemble à vent du Conservatoire de Champigny, Quatuor de flûtes Yacha, La Jolla Wind Quintet, Ensemble Fossati, Quintette Imméa, Ensemble à cordes Stéphane Berthet...

Main works : *Di un temporale...* (1994, orchestra and electronics) State Commission for the Orchestre Chalon-Bourgogne ; *Projections obliques* (1990, fl. and cl. soli, ensemble and live electronics) ; *Instabile* (1992, ens. et élect.), State Commission for the Ensemble de l'itinéraire ; Cycle of four winds : *Phioni* (2000, contrabass and electronics), State Commission, *Khamsin* (1997, jazz drums and electronics), commission by Festival Why Note, *Bora* (1999, saxophone and electronics), State Commission, *Chinook* (1999, electric guit. and electronics), commission by Festival Musique-Action, *Vents du Monde* (sax., el. guit, cb, drums and electronics), commission by Radio-France, ; *Mariposa clavada que medita su vuelo* (1996, flute and electronics), commission by GRM ; *Chassé-croisé I, II et III* (1992-97, instrumental duets) ; *La lueur et la fumée* (1986-93, actor, perc., synth. and electronics, texts by Baudelaire) ; *una rosa... una rueda...* (1995, actor, ensemble and electronics, on a poem by Garcia-Lorca), commission by the Festival Aujourd'hui Musiques ; *Métalmorphose* (1990, percussion and tape), commission by GRM ; *11, avenue du Midi* (1995, for tape), Prize in the competition by Radio-France/la Muse en Circuit

Press Excerpts

" A great performance. (...) The Association for electroacoustic creation and research of Québec (ACREQ) presented the integral diffusion of this monument of the French acousmatic repertory [l'Apocalypse de Jean by Pierre Henry] performed by Nicolas Vérin. Remember this name. (...) The very great success of this audition was Nicolas Vérin's spatialization of the work. We're miles away from what was heard of this same at the Théâtre la Chapelle. The use Vérin made of space, his creation of axis and perspectives were properly prodigies ! Musically and artistically, despite the relative weaknesses of the piece, the performance was astounding on an orchestra of loudspeaker of very high quality. " Le Devoir, Montréal, 6 novembre 1999.

"The San Francisco Contemporary Music Players in collaboration with the Center for New Music and Audio Technology presented mixed music by Kaija Saariaho, Nicolas Vérin, Laetitia Sonami, Edmund Campion and Jonathan Harvey, conducted by Ms. Linda Bouchard. ... Nicolas Vérin's *Instabile*, for nine players and electronics, was perhaps the most exquisite work of the evening. Vérin's music exhibits all of the subtlety of a genre unconcerned with the note, seeking to integrate instruments and electronics into a single, natural sound world. His work created a single veil that seemed to lift away from the instruments and speakers alike. Multiphonic-based sections of the work as elegantly fused as Scelsi at his best are intercut with angular sections that highlight harmonies related to the multiphonics... The most complex work technologically, it showed the benefits of the evening's careful planning. Its cohesion owes to the careful correlation among timbre and other parameters. Mr. Vérin draws the unstable, vacillating quality of the multiphonics into all aspects of the piece itself. The resulting sound world never fissions into discrete roles." Eric Marty, Computer Music Journal, Spring 1998

"Pierre Guignon had the internal swing, magnificently improvising on a tape by Nicolas Vérin, of permanent poetry. Percussion is no longer the hitting spirit but sound that is caressed, rubbed, modulated, with multiple timbres, a material that a composer can grab to build his own world : Nicolas Vérin, very fine electroacoustician, young, talented, working in our region, splendid". about *Vent du Sud*, Jean-Louis Roy, Euridyce délivrée (Dijon), January 1998

"To the répertoire of interesting pieces for instrument and tape, one has to add *Mariposa clavada que medita su vuelo* by Nicolas Vérin. One can find an all classical ease, a tone that is not at all laborious and a love marriage between Cécile Daroux's flute and the tape in which the instrument is mirrored in an apparently harmonious relationship, made of complex polyphonies, seductive and elusive. This being said, I wonder if the major interest of the piece would not lie primarily in the flute part, to which Vérin gives an incantatory character like one finds in Debussy or Jolivet, with the indispensable mixture of traditional and modern performance techniques."

Jacques Bonnaure, La Lettre du musicien, n° 175, mars 1996.

"Nicolas Vérin used sound icons which become for him an essential part of this 'temps perdu' (lost time) ; he attempts to transmute his intimate experience in a communicational fact to make it objective, common to all and near the listeners. *11, avenue du Midi* is even more striking when one listens to it at home, because in interferences with the sounds of one's own house, a very rich and paradoxical interference". José Igès, broadcast "Le rythme et la raison", France-Culture, 25-1-96

"Around computer music, which he handles remarkably, he offers the music of an enigmatic yet near drama. He likes to transform voices, sounds, to make a nascent sonic stream, tracing the outline and describing the hollows and the prominences of the scenery. His music carries a trapped narrativity, connotative to the extreme, and always it transmits a nostalgic and emotional charge." in La musique contemporaine en France en 1994. Chroniques de l'AFAA N°5

"...When my complete works were given at the Paris Musée d'art moderne in 1988, Nicolas Vérin had been with me for three years. If I should have a successor, he would be one of the best." Pierre Henry, quoted in Cécile Gilly, Claude Samuel, Acanthes An XV, Van de Velde, July 1991.

1) Courant Statique

9:48 1991

"Around computer music, which he handles remarkably, he offers the music of an enigmatic yet near drama. He likes to transform voices, sounds, to make a nascent sonic stream, tracing the outline and describing the hollows and the prominences of the scenery. His music carries a trapped narrativity, connotative to the extreme, and always it transmits a nostalgic and emotional charge." in La musique contemporaine en France en 1994. Chroniques de l'AFAA No. 5

The work is an exploration of several paths connecting two extremities of the sonic gamut : balance —quasi immobile held sounds — and motion— volatile particles.

The accumulation of small dust shapes clouds that become larger and heavier, and motion ends by neutralizing itself in the internal mobility of a non-directional texture ; smarks come to perturb the permanence of stretched sounds that are continuously overlapped to form a single line, that eventually wins over. Several other masses come in addition, creating a weight and a wait, generating little by little a tension, until the point of rupture, when they explode in a lightning, a burst of sparks, rapidly fading away. This voyage inside the temporal dimension brings together static masses, of near infinite duration, and impulses so short they have virtually no duration, as if out of time : a time stopped, frozen, like Rabelais' famous frozen words, catching up to a time so accelerated it contains the whole of History in a single instant.

The sounds of *Static current* were partly realized at IRCAM, using phase vocoding techniques, while another part was done at studio Ligys, with a specially written program to derive clouds of short sounds, using the Max language and loosely based on the chaos theory. The final work was done in the traditional electronic music studio of the Groupe de Musique Vivante de Lyon, upon their invitation. *Courant statique* was premiered in the Parc de la Villa Gillet, Lyon, during a summer night in July 1991. (N.V.)

2) In Vino Musica

19:40 1992

"**In vino musica**. The music of Mauzac, light, earthly without excess, with a slight taste of stony river... the Lenc de l'elh proposes a point of harshness softened up by distant little bells. A somewhat exotic sound, low and dry, and an electronic bird complete the tableau. It is as one of these memories that evades one as you capture it, auditive and gustative notations, too brief and yet that leave an indefinable impression... The Syrah is a music/wine that is anchored, strong, which attacks with an acidity that disappears right away. Far away sounds or words, whispered, liquid, deep, it is rough and real like jute linen. The Duras is a wine whose sound has travelled much, garnered many a scent of herbs, of liquorice roots heated by the sun, of dews and autumn haze. It is a tale narrated as if by the fireside. Finally, the Braucol is an elaborated music, reflective, with electronic bamboo breathings, it's a wine of today, with vocal sounds, in which each instant

makes one bite in handfuls of bitter and fragrant berries, makes one travel."
Michel Thion, Révolution no. 673, 21 January 1993.

Mauzac ; Interlude 1 : machines 1 ; **Syrah** ; Interlude 2 : bouteilles ; **Lenc de l'elh** ; Interlude 3 : machines 2 ; **Duras** ; Interlude 4 : aquatuor ; **Braucol**

Each of these five pieces was inspired by a typical *cépage* (grape species) from the Gaillac region. In these works, I tried to establish, in a purely personal and subjective way, correspondences between several senses — sight, taste, smell and hearing. Four interludes bring some air into the piece with clearly differentiated short and rhythmic material. Some of the source materials come from the wine-making activities : sounds of fermentation, pouring or flowing liquids, bottling, etc.

The **Mauzac** opens the piece, with suppleness, finesse, smoothness, with a rather yellow color, almost golden, sweet — it is mostly used for a sweet white wine well known in the Paris bistros —, calm and *champêtre*. Follows an interlude, **Machines 1**, that combines in a rhythmic fashion several bottling machines with other sounds. **Syrah** comes next, violet, somber and slow, strongly built but with melancholy, distant and as hallucinated. The second interlude plays with **Bouteilles** (bottles), rubbed, hit one against another, and hybridized with instrumental sounds. Fresh and fruity, the **Lenc de l'elh** ("far from the eye" in *Occitan*, the old language of southwest France) gives fine white wines with bouquet, aromas of white flowers, springtime ; it is lively, light, shiny. It gives out a feeling of permanence, through held sounds or repetitions, small aerial bells, a certain plasticity, a large sonic space made up from multiple plans in which are present both fragility and tenacity. Then the **Machines 2** come out, working from small explosions of fermentation to rhythms that little by little let one hear their mechanical origin. Then comes the **Duras**, a very old *cépage*, of a bluish black, producing a delightful wine, elegant, colored, amusing. It is the occasion for a dance, in an ascending spiral shape, light and enlivened. The **Aquatuor** is a dialog between four independent parts, obtained by various filterings of flowing liquids or of fermentation. The piece ends with the **Braucol**, ("wild bull" in *Occitan*), with black bays, *grenat*, very marked. Powerful and dramatic, grave and balanced, it develops a depth and ends with wild and intense aromas.

The realization of *In vino musica* was made possible thanks to the help, in a great many different domains, of all the members from the Groupe de Musique Electro-acoustique d'Albi-Tarn, and it is in all friendship that I dedicate this work to Thierry, Roland, Marc and Vincent.

In vino musica is available on the CD "Musique des vignes" (GMEA MP9201, distr. Métamkine), along with other pieces by Thierry Besche, Marc Pichelin and jazz saxophonist Jean-Marc Padovani. (N.V.)

Ouie Dire (France)

Xavier Charles – clarinette
Jean Pallandres – microphones

With support from the French Consulate in Atlanta and the Etant Donnés Foundation, the heart of the Pulse Field project is the three-week residency of visiting artists Ouie Dire. The group Ouie Dire has been selected to work with our students to produce a sound-art postcard of Atlanta. In this project, two cultural and artistic geographies (France and Georgia) will intersect in the creation of site-specific art.

Founded in 1993, Ouie Dire is an association of musicians and sound artists who explore artistic developments through new techniques of audio recording and production, conceiving projects and original phonographic objects. Their process takes into consideration a relationship with the setting, the landscape, people, the act of recording, composing in the studio and the way of presenting the object itself, as integral and essential to their projects.

3) Paris

18:12 2000

A sonic portrait of the streets, boulevards, avenues, alleys and squares of Paris.

Approaching contemporary music
Nicolas Vérin
2003

Contemporary art music has presented for several decades a difficulty of approach to the general public, resulting in an decreasing audience. This is due to several factors, but the main one is the rupture with the tonal system, which remains the basic reference for almost everyone (although it could be argued that today, pentatonic has replaced major and minor as the main mode both in terms of what people hear and what they sing). Simultaneously, recording and mass distribution has provided music with a much broader audience and turned it into a market. To make things even more difficult, advances in research and increased awareness of the past has given to classical (and baroque, medieval, etc.) music a larger than ever footprint. As François-Bernard Mâche put it [footnote : *Musique, Mythe, Nature ou les dauphins d'Arion*. Méridiens Klincksieck, Paris 1991], the place of contemporary art music is then ever shrinking, caught in between the supermarket and the museum.

Many composers have tried to provide an introduction to their music, given that musical languages can be so different from one composer to another (or even sometime from one composer's piece to another). However, this has produced a trend of texts which wording and primarily intellectual stance seem to put away more people than they attract. The first sign of this evolution has been the generalization of specific titles. Whereas there used to be sonatas, quartets and symphonies, the XXth century has seen an increase in the use of titles, to the point where it became the rule sometime after WW II. This is of course parallel to the evolution of music itself, becoming through that period more and more remote from pre-existing moulds, and which style, form, and even instrumental combination is ever more personalized. Not only each composer, but each individual work has to call for attention on itself, provide clues to its stake, imaginary world, or hint at a way it is to be approached. Listeners are compelled to find or at least to open up to as many different listening attitudes, somewhat paralleling the change of visual approach for instance between figurative and abstract painting. The use of specific titles is not enough and composers, often requested to do so by concert organizers, provide texts to introduce their music. Given that many new music works do not get heard after their premiere performance, there is a sense of urge to facilitate the first listening, so that something can be made out of it. I believe integral serialism from the early 1950's [footnote : the principle of series applied not only to the twelve-tone row but also to the other parameters such as rhythm, dynamics, and timbre, resulting in a non-hierarchic organization, difficult to apprehend by mere listening]. started to impose the point of view of the composer to the listener. In effect, the latter is helpless if armed only by his ears and desperately looks for something to hold on to. Therefore the conception tends to take precedence over the perceptible result., the *poetic* process over the *aesthetic*. Following Nattiez, it is necessary to discriminate between poiesis - all deliberations and operations carried out by the composer in the process of composing a work, and esthesis - the perceptual process and the assignment of meaning to a work. (footnote : Nattiez, J-J. *Music and Discourse: Toward a Semiology of Music*. Trans. Carolyn Abbate. Princeton: Princeton University Press. 1979)]. Even though serialism has taken place – as a strict practice – during a very short span of time, its negative impact has been such that it still influences people, and has forged the myth of contemporary music, through which following generations have apprehended it before even listening to it.

There is also a most common confusion today between art and experiment. Whereas in fact each creation is experimental and the two notions are generally unseparable, many lay people tell us contemporary music is experimental, thus discounting its artistic value and justifying their demand for explanations so as to understand it. I believe this to be a false track, as in fact the point is not to understand, but to open up to a different listening attitude. Granted, this is not necessarily a natural and easy thing to do, but this confusion leads to another one : between intellect and sensitivity. If a rational understanding of the work is put forward through explanations, this will necessarily be to the detriment of a more sensuous approach. Yet we have here two complimentary facets of music. I will even say, as my professor Pierre Schaeffer taught me, that musical pieces need to succeed to work on three levels : sound (materials, instantaneous, sensuous), musical (language, structures, memory and anticipation) and a higher, extra-musical level ("meaning", poetic, philosophical, spiritual, etc.) [footnote : Pierre Schaeffer, *Traité des objets musicaux*, Seuil, Paris, 1966. A translation in English, long awaited, is in process].

It is difficult to find one's way in the maze of today musical currents, with the burst of the very notion of current. Individual composers are likely to vary considerably their approach from work to work. Thus a common trend with listeners, musicologists, music critics, to base their perception of new pieces less on listening than on texts about the music, that tend too often to become the principal source of

"understanding". It is not so rare that music critics write without even having heard the music they speak of, believing nevertheless they have the right to express an opinion merely based on program notes. I had myself this experience at a concert in Dijon, after which a journalist believed he could accuse me of using a "self-justifying verbose gibberish". Unfortunately for him, the text he referred to was not written by myself. The Festival Why Note that year had asked some musicology students to write analytical presentations. The evident distortion between the journalist's paper and the concert reality, as experienced by a majority of the audience, showed clearly - and it is difficult to know which is worse - either the absence of the critic during the last part of the evening, or his total deafness. [footnote : Nicolas Vérin, Droit de réponse. Le Bien Public, Dijon, 20 december 1997, also available at <http://nverin.chez.tiscali.fr/articles.html>] Such cases abound, when papers scarcely mention what has been heard, to concentrate on writings, whether they be found in the program notes or elsewhere.

This can happen too with concert organizers, or other decision-makers in the music field (such as reading panels). Their confidence in what they hear is not strong enough and they tend to ground their appreciation on side elements (writings, reputation, renown of performers or publishers of the previous works). It becomes even more serious when it reaches part of the audience. One frequently sees in the arts, for example shows one "has" to see and where most people spend several minutes to read the picture's names, dates and other pieces of information. Then they throw a mere glance to the work itself, that deserves no more, since they now "know" most of what there is to know. In the concert hall, this translates by an assiduous reading of program notes, which, added to the composer's reputation, will so bias the listening experience, that the latter can hardly ever change the previously established opinion.

What a paradox, when the essence of the musical work is inducible by definition, otherwise composers would rather write poetry, or even prose! Program notes and other introductory texts seem now to carry the whole weight to convey what music can bring. However, if music exists, one can think it is precisely because it brings something irreplaceable that cannot be expressed otherwise!

Maybe the best way to fill the gap in comprehension is through lecture- concerts. A didactic approach towards the general public has been much in fashion - at least in France - starting in the 60's, particularly with the large number of vulgarization talks given by Pierre Boulez around the Domaine Musical concerts. This formula has continued with success throughout the next two decades, with for example the weekly lecture- concerts at the Maison de Radio-France. But it seems to have run out of steam or reached grotesque proportions. One could attend in 1991 the world premiere of Pierre Boulez's new version of *Explosante-Fixe* at the Centre Pompidou in Paris. His presentation, even though extremely well done and sometimes even fascinating, lasted for an hour and half, for a then six-minutes long work ! [foot note: it was the first stage of this version, much developed since, following the "work in progress" principle dear to Boulez]. In any case, it remains that if lecture- concerts appear to me beneficial in that they allow to go beyond the surface in a lively and musical manner, they address a fringe of the audience, already motivated and partially informed.

One can also, following the example of Xenakis, decide to limit the program notes to a strict minimum, to purely factual information, so as to avoid journalistic deformations, partial quotations making no sense, and especially bad interpretations. One could even eliminate them altogether, though we know concert organizers generally quickly fill up the void by fishing a text from a paper or any other source. One could require them to make the effort of presentation : it does seem to be part of their function. But one risks getting extremely standardized and superficial texts. How then can this new music be mediated ?

I would like to relate here a particular attempt, that I was lucky enough to be able to carry out thanks to an invitation by the Groupe de Musique Électroacoustique d'Albi. It deals with an electroacoustic composition, *In vino musica* [foot note: featured in the CD "Musique des Vignes" GMEA MP9201, distributed by Métamkine, www.metamkine.com], specially composed to be the closure of the journey through the sonic show "Music of the Vines" presented in 1992 at the Centre Culturel de l'Albigeois. It is made of five movements each corresponding to a particular *cépage* (grape variety) indigenous to the Gaillac region. The music was spatialized using an installation of eight loudspeakers and was accompanied by a tasting of five wines made from the five pure cépages.

The G.M.E.A. (then composed of Thierry Besche and Roland Ossart, founders, and Vincent Geais and Marc Pichelin), and later the group Ouïe-Dire, which is an emanation from the GMEA, have carried on an extensive work on the notion of soundscape, first put forward by Murray Schaffer [footnote : *The Tuning of the World*, A. Knopf, inc., New York, 1977], or what they call "géophonie". The idea is to concentrate on a

particular area, defined for example as a "canton" (administrative entity slightly larger than a village, that includes its surroundings). In a period of several weeks, all possible observations will be made on the standpoint of sound, and recordings made very carefully. Audition in studio on the material will allow selection, as well as slight editing, processing or mixing, touching up in the manner of a photography. Such "phonographies"; a term coined by François-Bernard Mâche [footnote : cf his piece *Ianassa (phonographie de l'eau n°2)*] are much in the line of art photography, where the artistic process lies not in the creation of new material but in the capture of particular events happening at a given time and place, framed and recorded in a (necessarily) subjective manner.

The outcome of the process is to "stage" the recordings in a showing taking place in the midst of the canton, whether it be a museum, cultural center, or any suitable space. Dozens of loudspeakers are scattered throughout several rooms, allowing visitors a sonic promenade through a selection of banal or striking, sometimes beautiful excerpts, always representative of the acoustic reality of the surroundings. Visual elements, such as photos, texts, lighting, artifacts or more elaborate set designs, provide a guide on the path. Some sound recordings, because they are too long to be presented to all visitors, or their fragile nature requires complete isolation from other sounds, can be made available on headphones.

The idea is to bring out, to emphasize, to reveal to every visitor (hoping there is a large proportion of locals) the musicality contained in their environment. Their curiosity should become aroused and their sensitivity accrued to the acoustic world around them. This should develop an active listening attitude, allowing them to compose their own music by selecting distinct sounds, noticing chance relationships that may occur, unison, echo, rhythm, texture, etc. and derive some pleasure from it. If such attitude became widespread, one could imagine the world as a happier place, and people with a more open mind, also towards contemporary music.

The "Musique des vignes" showing was the third or fourth of these "géophonies", and benefited of a larger scale due to its presentation at the Centre Culturel de l'Albigeois, which co-produced the event. The chosen canton was this time Gaillac, which main characteristic is to be a wine producing area. With a long history, it produces a fine wine, with a very distinctive quality.

The GMEA invited me to compose a piece that was to conclude the journey through the exposition. By agreement, all sound recordings made by the GMEA musicians would be made available to me, and vice versa. During the composition, I noticed that several varieties of grapes – cépages – indigenous to the Gaillac region are not to be found elsewhere. I chose to base a movement on each of them, and proceeded to capture as much qualities as possible for the wines produced with each cépage : impressions of taste, smell (bouquet), look (robe), feel, as well as descriptions of the grapes. This provided me with a filter, a grid, through which I sorted and organized the field recordings that comprised grape harvesting, fermentation sounds, pouring, bottling, as well as various sounds from the environment, such as birds, distant church bells, etc. I also drew upon my sound library, carefully listening to previously made sound ranging from improvised sequences with water dropping on a cup, to synthesizer eerie drones.

It became very clear, after composing a rough version of two or three movements, that they were going to be mostly static, as the description of an instant stretched over a longer time. This seemed to me problematic since it lent to a succession of rather non-directional moments, and such contemplative mode needed to be renewed, refreshed. It then occurred to me that bottling sounds – that did not find their place yet – were very interesting and the dynamic, rhythmic qualities would provide the contrast I needed. I thus inserted an interlude between each movement, giving me a satisfying form with five movements and four interludes.

The composition process went on by combining and processing a choice of materials, adding also new ones whenever needed (created in studio using synthesizer, sampler and specific recordings). The last stages were editing (using one of the first commercially available hard disk based unit, synchronized with a 12-track digital recorder) and mixing (manually, but with four hands and a lot of rehearsing and many takes). I benefited from the assistance of Marc Pichelin in all stages, while some sound recordings were made by Thierry Besche, Roland Ossart and Vincent Geais. The latter also introduced me to Gaillac wines, in several tasting sessions in cellars or at Gaillac's Laboratoire d'œnologie.

Only during the last stages of mixing came the idea of a giving the piece simultaneously with a wine-tasting concert, as the result of a discussion with Thierry Besche, who immediately acted to make it happen. Vincent Geais chose the five particular wines, each made of 100% of a typical cépage, as I was working on the spatialization. The piece had been mixed onto six tracks, so as to allow a listening experience as full as possible, "inside" the sound. I used the GMEA's Matrica, a device they had commissioned to Ruben Fernandez (designer of the famous RSF analog synthesizers). It comprised an expendable matrix of 64

voltage controlled amplifiers (in hardware), permitting control of all possible paths from 8 sources distributed over 8 speakers. This was controlled by MIDI, using a software written for Macintosh, allowing to draw the envelopes of all sound paths. This was yet a prototype, and needed to have a higher level control, since it required to manually draw all 48 envelopes.

Fortunately, I was able to work on location, with the actual sound system and room, so I could test the result and correct it at will. Three days of intense work were just enough to write the automation of the 20 minutes piece. This was worthwhile, since the wine-tasting concert was given over 30 times in the five weeks the "Musique des vignes" showing went on.

Although a familiar experience – at least to the French – wine tasting is generally a rather unprecise one, since most people do not possess much specific vocabulary. This does not mean perception itself is not refined, but that such limited vocabulary certainly hampers on memorization and recognition (one could arguably consider this to chiefly concern specialists). Thus we are faced with a familiar yet possibly refined, but rather unintellectualized experience of concentration on one's feelings : here, look, smell, taste and feel are all called upon. Why couldn't we do the same with sound ? In a way, this is already the situation of electroacoustic music : a music which is carried through chiefly by sensation. I do not mean here to be reductive. Most achieved works present all three levels : sonic, musical, and significance. But I want to stress the fact that this type of music can bring a sensuous pleasure, often the first perception one feels, especially when it is well spatialized over multiple loudspeakers.

Thus the wine-tasting experience shares with electroacoustic music an approach based on pure sensation, and seems to be an ideal introduction to the listening experience. Indeed, it has been evident that the majority of the public was able to enter easily into an attentive listening of this music. They found support and possible comparisons which made the experience easy and agreeable. Suppleness, strength, grain, force, subtlety, flowery, red fruits, attack, sustain...here are some terms used to describe sensations that could be used towards both the wine-tasting and the music.

About a thousand persons from the Albi region (south-west of France) had the experience. For the most part, they would not even have set foot in a contemporary music concert, (or maybe even a classical one). They seemed to enjoy themselves, be at ease, and would often stay 15 or 30 minutes after the music was over, to prolong the experience, discuss among themselves and ask a few questions. Clearly, the usual bias about the difficulty of understanding this music, its "intellectualism", were absent. Once the anguish to try and understand brushed aside, and a propitious climate to pure perception was installed, this music came across easily. Without doubt, the installation, the way to organize the performance without reference to the traditional concert, all concurred to evacuate the uneasiness sometime generated by the absence of live performer (in this case, this was possibly an aid, in that it allowed to establish a different ambiance from the "bourgeois" concert that could have put off this audience).

Beyond the mere anecdote, I think this is very significant. Indeed, how long has it been and how often is it that we hear composers - other actors of contemporary music - complain about audiences that try too hard to understand rather than to be open to perception ? And yet, who wrote all these obscure, mystifying texts as program notes glanced through with anxiety concert-goers ? This is an unacceptable paradox, which we must overcome if we are to avoid complete rupture between contemporary art music and its audience.

I am not of course offering wine-tasting as the response to all problems. Merely, it has been helpful in shedding light and identify precisely the inner workings of an important issue. It suggests one kind of solution, which is to associate other media in the perception, in a way that breaks away with the traditional concert ritual. This is applicable mostly, or at least more easily, to electroacoustic music.

Maybe the most important is that the keys to a work be given by the work itself. For example, one can state from the beginning elements and relationships which are going to be the subject upon which the listening experience will be focusing. The piece must therefore be, in this perspective, its own guide, and lead the listener in a clear manner. Is it in contradiction with the depth or maybe mystery a true work of art must possess, allowing enjoyment and discovery after repeated listenings ? This fundamental question must be borne in mind, but I think it can be overcome.

A part of uncertainty is desirable in the approach of a new work. But it should not be complete uncertainty. This may much vary according to individual tastes, with one person preferring a walk at random in a wild forest, while another will need to follow clearly marked paths in order to concentrate on her feelings.

"... some of the difficulties which audiences have with modern music do not result from the fact that the redundancy rate of this music is at times so low as to be unable to counteract the cultural noise which is always present in a communication situation... Uncertainty is important in the arousal of meaning and information. One must, however, distinguish between desirable and undesirable uncertainty. Desirable uncertainty is that which arises within and as a result of the structured probabilities of a style system in which a finite number of antecedents and consequents become mutually relevant through the habits, beliefs, and attitudes of a group of listener. Undesirable uncertainty arises when the probabilities are not known, either because the listener's habit responses are not relevant to the style (cultural noise), or because external interference (acoustical noise) obscures the structure of the situation being considered.
[Footnote : Leonard B. Meyer, Music, the arts, and ideas, University of Chicago Press, 1967, p. 17,]

Therefore no situation is ideal for all. But program notes may provide, for those who want to read them, indications to what may be significant what will not be relevant in the listening experience to come. It seems to me organizers would be better advised to write up their own program notes, or have them written by competent people if they do not find themselves equipped for it. These notes should allow an understanding of the music and the composer's intentions, but should not be strictly focused on that aspect, and rather give some useful information, key indications to facilitate access, without too much bias. Indeed, each work can be approached by as many ways as there are listeners.

Moreover, any other way, for example through the association with other senses, such as images or taste, that allow an easier approach, without the need to provide explanations, seems to me highly desirable. Above all, I think of paramount importance, given the present-day context where there is no common language, that a work should contain its own guidelines, exposed in a musical yet clear fashion at the beginning of the piece.

In vino musica was an important step in my personal development, in term of composition and also in a greater awareness of the issue of the audience's perception. The time is gone when artists could remain in their ivory towers. Part of the creativity has to be spent on how to reach people, without compromises over the content.

Ricardo Climent (Spain / Northern Ireland)

Ricardo Climent was born in Valencia, Spain 1965 and completed a PhD in composition at the Queen's University of Belfast and a Master in Music Technology. His musical output ranges from acousmatic composition to large scale instrumental works involving the use live electronics and also collaborations with visual artists. His performances have taken place in Europe and America in specialised music festivals such as; ICMC-Cuba, Brazilian symposium on computer music, Rencontre del a creation musicale- Bordeaux, Sonorities-Belfast, Punto de Encuentro-Spain, Sonic Arts Network conferences-UK, Club Diario Levante, Spring in Havana, Ruidos-Mexico, Northern Ireland Now-Munich, Ciber@rt – Spain, Music at Night- Boston, CDMC-Madrid, RMA conference-Huddersfield, Musica Musikaren- Vitoria, Sounds Electric –Ireland to mention a few. His research interests focus on the use of live electronics for human interaction in the compositional and performance environment. In 2001 and 2002 commissions arise from the Spanish 'Instituto Valenciano de la Musica'. Ricardo is Lecturer in Music Technology at the Queen's University of Belfast. He also holds degrees in Economics at the University of Valencia and Fufap-Alcala de Henares, Madrid.

4) e-RRATUM

10:15 2001

As a composer, I feel fascinated by the idea of exploring new ways of combining two different sound-worlds: a) One created by methods of synthesis, and the other one b) Born as the result of transforming sounds in the studio, captured by recording techniques. This contrasted sonic scenario raised matters of integration due to the divergences in morphology and nature of the two sound-worlds. Would it be an error to challenge this problem of perception/aesthetic? Or perhaps could it become a rich source of inspiration?

e-RRATUM explores in depth this idea, not only offering solutions of integration to these unique materials which are difficult to combine but also highlighting the beauty of their divergences. Its sonic discourse involves large timbral transitions of hybrid textures as the result of crossbreeding between what is "real" and "synthetic:" which naturally shaped the structure of the piece.

"Errare humanum est" (to err is human). Dealing with and learning from errors led humanity to improve in many areas; the idea of starting a composition from a problematic aural divergence encouraged me to develop new forms of musical expression and sonorities I would never had achieved in a more rational classification of sources.

Technical note: For synthesis material, I researched Scanned Synthesis by injection in Csound, invented in 1999 by Bill Verplank, Max Mathews, and Rob Shaw, convoluted by the injection of prerecorded audio files and assisted by Microsoft Excel worksheets to create scores with intensive use of random parameters and multiple evaluation. For recorded material, audio was treated a) in the Common Lisp Music environment; b) using real time dsp tools such as granular synthesis in Max/Msp, interacting with midi controllers to produce a more "human gesture" in the process of transformation whilst experiments were recorded onto hard disk. In the context of the piece, this provides an especial character to the flow of the sound with energetic gestures, instead of large sonic transitions of synthetic materials which evolve timbrally in a slow-motion fashion; and c) 'morphing' hybrid objects (source recordings and synthesis sounds exchange dynamic envelopes) , by working on Schoadtedt's Snd, a GUI (Graphic Unit Interface) for Common Lisp Music to convolve audio files.

e- RRATUM was prized at the first SGAE Electroacoustic Competition in December 2001.

Ciarán Casey (Northern Ireland)

Ciarán Casey is a composer of electro-acoustic music at the Sonic Arts Research Centre (SARC), based in Queen's University Belfast. Having worked for a number of years as an I.T. professional (studying by night for his B.Sc. at Trinity College Dublin), Ciarán returned to college full-time in 1994, studying music at Trinity College Dublin (TCD). While there, he was very active in choral singing and was appointed Conductor of the Chapel Choir in 1996. He graduated as B.A. with first class honours in 1998. From TCD, he moved to University of Limerick (UL), where he studied for his master's degree, specialising in electro-acoustic composition and graduating with first class honours in September 1999. Upon completion of his master's, he stayed on at UL, lecturing at post-graduate level in music technology, and at undergraduate level in computer science. In October 2001, Ciarán moved to the newly launched SARC at Queen's University Belfast, joining the team there as a PhD student, specialising in electro-acoustic composition.

5) A Few Jars

4:57 2001

This piece developed out of recordings made from old bottles and jars found in the composer's home. The motivation to use these materials as source sounds for a composition was largely that with the advent of plastic, jars and bottles made from stoneware, clay, glass, enamel etc. are gradually disappearing. These jars and bottles have highly distinctive sounds associated with them which are not present with plastic materials. The exploration of this sonic world felt in some sense like an archaeological exploration, delving into sounds that are becoming part of history.

Procedures used in processing these sounds included granulation and extensive use of samplers, combined with real-time MIDI gestural control via a software interface to the samplers. These 'hands-on' techniques allowed the composer to translate his own physical gestures into musical gestures in making and moulding the sound world of the composition.

Kari Besharse (United States)

Kari Besharse completed her undergraduate studies in composition at the University of Missouri at Kansas City in 1998. While there, she studied with James Mobberley, Robert Cooper, and Gerald Kemner. Kari completed her Masters degree at the University of Texas with Russell Pinkston and Donald Grantham. Her compositional interests include both acoustic and electroacoustic/computer composition. She is also dedicated to writing new music for the guitar, her main instrument. Recent performances include the premier of her new electro-acoustic work *Small Things* at The Hyde Park Theater in Austin, Texas and a performance of *Four Songs* at the 2001 June in Buffalo Festival. In 1999, her electronic piece, *Something Buried*, was chosen to be choreographed for the EARS and FEET concert series at the University of Texas at Austin. Her flute solo, *Rings*, was chosen as a finalist in the 2000 INMC competition. Kari is currently a doctoral student at the University of Illinois

6) Small Things

10:50 2001

Small Things is a sound metaphor for the impact small events have on our lives, but also for the bitter-sweet beauty which surrounds us on a day to day basis. Almost a meditation, *Small Things* requests introspective, deep listening. *Small Things* was created with various nature sounds including the native frogs and insects of Austin, Texas.

PULSE FIELD

SoundScape I

Disc III

James Paul Sain (United States)

James Paul Sain (b. 1959), a native of San Diego, California, is Associate Professor of Music at the University of Florida where he teaches acoustic and electroacoustic music composition as well as music theory. He is Composition, Music Theory and Technology Area Coordinator and the Director of Electroacoustic Music. His duties include directing the internationally acclaimed annual Florida Electroacoustic Music Festival, now in its eleventh year of programming an international selection of electroacoustic music. Composers-in-residence for the festival have included renowned electroacoustic music composers such as Hubert Howe, Cort Lippe, Gary Nelson, Jon Appleton, Joel Chadabe, Larry Austin, Barry Truax, Richard Boulanger, and Paul Lansky. His ongoing dedication to the design and implementation of interdisciplinary projects lead to a cooperative project with colleagues in dance and electrical engineering aimed toward developing an alternative MIDI controller for dance. This project culminated in the premiere of his techno-ballet, *Ender's Game*, during the summer of 1994 at the University of Utrecht with an additional performance at the University of Amsterdam. The MIDI Movement Module, M3, developed for *Ender's Game* was nominated by the editors of Discover Magazine for their 1998 Award for Technological Innovation in Sound.

In the fall of 1993, Sain was in residence at the Swedish Royal Academy of Music as part of the Swedish-American Music Exchange. He returned to Sweden by invitation to compose at the Institute for Electroacoustic Music in Sweden, EMS, for the summer of 1995. The project initiated at EMS, "Recontextualization of Granulated and Concrete Sonic Resources," was awarded a Bicentennial Swedish-American Exchange Fund grant from the Consulate General of Sweden. During the summer of 1998 he presented and curated a concert of American electroacoustic music at the Folkwang-Hochschule/ICEM in Essen, Germany, as well as giving a workshop on computer music. His visit was funded by the Gesellschaft für Neue Musik Ruhr and the Folkwang-Hochschule, Essen. Most recently Sain was in residence at the Sonoimágenes 2001 festival hosted by the University of Lanús in Buenos Aires, Argentina, where he gave a workshop and premiered a new work for the M3 dance suit.

Dr. Sain has studied composition privately with Frederic Goossen, David Ward-Steinman, Hubert Howe, Jr., and Brent Dutton. His works have been featured at societal events, including the Society of Composers, Inc., Society for Electro-Acoustic Music in the United States, College Music Society, American Guild of Organists, T.U.B.A., International Clarinet Association, World Saxophone Congress, North American Saxophone Alliance, Southeastern Composer's League, Southeast Horn Workshop, and on the *Computer Music at Clark* [U.S.A.], *Arts Now* [U.S.A.], *Discoveries* [U.K.], and *Sonoimágenes*[ARGENTINA] concert series. Dr. Sain served as Board Member in Composition for the College Music Society Southern Chapter. He is an elected member of the American Composers Alliance and he currently sits on the Executive Committee for the Society of Composers Inc. Sain's composition *Dystopia*, duo for saxophone and piano, is on Volume 14 of the Society of Composers Inc. CD Series. His music is published by Brazinmusikanta Publications of Amityville, NY.

1) Coriolis Effect

9:23 2001

Coriolis Effect (2002), gets its title from the "effect" that determines, among other things, the swirl direction of water going down the drain. Like most Northern Hemisphere dwellers, I was delighted my first morning in Buenos Aires to witness the hemispherical difference of the swirl direction first hand. Coriolis Effect was composed as a tribute to all my wonderful Argentine friends as they search for the return of economic and cultural stability to the country they love so much. From the crunch of the harmonies in the tango to the exhalations of the bandoneón, from the creative navigation of their cars to the sharing of mate (a tea made from *ilex paraguayensis*) between dear friends, the passion of the Argentine people is evident in every part of their lives. This composition emerged from research initiated in the summer of 2001 when the composer was invited to Buenos Aires, Argentina, for the "Sonoimágenes 2001" festival of electroacoustic music.

Michael Alcorn (Northern Ireland)

Michael Alcorn was born in Belfast 1962 and studied music at the University of Ulster and completed a PhD in composition at the University of Durham. His compositional activities range from music for conventional instruments to works for live or taped electro-acoustic performance. His music has been performed and broadcast in the UK, Europe, North and South America and the Far East. He has received commissions from the BBC, The National Symphony Orchestra of Ireland, the Nash Ensemble, Singcircle, the Smith Quartet, the Irish Chamber Orchestra, Opera Theatre Company and the Ulster Orchestra.

His work has been programmed at a number of international computer music conferences and he was a featured composer at the Elektrisk Helg Festival in Malmö, Sweden, in 1997 and at the "Northern Ireland Now" Festival in Munich in 1999.

Michael Alcorn is a Professor of Composition at Queen's University and is the Director of SARC, the Sonic Arts Research Centre at Queen's.

2) Resonant Air

10:53 2000

This piece explores the concept of 'containers' as resonators of sound. The wooden body of a violin or any other stringed instrument, the metal or wooden tube of a woodwind or brass instrument and the shell of a percussion instrument or drum are all specially tuned 'containers' designed to amplify and enhance the timbral qualities of the sounds produced when the instruments are played.

In this piece I have used very simple containers such as jam jars, metal tins, wooden boxes and other objects to act as resonators for the source sounds that are used in the piece. The resultant sounds are subjected to further transformation using a computer to act as a 'virtual resonator' (for example adding reverberation, filtering and time-stretching).

This work was commissioned by 2000 Galway Arts Festival with funds provided by the Arts Council of Ireland.

Scott A. Wyatt (United States)

Scott Wyatt serves as Professor of Composition and the director of the University of Illinois Experimental Music Studios. Among other honors that he has received, Wyatt was one of the winners of the International Society for Contemporary Music National Composers Competition of 1978, the National Flute Association's 1979 Composition Competition, the 1979 Concorso Internazionale Luigi Russolo Composition Competition in Italy, the 1984 International Confederation of Electro-Acoustic Music GRAND PRIZE at the 12th annual International Electro-Acoustic Music Competition in Bourges, France, and a finalist in the 1989 Bourges Competition. He served as president of SEAMUS from 1989 until 1996. His compositions are recorded on CENTAUR, IMEB Cultures Electroniques Series, Library of Congress, MARK, OFFICE, SEAMUS, UBRES, and VERIA TZA recordings.

3) In the Arms of Peril

10:00 2001

As we proceed with our lives, hopes and dreams, and the daily ventures of life, we are at times exposed to increasingly dangerous provocations, threats and serious challenges. For some, the real issue is survival. In this composition, through the use of sonic environments and events, such confrontations are relived with the persistent search for threads of relief, from the shadow of being in the arms of peril.

Panayiotis Kokoras (Greece)

Panayiotis Kokoras (Greece, 1974-) began his musical training in 1985 at Municipal Conservatory of Katerini. He continued and completed his studies in theory of music and composition, as well as, in Classical Guitar, in Athens. At the same time he attended a two years course in electroacoustic music with Henry Kergomard. Afterwards, he completed his MA in composition at the University of York in United Kingdom.

He has participated in various composition workshops and worked in studios as Composer in Residence [M&R, IRCAM, AvantGarde]. His works have been performed and broadcast in Europe, Asia and America. He has received several Scholarships, Grants and Awards such as AHRB, Vinson, Al. Trianti (Society Friends of Music), Propontis Foundation and Hellenic Foundation of Culture.

His compositional output ranges from acoustic works to mixed media and tape one, and gains recognition by competitions such as, "The Second Seoul International Competition for Composers 2003", "Computer Aided Composition Competition" 2002 [Higher Distinction], "Ensemble Eleven" 2002 [Finalist], "Toru Takemitsu Composition Award" 2002 [2nd Prize], "Noroit Prize 2002" [2nd Prize], "Musica Viva" 2002 [Prize Winner], "Musica Nova" 2001 [Finalist], "VI CIMESP" 2002 [Honorable Mention], "Luigi Russolo" 2001 & 2002 [Finalist], "Métamorphoses" 2000 [2nd Prize].

His music published from Tokyo Opera city Publications, NOR, and Miso Musica. Finally, he is currently completing his PhD in composition at The University of York with Dr. Tony Myatt.

4) Response

9:06 2001

The composition "Response" for tape was composed during the summer 2001 at both studio "Metamorphose d' Orphee" M&R, Ohainl Brussels and Postgraduate Electroacoustic Studio at York University, UK. It is the second piece of a project in process called "Grand Piano Trilogy". The main characteristic of this trilogy is that the source of the sounds samples comes from piano only. I decided to have a unified sound source in order to go deeper in the sound and the structure of it, to find out its own gravities and tensions to explore the phenomenology of the *sound*/timbre itself.

A great variety, of artificial and natural responses triggered out by energetic impulses and resonators, characterize the piece. The response vibration may be a simple harmonic motion based on a minor second or some more complex action by distorted, inharmonic textures. The response's impulse may be as short and simple as a click of a spire along the string, a cluster by a modified hammer inside piano, a damped or pizzicato note. In that case the sound material manipulated in the time domain via convolution, granular processes, time- stretching, etc. Moreover, the response may be an elaborate resonant structure itself. The energy is applied as a repeated stream of pushes functioning as sound generator. The sources used are circular sweeping and accelerated strumming sounds inside the piano with different material like glass, plastic. The processing techniques applied are in frequency domain FFT -based cross synthesis and analysis resynthesis, as well as more standard signal processing such as harmonizing, frequency shifting, phasing, specialization etc.

The form structure of the piece is an ongoing development and transformation of the initial idea. Sections with pitch implementation followed by inharmonic one and so on. Most of the samples are recorded in small fragments; thus, it is necessary to work very close to sound, in a kind of micro montage-mixage, to develop unique timbral interactions between them.

Elizabeth Mara Bossero (Italy)

She was born in Buenos Aires, Argentina on the 15th of July 1959 (Italian nationality). She obtained her diploma in piano and musical culture in 1980 at the municipal Conservatory "Manuel de Falla". She studied with C. Saitta, G. Gandini and F. Kropfl. In 1985 she moved to Paris where she studied composition with Sergio Ortega and where she won the first prize at the "Ecole Nationale de Musique de Pantin". In 1990 she moved to Montepulciano where she worked as a teacher and pedagogical coordinator at the Musical Institute. She collaborated with the "Cantiere" for which she received commissions by H.W. Henze and G. Battistelli. In 1994 she won the second prize in the International Competition for the Avignone Contrabass, with which she still has a profitable cooperation. She then studied composition with Giacomo Manzoni at the Music School of Fiesole where she won the Antonio Veretti prize in 1995 (the jury was made up by G. Manzoni, S. Bussotti and A. Solbiatti).

In 2002 she obtained her diploma in Electronic music in the Conservatory of Perugia. She composed music for documentary films such as "Georges Courtois" (1996) and "La Maternite d'Elne" (2002) by F. Goldbronn for the French television FR3. She now coordinates collective compositions and realizes arrangements for the group "Los Tangueros", of which she is the conductor.

5) ...e ha poi chiuso la porta

14.00 2001

An homage to Jean Tinguely and N. de Saint Phalle. Sounds from the "moving machines" by Jean Tinguely.

Georgina Lewis (United States)

Perhaps it is because I suffer from tinnitus, but on some level have often tried to recreate the experience of walking around in someone's head. Most sounds we hear are externally derived and are arbitrary as to timing, orientation in space, duration, etc. I am interested in controlling these factors; creating self contained intentional worlds with them.

I work with field recordings and algorithmically derived sounds, as well as occasional instrument sources. I view sound from a sculptural perspective: the transformation of materials resulting in a dimensional tableau. Sound as object. Sound's a bit like silly putty to me, but a lot more colorful and sometimes more naughty. I come to sound from the art world and have little formal musical training. My methods are conceptual, my compositional decisions often intuitive. Formal issues are important, though by no means the sole compositional concern. There is always some underlying organizational principle.

6) Central Conflict Theory: Film with Dogs

14.00 2001

In *Central Conflict Theory: Film with Dogs* the context is provided by the source of the original sounds: barking dogs, 16mm film unspooling onto a table, and the pages of a book being turned. The sounds are tremendously processed so as to lose their original references. But in the structure of the piece, as in the movies, the book comes first.

PULSE FIELD

SoundScape I

Disc IV

Ruth v. Mengersen (Germany)

Ruth v. Mengersen started her education as a classical musician, studied dance (at the European Dance Development Center, Arnhem and the Limon Institute, NYC) and music composition with James Fulkerson, William Duckworth and Joan La Barbara. As a performer of both music and dance she has been a member of Mary O' Donnell's Dance Alliance (Dlisseldorf), Howard Katz Fireheart's KookMusicDanceTheater (Berlin) and Adriana Thompson's Company Soulskin (NYC).

Commissions include works for the Barton Workshop in Amsterdam, GEDOK Berlin, the Frankfurter Blasenserenade and various instrumentalists. III Her piece "NJa'el" received an honorable mention in the Composition Contest of the International Society of Bassists 2002. Sound installations have been exhibited in various spaces in Berlin.

Ruth has created music for choreographies by Joao da Silva, Janine Schneider and the Strong Current Dance Company, which have been performed in Germany, Italy, Hungary, Slovenia, The Netherlands and the USA. Currently she lives in Berlin where she collaborates with the visual artist Daniel Wiesenfeld and the poet S.M.Groh among others.

Having been brought up as a classical musician first, later studying contemporary dance and performance art I now search for music that encompasses both the European traditional language and the world of sound, acoustic landscapes, movies for the ear. Many of my pieces have their origin in the portrait of a character -real or imaginative, I am interested in atmospheres, emotions and the sensuality of sound. I take my materials from all my acoustic surroundings, then look at them with the eye of a classical musician in terms of structure and composition. As each of my pieces derives from a very specific emotional core, compositional technique and formal aspects vary and are defined from scratch according to the inner laws of the pieces material. (R. v.M.)

1) spieluhrstück

8:00 2001

The ins and outs of a small golden music box in the shape of a grand piano explored with a contact microphone, accompanied by the sound world of a toy harp and melodic fragments of what once had been the music box's song.

Chin-chin Chen (Taiwan)

Chin-Chin Chen, composer and Director of the GVSU Music Technology Center, joined the music faculty in 1999. Prior to coming to GVSU, she taught at Millikin University in Decatur, IL. She holds the degree D.M.A. in Composition Theory, the degree M. Mus. in Music Theory, as well as M. Mus. in Piano Performance at the University of Illinois (Urbana/Champaign), and the degree B. A. in Social Work from Fu-Jen Catholic University in her native Taiwan. Ms. Chen's electroacoustic works *Points of No Return* (1997, for two-channel tape) and *Points of Arrival* (1998, for violin and tape) won First Prize and Honorable Mention, respectively, in the Concorso Internazionale Luigi Russolo in Varese, Italy. Her works have received international performances and broadcasts in such cities as Corfu, Buenos Aires, Seoul, Lyons, Prague, Pomona, Austin, Santa Fe, San Jose, Montreal, Melbourne, Belo Horizonte, Stony Brook, Barcelona, Beijing, Nashville, and others. She is published by Media Press.

2) Points of No Return

7:25 1997

Points of No Return shifts between two different environments or landscapes. To achieve this, sounds were divided into two categories according to their nature and timbre; but as the piece goes on, some sounds from one environment also occur in the other one. *Points of No Return* employs music concrete techniques and digital editing and processing. Only at a very late stage is electronically generated sound incorporated to

color some dramatic moments. *Points of No Return* is divided into 5 sections, alternating between two different landscapes.

Mei-Fang Lin (United States)

Mei-Fang Lin got her M.A. in composition from the University of Illinois at Urbana-Champaign. She is currently a doctoral composition student at the University of California at Berkeley. She has studied with Edmund Campion, Guy Gamett, Scott Wyatt, Sever Tipei, Zack Browning. She has just been awarded a grant from the Frank Huntington Beebe Fund for Musicians to study composition in Paris during the academic year 2002-2003.

She has received awards from the "Pierre Schaeffer Competition" in Italy (Third Prize in 2002), "Look & Listen Festival Prize" in USA (First Prize in 2002), "Concours International de Musique Electroacoustiques, Bourges" in France (Residence Prize in 2001), SCI/ASCAP Student Commission Competition in USA (Winner in 2001), "Concorso Internazionale Luigi Russolo" in Italy (Honorary Mention in 2001), Prix SCRIME in France (First Prize in 2000), National Association of Composers, USA Competition (First Prize in 2000), "21st Century Piano Commission Competition" in USA (Winner in 1999), "Music Taipei Composition Competition" in Taiwan (Honorary Mention in 1998, Special Prize in 1997). Her compositions have received numerous performances and broadcast across the United States, in Europe and in Asia. She is also extremely active as a pianist.

3) Internal Landscape

8:00 2001

The piece "Internal Landscape" was influenced by the ideas from "stream of consciousness" and "surrealism". The composer has taken sounds familiar to us out of their original contexts, resulting in a sequence of events happening according to a different type of logic. The result is a musical landscape that is composed of various elements we could clearly recognize but displaced in a context that does not make normal sense to us. It's a world of sound existing in one's dream or one's fantasy.

John Gibson (United States)

John Gibson's acoustic and electroacoustic music has been presented in the US, Europe, South America and Asia, and is recorded on the Centaur label. He has received grants and awards from the Bourges Institute, the Guggenheim Foundation, the American Academy and Institute of Arts and Letters, the Jerome Foundation, ASCAP, and the Tanglewood Music Center. He writes sound processing and synthesis software, and has taught composition and computer music at the University of Virginia and Duke University. He now teaches at Indiana University, where he is Assistant Director of the Center for Electronic and Computer Music.

4) Day Trip

8:41 2000

A park in New York's Chinatown -dozens playing Mah-Jongg -tiles slapping, people talking, cars honking. I use this sound as excitation for a variety of filters, creating layers that complement and distort the original soundscape, which fades in and out amongst the swirling whine and noise of the imagination.

5) Thrum

8:55 1998

I began work on *Thrum* by recording a wide range of sounds played on my acoustic guitars. As I worked with this material, I started to explore a continuum between natural plucks and their radical transformations and synthetic counterparts. I shaped these sounds into contrasting, but interconnected, scenes. The first establishes a quick pulse that forges ahead until it suddenly collapses. The focus shifts to a sustained, raspy bass -a magnified image of the lowest guitar string. A dreamy, swirling texture eventually washes over this. The initial pulse then returns with a percussive twist, and the piece ends with memories of the opening, drowned out by a relentless low roar. *Thrum* won a Finalist Prize in the Bourges 26th International Electroacoustic Music Competition. It appears on a recent CD of music from the Virginia Center for Computer Music, released on the Centaur label as Volume 29 in the CDCM series.

Mark Chambers (United States)

Mark Chambers (1969) was born in Greenville, SC where he began musical training studying the trumpet and then voice and music theory at a high school arts program. He then attended Anderson College and earned an AFA in vocal performance and subsequently completed his BM in music theory and composition at Samford University. He then went on to study with Michael Kurek at the Blair School of Music of Vanderbilt University and Kenneth Jacobs at the University of Tennessee where he earned the MM in composition. Presently on the staff at Briarwood Presbyterian Church (Birmingham) as Music Associate he is pursuing a DMA at the University of Alabama where he studies composition with Craig First and electronic music David Durant. His musical awards include the Victor Herbert / ASCAP award and the College Music Society Student Composition Award (Southern Division). He also sits on the board of directors of the Christian Fellowship of Art Music Composers.

The books or the music in which we thought the beauty was located will betray us if we trust to them; it was not in them, it only came through them, and what came through them was longing. The things -the beauty, the memory of our own past- are good images of what we really desire; but if they mistaken for the thing itself they turn into dumb idols, breaking the hearts of their worshipers. For they are not the thing itself; they are only the scent of a flower we have not found, the echo of a tune we have not heard, news from a country we have never yet visited.

C.S. Lewis, *A Mind Awake: An Anthology of c.s. Lewis*, ed. Clyde Kilby
(New York: Harcourt Brace and World, 1968), pp 22-23

6) Winter Nocturne

4:45 2002

was created primarily by manipulating samples taken from a trumpet's various trills, fluttertongues, and even small taps. Other sounds were created using a Kurzweil K2000 synthesizer and spoken text. The text used was taken from the Book of Job and the Psalms.

*"Out of whose womb comes the ice? The grey frost of the sky, who has given birth to it?"
"He gives snow like wool and scatters frost like the ashes."*

Cheryl E. Leonard (United States)

Glass shards and pinecones, glaciers, box spring mattresses, a flock of accordions, circular saw blades, viola, the erhu, a piano, hyenas and whales and elk, Cheryl E. Leonard's music finds its raw materials just about anywhere. From these diverse sources come works that embrace the spectrum of musical possibilities: improvised to composed, acoustic to electronic, diaphanous to bombastic, tonal to atonal, notes to noise, as well as interdisciplinary and performance pieces. Many of Leonard's works explore subtle textures and latent intricacies in sounds not generally considered musical. Recently these investigations have expanded to include the creation of instruments, primarily from found materials. Her other major interests include collaboration across artistic disciplines, site-specific work, guerrilla performance, and developing new relationships between artists and audiences.

Cheryl holds a BA from Hampshire College (1991) and an MA from Mills College (1996), both in music composition. She has studied composition and electronic music with Alvin Curran, Chris Brown, George Lewis, Frederic Rzewski, Laetia Sonami, Salvatore Maccia, and Alan Bonde; and performance art with Moira Roth, Carole E. Schneemann, and Betsy Damon.

Since moving to San Francisco in 1991 she has spent many years performing and improvising with various and sundry experimental ensembles and "noise" bands, touring Japan, Canada, and the U.S. in the process. She has collaborated extensively with artists from other disciplines including three projects ("Fable," "Good Guy Bad Guy," "Eenie Macy and the Ten Step Program") as a member of the interdisciplinary ensemble RK Corral; creating an interactive sculpture, "The Making Smashing Machine," with Swedish sculptor Anna Hallin; and numerous works for dance and video. Currently, Leonard is writing the sound track for a short film by video and animatronics artist Bulk Foodveyor, and developing an installation about big game in Africa with visual artists Felix Macnee and Kelly Kirstner.

Cheryl's compositions have been performed at Sushi Gallery, Highways, Yerba Buena Center for the Arts, the San Francisco Butoh Festival, the Big Sur Experimental Music Festival, SoundCulture 96, and the National Conference of the Society for Electro-Acoustic Music in the U.S., among others. Her instrument/sculpture "The Underwater Flying Machine" was shown at Lincoln Center's "Day of Homemade

Instruments" in 1999. She is the recipient of an ASCAP Foundation Grant to Young Composers, the Elizabeth Mills Crothers Composition Prize, residencies at Villa Montalvo, Engine 27, and The Lab (with RK Corral), a Meet the Composer Grant, and has been honored in New Langton Art's Bay Area Awards Show. She has recordings available from Apraxia Records and 23 Five Inc.

In addition to her musical endeavours Leonard is an avid rock climber and mountaineer, studies aikido, and collects pinecones with handles.

THE MEANING OF MUSIC

a portal snowballs a hint revelation revolution
a suggestion falling in love a black hole in your gut
the reflection of the sky on wet sand a friend receptivity
swimming in the ocean amnesia paying attention a slap in the face
rebellion defiance a clandestine alliance a secret
the valuation of time a microcosm an experiment a gift
a surprise transport hopping trains adventure
a bike ride through the fog at 2AM wonder a severe undertow
tea & crumpets in a tree an embrace reassurance hitchhiking
desperation shooting stars every time you look up
intrepid exploration fully exploiting the confines you are given
dissolution of barriers nested memories alchemy & sorcery
eluding time trespassing the fog moon bathing
reinforcement of things you didn't recognize that you already knew
a quest examining details falling into the sky uncertainties
jumping into a reflection a fork hot chocolate dreaming unruliness
cartwheels & rolling down hills running until you're out of breath
a glass of red wine at a cafe in the south of France a wet dream about Legos
clothes that are still warm from the dryer abandon
the liquor never brewed danger terror hardcore loneliness
taking risks so that incredible things will happen to you
laughing so hard that your stomach muscles hurt the next day
visceral investigation detonation voluptuous spontaneity home
instigation nomadic lifestyles the bush being warm enough at night
roof access

7) Ma-ai**5:06 2002**

"Ma-ai" is a Japanese term which comes to me from my study of Aikido. "Ma" can be translated as "space" or "interval", "ai" as "joining" or "confluence." Thus "Ma-ai" is the joining of space, the harmony of emptiness. It is a balanced use of space, in which what is important is not the space that is filled, but the negative space which is left open. The sound materials for this piece came from elk mating calls, humpback whale songs, Inuit vocal games, and bowed box spring mattress.

8) Truck**8:12 2002**

A turbulent foray inside the engine of an ancient truck. This vehicle was parked in my neighborhood and was only started by its owner once a week- when it had to be moved for street cleaning or be subject to a \$33 parking ticket. A faded blue, shaped like an old milk truck perhaps, it lacked a door on the passenger side and if it were possible for inanimate objects to have emphysema this would be a textbook case. I wouldn't want to actually ride anywhere in it, however it did make some very intriguing sounds... And yes, the digital distortion is intentional (I thought it would be fun to play with the taboo).

9) Topos**12:41 2002**

Topos was inspired by the icy landscapes, both real and imagined, of alpine and polar regions. This is a place of concentrated experiences, where palettes are limited and intensified. White, grey, blue, and black. No matter how familiar you are with it, the landscape is indifferent to your fate. Sometimes it is a vast silence, whispers of melting or tiny movements of ice crystals excepted. Sometimes it encases the body completely in vast tumults.

All the sounds in *Topos* are derived from glass. I first created/found "instruments" including window panes, vases, bottles, covers for lighting fixtures, cubes of broken safety glass, sand, airplane-sized liquor bottles, and over 20 different sets of wind chimes (from soprano to contrabass size) made from found glass shards. The tape piece was then created from computer-mutated and manipulated recordings of the glass instruments.

PULSE FIELD

SoundScape I

Disc V

Elzbieta Sikora (Poland / France)

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 Gard (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

1) Janek Wisniewski, december, Poland

16:07 1982

In the mercurial lighting of the Gdansk factories, workers carry the corpse of Janek Wisniewski over their heads, on a door torn from their worksite. Victim of an absurd fury – Orpheus entering hell. Sikora's great musical metaphor bursts forth in a series of sonorous flashes...SOS, abstract telegraph, irradiated insects, Tibetan funereal chants, monochromatic tonality, primitive percussion, mental speleology, irony, sarcasm and laughter, Eros-Thanatos, Gregorian ritual. Liquid music, cosmic winds seething with bumblebees which buzz in the rhythm of the bullets that killed Wisniewski. Jacob facing the Angel, a struggle between Freedom and Death...

Ladistas Kijno "A page in my diary"

The piece was composed in the GRM studios during the winter of 1981/82. Just before starting the work, I had heard the heart-breaking news of the state of emergency in Poland...

Pablo Cetta (Argentina)

Pablo Cetta was born in Buenos Aires, Argentina in 1960. He studied engineering at the National University of Technology, composition under the guidance of Argentinian composer Gerardo Gandini and he received a degree in composition from the School of Music at the Catholic University of Argentina. He is professor of Acoustic and Electroacoustic Music at the University Quilmes, and also coordinates the Center for Research in Electroacoustic Music (C.E.E.-U.C.A.). In 1992 he was a visiting composer at the Center for Research in Computing and the Arts (UC, San Diego) as part of an exchange program funded by the Rockefeller Foundation. He is currently associate composer / researcher at the Laboratorio de Investigacion y Produccion Musical (LIPM, Buenos Aires.)

2) ...que me hiciste mal...

7:57 1992

This work deals with some poetic aspects of tango, the popular expression of the Rio de la Plata region, and particularly with its dramatic nature. The title refers to part of a famous phrase from urban poetry: "Tango que me hiciste mal y sin embargo te quiero" (Tango, you did me wrong but I love you anyway). Its use here refers to the fragmentation of the famous tangos used in the piece. When processed by a computer these fragments take on a new significance. There is a brief imaginary dialogue between two characters, played by two popular tango singers: Roberto Goyeneche and Carlos Gardel. The first represents the nearness of death, and the other takes a consoling attitude. Even without knowing the meaning of the words, the intonation itself suggests other stories, which themselves could be the lyrics of a new tango. This piece was realized at the Center for Research in Computing and the Arts (UC San Diego) and the Laboratorio de Investigacion y Produccion Musical (Centro Cultural Recoleta, Buenos Aires) using the CARL software.

David A. Jaffe (United States)

DAVID A. JAFFE's music first attracted international attention in 1982 when his Silicon Valley Breakdown *for synthesized plucked strings* was featured at the Venice Biennale and acclaimed by *Le Monde* and Newsweek as a landmark of computer music. This piece has since been performed in over twenty countries and has contributed to his reputation as one of the leading composers working with technology. In addition, his acoustic music for orchestra, chorus, chamber ensembles, and solo instruments has been widely performed and commissioned. Recently, he has been pioneering the musical use of the *Mathews/Boie Radio Drum*, an electronic performance sensor designed at Bell Labs. His latest work for this instrument is *The Seven Wonders of the Ancient World*, a seventy-minute concerto for Radio Drum-driven acoustic "robot piano" (Yamaha Disklavier) and an ensemble of eight instruments. Jaffe is also well-known for his technical research and software design.

Jaffe's musical language is at once personal and audacious, with aesthetic roots in the music of Charles Ives, Carl Ruggles, and Henry Brant. It embraces heterogeneity and draws on a vast range of musical resources from folk music to jazz to popular music to create complex systems of juxtaposition and hybridization, in which several highly-contrasting aspects of experience mix to produce something that is both new and hauntingly-familiar. This "maximalist" approach extends to extra-musical material as well; with elements ranging from birdsong to politics and social justice. Examples include *Impossible Animals for chorus and bird-derived synthesized voices*, in which a computer creates a hybrid between a wren and a human vocalist; *Songs of California for vocal ensemble*, based on texts from American labor activists Cesar Chavez, Joe Hill, and others; and *No Trumpets, No Drums--spatial negotiations for an Israeli/Palestinian peace settlement for pipe organ, trombone and percussion*.

Born in 1955 in northern New Jersey, Jaffe began studying violin, mandolin and composition at an early age. After playing in improvising ensembles of various genres in high school, he attended Ithaca College School of Music and Bennington College, and received a Doctor of Musical Arts degree in composition from Stanford University in 1983. He has lectured extensively in Europe, Japan, the Americas and Australia, and has taught at Princeton University, the University of California at San Diego, and Stanford University. His music has been recognized repeatedly by the National Endowment for the Arts (United States), with Composer Fellowships in both 1984 and 1989, and a Collaborative Fellowship in 1993. He served as the NEA Composer-in-Residence with the internationally-renowned vocal ensemble Chanticleer in 1991, as well as traveling to Buenos Aires on a grant from the Rockefeller Foundation, where he presented workshops at the LIPM electronic music studio and concerts featuring the String Quartet of Argentina and the String Quartet of Buenos Aires. In 1995, he was the featured composer at the Bratislava Festival of Electro-acoustic Music in Slovakia. The same year, he served as MacGeorge Fellow in Music Composition at Melbourne University in Australia, and was Keynote Speaker at the Conference of the Australian Computer

Music Association. In 1997, he presented a concert in Havana, Cuba, that was featured on national TV, radio and short-wave.

Jaffe's technical innovations date back to the early 1980's, when he developed a breakthrough technique for plucked string synthesis, in collaboration with Alex Strong, Kevin Karplus and Julius Smith (called "Extended Karplus/Strong", and an example of "Physical Modeling with Digital Waveguides".) During the same period, he developed the "Time Map", a theoretical approach to expressive synthetic performance timing. From 1986-91, he and Julius Smith created the innovative NeXT Music Kit software. Since 1991, Jaffe has been pioneering the musical use of the Radio-Drum and Radio-Baton, in collaboration with Andrew Schloss, and combining his interests in physical modeling and software design as part of the Sondius/SynthBuilder project.

As conductor, mandolinist and violinist, he has performed his music at many international forums including the Berlin, Bergen, ISCM Warsaw Autumn, Cabrillo and Bourges Festivals, the American Festival in London and at International Computer Music Conferences in the US, Denmark, Scotland, Canada and Italy. Ensembles that have commissioned works include the Kronos Quartet, the American Guild of Organists, David Starobin's Purchase Guitar Ensemble, the Mostly Modern Orchestra and the Lafayette String Quartet. His music has been performed by such ensembles as the Saint Paul Chamber Orchestra, the Modern Mandolin Quartet and the Brooklyn Philharmonic. CD recordings of his music have been released on Elektra/Asylum, Wergo, CDCM/Centaur, Vienna Modern Masters and Well-Tempered. His music is published by Schott and Plucked String Editions. His writings on music have been published in Computer Music Journal, Perspectives of New Music, Interface Journal for New Music Research and Leonardo Music Journal; and in the books *The Music Machine* and *The Well-Tempered Object*.

3) American Miniatures

14:03 1992

AMERICAN MINIATURES for computer-processed voices, violins, mandolins, guitars, banjos and drums was commissioned by Lynn Kirby for an experimental film dealing with the evolution of the American Identity. The music has two purposes---it is used both as the sound track of the film, and as a concert piece that is performed over loudspeakers in a concert setting. In both incarnations, the American historical theme is clear.

The music is in five short movements, each dealing with an aspect of the American Identity in both a particular and a general sense. The titles of the movements are as follows:

1. "*Roads West*" focuses on the urge to explore, specifically the westward movement of the 1800's.
2. "*After the Battle of Bull Run*" depicts the conflicts of race and sovereignty of the American Civil War.
3. "*The Dust Bowl*" suggests something of the loneliness and poverty of the dust storms of the years of the Great Depression, that forced farmers off their land. More generally, the movement represents the dispossessed nature of the American psyche.
4. "*Gold*" is concerned with greed and the quest for wealth, particularly concerning the 1849 Gold Rush and the building of the railroads by the ruthless Robber Barons.
5. "*Neighborhoods*" is a reminder of the influence of the past on immigrants from Europe and elsewhere.

The piece was created by processing recorded sounds on a NeXT computer. The sounds range from single notes, as is the case with the drums, to entire musical phrases. There is no score other than the algorithmic mix specification. Quarter tones appear throughout the piece, as do diverging and converging multi-speed canons. The drum material in the second movement is based on Congolese rhythms and was created using an "automatic improvisation" program written in Common Lisp. The source recordings were performed by Tom Pressburger (drums), Emily Bezar (female voices) and the composer (strings and male voices). The software used was the Music Kit mixsounds program (written by the composer), Common Music, the UCSD phase vocoder by F. Richard Moore and convolution programs by Christopher Penrose.

Music and the Computer: Up-Ending the Family Tree
Keynote Address to the 1995 Conference of the Australian Computer Music Association

David A. Jaffe

Introduction

Computer music is nearly forty years old. Electronic music is twice that old, dating back to the invention of the Theremin Vox. In that time, computer music has brought together many diverse disciplines, creating hybrids such as psycho-acoustics and algorithmic composition, as well as spawning its own diverse branches. These range from performance instruments to music printing, from MIDI sequencing to automatic transcription. Such diversification is an indication of the success of the field. Yet some categorical divisions arose as a result of philosophical schism, often in response to limitations in the technology of the day. As this is my first trip to Australia, it seems fitting to flip things upside down and take a fresh look at some of these traditional divisions. Focusing on areas such as sound synthesis, performance, and the role of the composer, we will see which of the familiar constructs still apply and which may no longer serve our best interests. The intention here is not to survey all existing work--this would require more time than we have--but rather to discuss a few examples drawn from my own work and that of several of my colleagues in order to show that hybridization is still an active force throughout the computer music family tree.

Synthesis vs. Sampling

One of the earliest dichotomies in electronic music was between recording-based music (i.e. Musique Concrete) and pure synthesis. In today's terms, this expresses itself as sampling versus synthesis. The strength of the recording-based approach is that the source material is itself of great richness. However, this complexity is achieved at the expense of flexibility. While the recording accurately depicts a snap-shot of an instrument, as soon as it is placed in a musical context requiring variety of expression, it falls flat, no more than a cardboard cut-out with nothing behind it. In contrast, synthesis allows for great malleability but is hard-pressed to create realistic sounds.

If we examine the current crop of samplers and synthesizers, we find manufacturers sensing the limitations of the extreme positions and moving toward the center, creating hybrid instruments. So-called "samplers" are enhanced by synthesis-like techniques such as pitch-shifting, looping, dynamic filtering, amplitude enveloping and other modifications that move far away from the pure recording-based paradigm. In fact, a looped sample is nothing more than a synthesizer's wave table oscillator with a wave table much longer than the period of the fundamental frequency. Meanwhile, so-called "synthesizers" now incorporate sampled wave tables, which may then be used as (for example) FM modulation signals. The distinction between sampling and synthesis is then reduced to a matter of degree - how long is the wave table and what other techniques are applied?

A closely-related issue is that of analysis-based synthesis methods versus those not based on analysis data. Analysis-based synthesis methods, including the phase vocoder and linear prediction, are similar to recording-based methods except that the recording is analyzed to convert it into a more pliable and meaningful parametric representation. These techniques offer great realism but require massive amounts of data that is difficult to manage and store. Also, in that in order to synthesize a particular musical phrase, it is necessary to obtain a recording of that phrase. When the time comes to synthesize another phrase, a new recording must be obtained. In contrast, the non-analysis-based methods, such as FM, are much more flexible but do not provide the same level of realism.

In this area, we again find a plethora of hybrids emerging. These include Xavier Serra's stochastic-plus-deterministic decomposition technique, a variation of the phase vocoder which avoids the data overload problem by separating the signal into a deterministic component, which is then resynthesized by sine waves, and a stochastic component, which is then resynthesized by filtered noise.

Another hybridization technique involves extracting only certain aspects of the source signal and using a completely different synthesis method in the reconstruction phase. This can render the distinction between analysis-based and non-analysis based synthesis extremely ambiguous. For example, consider a work of mine, "Impossible Animals", originally written for chorus and tape, but now existing in a number of versions for different instruments and tape. With a desire to explore the boundaries between nature and human expression, I began with a recording of a Winter Wren, a North-American bird with a rich warbled song. Using a frequency domain sinusoid tracking technique developed by Julius Smith, I extracted pitch and amplitude trajectories from the bird song recording. This information was then processed by a series of home-brew programs that segmented the trajectories into individual "chirps", performed time-varying time

expansion, imposed an evolving pitch range modification, tuned the flat portions of the frequency trajectories to an underlying evolving harmonic background and, most revealingly, mapped the frequency trajectory onto an interpolated set of vowels for resynthesis using the Chant vocal synthesis technique of Xavier Rodet. Because the frequency-to-vowel mapping is in effective even in rapid trills, the result is strangely evocative, as if the brain of a bird had been transplanted into the body of a wildly-gifted tenor.

We can side-step the entire recording/synthesis trade-off by moving to a physical modeling synthesis technique such as waveguide synthesis. Here, instead of trying to match a desired waveform or spectrum, a particular sound is obtained by modeling the physics of the sound-production mechanism itself. Marvelous realism can now be combined with the malleability that is necessary to synthesize expression. Furthermore, this malleability is of exactly the right kind--the parameters of the synthesis technique are precisely those that go into the construction and performance of the real-world sound-production system. For example, a plucked string model such as that developed by Karplus, Strong, Smith and myself, has both performance variables such as pick position and dynamic level, and instrument construction variables such as string stiffness and body shape. Such duplication of existing instrumental sounds is only the starting point. By extending the physical parameters far beyond their usual values, it is possible to distort and abstract the simulated physical mechanism, creating powerfully-expressive new instruments. The physical modeling approach assures that these imaginary constructs behave in ways that make intuitive sense, drawing as they do on our real-world experience.

Tape Music vs. Keyboard Music

Let us now shift our attention to the relationship between performer, composer and computer, with music for tape or tape plus instruments on one side and music for live electronics or keyboard synthesizers on the other. The schism here is largely historical, a result of technological limitations of the day. Computers were not fast enough to do sophisticated synthesis or processing in real time. Composers tended to prefer non-real time systems, where they could achieve the sonic complexity they desired, while performers, for whom real time interaction was essential, were required to use the real time performance systems. The gulf was widened by sociological factors. Non-real time systems were developed and used primarily in academia and state-funded radio and research institutions to produce art music using large mainframe computers available only in such institutions. Real time systems were most often developed by commercial musical instrument manufacturers and used primarily in popular music in conjunction with low-cost personal computers. Software reflected the priorities of these groups. The non-real time software tended to favor power, generality and fine control of timbre, while real time software emphasized ease of use and performance control of musical gesture.

Advancing technology is serving to bridge this gulf. Personal computers are now far more powerful than the old mainframes. New commercial software is beginning to support true general-purpose synthesis. Commercial synthesizers are becoming more programmable. Academic research has found its way into industry and commercial synthesizers and PCs are being extensively used in "serious" music, with composers exploring the interactive control possibilities of MIDI. General purpose synthesis and analysis systems can now run in real time using fast CPUs and DSPs. Modern hybrid software architectures, such as the NeXT Music Kit, subsume both the MIDI and Music5 paradigms into a higher-level object-oriented framework. It is no longer necessary to make an exclusive choice between fine gestural control and fine timbral control.

The tape versus live dichotomy is in reality a continuum. At one endpoint are pieces for tape and performers, with the instrumentalists slavishly synchronizing to the computer. At the other endpoint are pieces for keyboard synthesizer, where the roles are reversed, with the computer slavishly following the performer. The region in between, in which the computer and the performer form a more flexible relationship, is still largely unexplored.

The first step is to free the performer from the need to strictly follow a tape part, but without requiring a keyboard player to perform the entire electronic score. One way to accomplish this is for the computer to "listen" to the performer, either via MIDI or using pitch and amplitude detection on the audio signal itself. The computer maintains an internal representation of the score, follows where in the score the performer is and adjust its own performance accordingly. A commercial product based on this approach has been released by Coda, based on work by Roger Dannenberg. Another approach is for a conductor to lead the electronics in a similar manner to the live performers, using a device such as the Buchla Lightning or the Mathews Radio Baton.

The situation becomes particularly intriguing when such controllers are used as "virtual instruments." Here, a performer has the opportunity to use his or her familiar language of physical gestures--that of violin technique, for example--but with these gestures assigned a new meaning. The roles of composer and performer are redefined. Instead of the composer providing the performer with a description of the notes and the performer rendering an expressive reading, the composer is responsible for specifying the behavior of the virtual instrument, creating a virtual world or musical language in which the soloist is free to express him- or herself. It is up to the composer to determine where on the continuum between expression and improvisation to position the performer.

To give an idea of what is possible, let's take a close look at the extended cadenza from the "Statue of Zeus" movement of "The Seven Wonders of the Ancient World", a large-scale concerto I recently completed. The piece is scored for the Boie/Mathews Radio Drum--a variant on the Mathews Radio Baton--controlling the Yamaha Disklavier robotic grand piano and accompanied by an ensemble of eight plucked string and percussion instruments. The effect of the Drum/computer/piano combination is of a hybrid instrument that maps the gestures, techniques, idioms and cultural associations of percussion performance onto the piano mechanism, with its own history, expectations, and mechanical constraints. The goal was to allow the soloist freedom to realize the virtuosic potential of his instrument, while at the same time retaining sufficient influence over the musical material, so that the cadenza is guaranteed to fit within the context of the composed concerto form.

Here is a description of the algorithm devised in collaboration with the soloist, Andrew Schloss: The right mallet sends information to the computer whenever the performer strikes the Drum surface, while the left mallet reports its position continuously. The computer interprets the information--width (X), height (Y) and depth (Z)--to control its own note generation process that, in turn, controls the piano. As the left-hand Y value moves from the region furthest from the performer to the region closest to the performer, the piano changes from playing chords in whole notes to half notes, quarter notes, eighth notes, sixteenth notes and, finally, thirty-second notes. The spacing and number of notes of the chords also changes; the greater the note's rhythmic value, the wider the chord spacing and the more notes per chord. At the same time, the right mallet can be used to introduce a new tempo in the matter of a metric modulation. The performer plays a new tempo with the right mallet, then presses a foot pedal which causes this pulse to be used as the new tempo for the left mallet's automatic material. On top of this, the right mallet's velocity determines the loudness of the notes played by both mallets. The X value of each mallet determines the transposition of the chord, where moving right on the Drum corresponds to higher transpositions. This configuration of the Drum/piano allows the soloist extensive improvisational freedom. However, it also constrains the possible piano sonority to the extent that the cadenza has a certain immutable character, no matter what the soloist plays.

The possibilities really open up when more than one virtual instrument are combined, as Schloss and I explored in "Wildlife", a duo for Zeta violin, Radio Drum, and NeXT and Macintosh computers. No longer is the violinist responsible only for the violin, while the drum is the exclusive providence of the percussionist. Instead, the boundary between the instruments becomes permeable, to an extent that may be controlled as a compositional parameter. The environment can be further enriched by semi-autonomous computer processes. These seemingly-intelligent organisms may either support, contradict or ignore what the human performers are doing, adding their own peculiar brand of virtuosity and expression.

Engineer vs. Artist

Conceiving of music in this way leads us to question yet another traditional dichotomy: the distinction between engineer and artist. Computer music imposes great demands on a composer. In addition to writing music, he or she is called upon to build instruments, create expressive performances and now, in addition, develop, rehearse and conduct interactive ensembles. Collaborations with sympathetic engineers can be invaluable. But to make the most of the computer medium, composers must also be willing to expand their expertise to include portions of the technical realm. Combining the technical and musical perspectives within a single mind allows for a much more fluid and organic compositional process. Luckily, learning to program computers is not particularly difficult and music programming is becoming easier, thanks to modern graphical programs like SynthBuilder, Kyma, Max and many others, applications that blur the distinction between the user and the programmer.

It is this quality of the computer--its programmability--that converts it from a quirky appliance to a tool for extending the mind. The computer reveals itself as simply a general-purpose programmable machine. The composer can choose to leave this programming to someone else or tackle it him- or herself. More

realistically, he or she can mix these two approaches, using existing software where it suits the musical conception and writing new software when necessary.

The composer who does decide to program the computer gains the opportunity to tailor the language in which compositional ideas are expressed to the ideas themselves. This process is usually considered the realm of yet another branch of the computer music tree, algorithmic composition. But, with the exception of research into artificial intelligence, algorithmic composition can be seen as simply a means of expressing ideas in a compact manner, with the only limitation being the ingenuity and imagination of the composer.

Computer Music vs. Music

We have arrived at the root of the computer music family tree and will attempt our most subversive up-ending. The traditional conservatory viewpoint sees computer music as a tiny twig on the giant tree of Western music composition, dwarfed by such massive limbs as orchestral composition, choral composition, etc. Yet, computer music is far more general than all these other media combined. While all string quartets are constrained by the physics of the instruments and the (admittedly, ever-extending) limits of human virtuosity, no such boundaries exist in computer music. Computer music is an unbounded realm of idea, constrained only by the physical limitations of the medium of projection, which may be a set of loudspeakers, a Disklavier, or even a video screen. The computer is not a medium, not a style, but an apprentice, wildly-gifted in some ways, hopelessly simple-minded in others. In the best computer music, the computer itself disappears, allowing the personality of the composer to shine through.

Although computer music as a separate discipline has served us well for many years, perhaps it has become too comfortable a niche. The time may come when you can go into a record store and no more expect to find a record bin marked "computer music" than a bin marked "electric guitar music". For now, may the kind of hybridization and cross-fertilization discussed here continue to produce vital works of art, science and technology.

Daniel Teruggi (Argentina / France)

" My primary focus in music is to explore the realm of interactions and enrichments between instrumental and electroacoustic sound."

Born in Argentina, Teruggi has lived and worked extensively in France and Europe. He composes mainly electroacoustic music, often with with solo performers playing acoustic instruments.

Daniel Teruggi currently lives in Paris. He is Director of the Groupe de Recherches Musicales, Manager of the Research And Experimentation Department at INA (Institut National De L'Audiovisuel), and travels extensively as composer and lecturer on technology and aesthetics.

4) Leo le jour...

5:15 1985

Jacques Lejeune (France)

Jacques Lejeune uses in his compositions frequently realistic materials, which are loosened from their environment and used as surrealist elements. Thus an ambiguity between the occurrence fixed by the sounds and the musical cause develops.

5) Portrait de jeune fille au miroir, ou Etude aux silences 11:56 1998