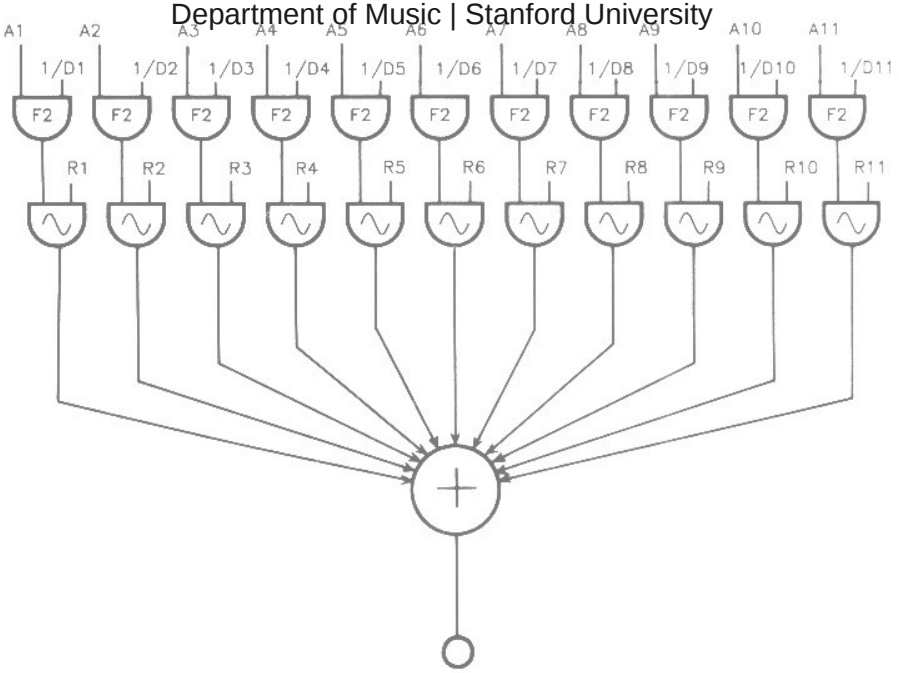
Department of Music | Stanford University



CCRMA

presents

Jean-Claude Risset

concert and colloquium

CCRMA Stage | Wednesday, March 30, 2011, 5:15 pm

CONCERT PROGRAM

Duet for one pianist (1989-1992)
Doubles
Fractals
Echo
Narcisse
Mercure
Jean-Claude Risset, Disklavier Acoustic Piano

Nuit (2010) - 8-channel tape
from the tape of Otro (L'autre)
Voice on the tape: Nicholas Isherwood

Kaleidophone (2010) - 16-channel tape
Up
Keyboards
Percussion I
Percussion II
Winds
Fire
Chorus
Eole

Five Resonant Sound Spaces (2002) - 8-channel tape

Please turn off all your electronic devices.
Jean-Claude Risset's Colloquium will begin immediately after the concert in the CCRMA Classroom (downstairs). A reception will follow.

PROGRAM NOTES

Duet for one pianist (1989-1992)
Eight sketches: duet for one pianist

This is probably the first piano "duet" for a single pianist: in fact the pianist has a "partner" - but an invisible, virtual one. A computer program "listens" to what the pianist plays, and instantly adds its own musical part on the same piano: this part is not a mere recording, it depends upon what the pianist plays and how he plays. Hence we have a genuine duet: the pianist's partner, although unreal and computerized, is sensitive and responsive.

This process - the first example of a live performer-computer interaction in the acoustic domain - was first implemented in my Eight sketches: duet for one pianist, realized in the Media Laboratory at M.I.T. in 1989, with the invaluable help of Scott Van Duyne, and premiered in the Media Lab "Cube". It requires a special piano - a Yamaha Disklavier - equipped with MIDI input and output. On this piano, each key can be played from the keyboard, but it can also be activated by electrical signals: these signals trigger motors which actually depress or release the keys. Each key also sends out information as to when and how loud it is played. The information to and from the piano is in the MIDI format, used for synthesizers. A Macintosh computer receives this information and sends back the appropriate signals to trigger the piano playing: the programming determines in what way the computer part depends upon what the pianist plays. I later realized three Etudes in the Laboratoire de Mécanique et d'Acoustique, C.N.R.S. Marseille. The programs were implemented with MAX, a powerful graphical software environment written by Miller Puckette at IRCAM and available through Cycling 74.

In each Sketch and Etude, I have tried to explore and demonstrate different kinds of live interaction between the pianist and the computer. We shall hear two of the 8 sketches, Doubles and Fractals, and the three Etudes, Echo, Narcisse and Mercure.

Doubles. The pianist plays alone, then on the repeat the computer adds ornaments. These are prerecorded: they are called when the pianist plays certain notes; their nuance and tempo are influenced by performance of the pianist.

Fractals. To each note played, the computer adds five notes spaced approximately - but not exactly - one octave apart. Thus the pitch patterns played by the pianist are distorted in strange ways: an octave jump is heard as a semitone descent.

Echo. The computer echoes the pianist - not as a mere repetition: the echoes are transposed in pitch and in tempo, and they can occur with different delays with respect to the original utterance.

Narcisse. Here the relation is akin to a mirror reflection: the pitch intervals are inversed—a fifth is reflected into a fourth and vice-versa. The center of symmetry is a note of the keyboard which varies throughout the piece. The reflection can also be retarded with different delays.

Mercure. In this kind of scherzo, the pianist triggers arpeggioes at different speeds. The speed is set either by the tempo of certain patterns played by the pianist, or by the pitch he plays, or by the loudness. The arpeggioes move through pitch space somewhat like shapes in a kaleidoscope.

Cf. J.C. Risset & S.C. Van Duyne (1996). Real-time performance interaction with a computer-controlled acoustic piano (avec 10 minutes d'exemples sonores sur disque compact joint au journal). Computer Music Journal, 20 n° 1, 62-75.

Nuit (2010)

We shall hear a short excerpt from the 8-track tape for Otro (L'autre); a work for bass voice and tape dedicated to Nicholas Isherwood for his cycle The Electric Voice, premiered in Stanford on february 16, 2010/

The title alludes to a novel from The book of sand by Jorge Luis Borges, Otro (L'autre) (in English The other), which relates an encounter of the writer with himself as a younger man. The fictitious realities of Borges have fascinated me for a long time, and this appears in filigree in this piece. Thus Nicholas Isherwood sings live in dialogue with acousmatic sounds that include versions of himself I have recorded his voice at GRM Paris, courtesy of Daniel Teruggi, and processed the recordings into vocal polyphonies distributed spatially on eight audio tracks. In addition to the vocal material, I have resorted to several processes of sound synthesis or processing which I developed at different periods of my life – anachronistic encounters.

Nuit alludes to time and death in the text, quoting popular Spanish cantos and names of extinct Indian tribes, and in the music, through silences, continuous or discontinuous energy surges. The spatial positions or motions of the sound sources have been set in relation with the scenarios evoked by the music and the text. The detailed 8-track spatialization takes advantage of Holophon, an advanced software designed at GME Marseille by Laurent Pottier and in continuing development by Charles Bascou, to whom I am grateful for his help.

Kaleidophone (2010)

This work was commissioned by Joachim Heintz and Musik für heute for the project Sixteen Daily Experiences on the Platz der Weltausstellung Hannover (2010).

An array of 16 loudspeakers more than 10 meters apart is quite an exceptional set-up: it reminded me of a kaleidoscope breaking up a visual scene into different spatial regions. So I called my work Kaléidophone, and I regard it as an installation rather than as a normal piece.

Walking amidst the sound sources during the performance will change the perspectives I hope it will be an experience for the listeners. For me it is the occasion of a rare experiment, since I have to check my prediction of the heard effects. I have wished to submit different kinds of soundscapes to this most unusual spatial dispersion.

So various sonic scenes take place. Certain will appear to move swiftly through the array*: sounds of water, wind, fire, also percussions. Most of the soundscapes will be distributed between the speakers percussions again, crowds, pitch and rhythm illusions, keyboards, synthetic bells, turbulent air flows …

The succession of scenes or soundscapes is as follows upwards and up-downs (3mn40s), keyboards (1mn17s), moving percussions and steps (44s), dense percussions (32s), wind (1mn20s), fire (1mn27s), choruses (2mn30s), Eole – winds, legato/staccato (1mn40s).

* Motions produced with the help of the spatializer Holophon from Groupe de Musique Expérimentale de Marseille, for which I thank Charles Bascou.

Five Resonant Sound Spaces (2002)

Resonant Sound Spaces (Espaces résonants) is a spatialized version of Resonant Soundscapes (Paysages résonants), a work commissioned in 2001 by the city of Basel and dedicated to Gerald Bennett. The 8-track spatialization has been realized in 2002 at Groupe de Musique Expérimentale de Marseille (GMEM) thanks to the spatialization software Holophon by Laurent Pottier.

Our hearing seems to be well-equiped to sort sounds in terms of the pervasive paradigm excitation-resonance. Five Resonant Soundscapes was not intended as a systematic study of the phenomenon of resonance, but the sound material calls mostly for resonant tones, both synthesized, recorded and processed percussions and plucked strings (free vibrations of excited solids), brasses and horns (forced vibrations of air masses), resonant filtering, rever-

beration.

The adjective resonant also serves as a metaphor. It refers to one's strong reaction to certain sounds or sound sequences, in particular to the symbolic connotations of their apparent origin - even though this origins may be illusory. The piece evokes or quotes sonic elements to which I strongly resonate the bell tone at the onset of Varèse's Poème électronique, motives sung or performed by Irène Jarsky, Denise Mégevand, Michel Portal and Serge Conte, bell concerts organized by Llorenc Barber, tones from the percussion instrumentarium of Thierry Miroglio.

The spatialization turning soundscapes into sound spaces has been effected from the multiple tracks of the Pro Tools sessions, that is, starting from multiple sound sources before their stereophonoic mixing. The spatial dissemination of sounds enhances depth is the litteral sense, but also in the figured sense it helps hearing to sort out the multiplicity of sound sources, thus facilitating for the listener a personal exploration of the proposed sonic territory. But it also proposes specific spatial figures.

The total duration of the piece is about 14 mn 30 s. The titles proposed for each of the five sections - five different soundscapes - refer to the material or the process used. However these may be illusory or "virtual" - for instance, all the "bells" of the second part of section V (except one) have been synthesized no metal, no percussion. The sections are entitled as follows

1. Bell, brass, metal (2mn45s). This section mostly resorts to recorded sounds processed in simple ways frequency changes with or without change of duration, time reversal. At the beginning, one can hear three synthetic variants of the bell tone opening Varèse's Poème électronique, from an analysis realized by Vincent Verfaille. Spatialization locates various sounds in various places - only exceptionally does it suggest motions of sound sources.

2. Filters (2mn52s). After calls and responses from brass tones, a filtered echo introduces tiled clarinet arpeggios ascending toward a A, a B or a F, heard through a set of resonant filters tuned to certain harmonies. The feeling of giration is reinforced by illusory spatial rotations (in the sense of stars for the A motive and in the other sense for the others. Toward the end, two fixed percussions introduce a rapid and swiftly moving flute motive, and a bird circling around further and further.

3. Plectra (1mn54s). Thanks to the computer control of the motions of hammers and dampers, the Yamaha Disklavier mecanized piano of the "Laboratoire de Mécanique et d'Acoustique" of CNRS in Marseille helps to produce sounds on direct actions upon the strings, like using plectra, thus turning the piano into a variant of the harp. Putting fingers at specific positions along the strings in-

hibits certains partials and reinforces other ones. The spatialization attempts to suggest resonances expanding on large harmony boards.

4. Reverberated (3mn17s). This gloomy section was realized in the aftermath of September 11, 2001. Crowds, screams and laughs, rumors, cymbals, choruses, voice, organ, through an ample and slowly moving reverberation. The section is concluded by distant explosions from an obscure disaster.

5. Bell, horns (3mn40s). Scansed by ship horn calls, the fifth section alludes to the book Les cloches de Bâle: recordings and reconstitutions of material bells are answered by a virtual chime of synthetic tones enregistrements ou reconstitutions de cloches matérielles répond un carillon virtuel de sons de synthèse. This chime unfolds structures composed in non-real time twenty five years earlier, which can now be invoked through real-time gestures to yield bell-like tones as well as fluid or rebouncing textures. The spatialization fills the space by demultipling the sources and dematerializing them through illusory motions.

Resonant Soundscapes has been realized in Marseille with my own laptop G3 computer. I have used the following software MaxMSP, ProTools, Sound Hack, Peak, MusicV. I recorded certain sounds on the Yamaha Disklavier piano of the CNRS Laboratoire de Mécanique et d'Acoustique in Marseille - I managed key actions by computer and modified the tones by acting directly on the strings. Resonant Soundscapes is a piece for "tape" (for recording medium, but it has used certain tools - specially MaxMSP and the Disklavier - which permit to control sounds in real-time . Thus resonant filtering - tuned to specific "chords" was performed in real-time, and so were inharmonic bell-like structures I synthesized in non-real time many years ago, and which are turned into fluid or bouncing textures. The spatiazation to 8 track, yielding Resonant Sound Spaces, has been realized on a G4 computer of the Groupe de Musique Expérimentale de Musique de Marseille, using the powerful Holophon software implemented by Laurent Pottier.

I wish to warmly acknowledge in this respect the work of Denis Lorrain, Antonio de Souza Dias, Daniel Arfib, and of course Laurent Pottier. I also thank Vincent Verfaille and Jérôme Decque for their help.

The realization of the piece and the collaborations are described in the following article (in French): J.C. Risset, D. Arfib, A. de Sousa Dias, D. Lorrain, L. Pottier. "De Inharmonique à Resonant Sound Spaces temps réel et mise en espace." Actes des 9èmesJournées d'Informatique Musicale, Marseille, 29-31 mai 2002, 83-88.

Jean-Claude Risset, born in 1938, is a French composer and researcher. After a solid training as a pianist, he studied composition between 1961 and 1964 with André Jolivet. A pioneer in computer music, he worked with Max Mathews in the 1960s at Bell Labs, and quickly developed an international reputation based on his work on psychoacoustics and sound synthesis: imitation of instruments, including computer brass synthesis; pitch paradoxes; synthesis of new timbres; sonic development processes; and a sound catalog of synthesized sounds. He has worked in several other renowned scientific research institutions such IRCAM in Paris, and the Laboratory of Mechanics and Acoustics of the CNRS in Marseille, where he is Emeritus Director of Research. His catalog includes acousmatic pieces (fixed media) and instrumental works with and without electronics. Risset's scientific work constantly feeds his work as a musician, and vice versa. For his pionnering work, he received the first Golden Nica (Ars Electronica Prize, 1987), the Giga-Hertz-Grand-Prize 2009, and the highest French awards in both music (Grand Prix National de la Musique, 1990) and science (Gold Medal, Centre National de la Recherche Scientifique, 1999).

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upcoming events

April 2, 2011 – Modulations: sound installations, dance, and live electronic music. SOMArts Cultural Center, San Francisco. For more information please visit http://ccrma.stanford.edu/
April 6, 2011, 5:15pm – CCRMA Colloquium with Seth Horvitz: "Automation Is My Salvation: Eight Studies for Automatic Piano"
April 13, 2011, 5:15pm – CCRMA Colloquium with Jon Leidecker: "Variations: A History of Sampling Music"
April 19, 2011, 8pm – Bob Ostertag and Jim Magee concert.

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