

From Mathius Shadow-Sky, just a musician, Toulouse, France <centre bombe@gmail.com>

To Pr. Stefan Weinzierl, head of TU Berlin, Audio Communication Group
<stefan.weinzierl@tu-berlin.de>,

To Prof. Germán Toro Pérez, head of Institute for Computer Music and Sound Technology
Zurich University of the Arts <german.toro-perez@zhdk.ch>,

CC Philippe Kocher <philippe.kocher@zhdk.ch>,
Dr. Jan C. Schacher <jan.schacher@zhdk.ch>,
Michael Müller <Der-Regierende-Buergermeister@senatskanzlei.berlin.de>,
Jean-Luc Moudenc <jean-luc.moudenc@mairie-toulouse.fr>,
Tom Enders <tom.enders@airbus.com>,
Francis Grass <francis.grass@mairie-toulouse.fr>,
Marie Déqué <marie.deque@mairie-toulouse.fr>,
Impuls neue Musik <prune.hernaiz@lebureauexport.fr>
Tobias Rothfahl <trothfael@prohelvetia.ch>

Subject: **The choreosonic:** the polytrajectophonic instrumental orchestral music at TU Berlin and ICST Zurich. Here is what we could develop together with **Les Guitares Volantes** (the Flying Guitars) electric string quartet jointly at Berlin TU and Zurich ICST and Toulouse:

Toulouse, April 26, 2018

Hello,

We are organizing with the help of Impuls Neue Musik a "visiting" workshop-music-performance (in the dark) tour in European parks and gardens of adapted cities. This, to experience outdoor spatial European sound technology performance, for adapted original orchestral live music. This, to enjoy the audience ignoring this unknown spatial music, and in particular: the polytrajectophonic instrumental music I am conceiving since 1980.

Berlin and Zurich are 2 cities where at the TU and at the ICST are developed a moving sounds technology in space. We are curious how these technologies can be adapted to the context of a live orchestra. We are and offer the electric strings quartet Les Guitares Volantes (born in Toulouse the 26 January 2017) to perform alive music (not recorded) in real time with the polytrajectophonic technologies. The purpose is to create the choreophonical music (with several turbulent dancing trajectories in space). In the orchestra (which has international guests; the orchestra can be, for now, a 10 musicians orchestra with 10 independent trajectories), we perform electric music instruments: from electric guitars to analogue keyboards and synthesizers: the point is: the orchestra does not play acoustic instruments because the sound has to fly from a unique source (musicians do not fly!), and the orchestra does not play recorded sounds.

L'orchestre spatial international à cordes électriques : Les Guitares Volantes
Die Internationalen Elektrisch Raum Orchester: Der Fliegenden Gitarren
The Space International Electric Orchestra: The Flying Guitars

How we can joint our common interest? to realize a workshop-concert at Tempelhof in Berlin and in botanical gardens in Zurich with those spatial technologies?

My personal quest as composer during 40 years:

I'm waiting for so long the spatial sonic tool that would allow me to write turbulent choreophonies.

I have been waiting for 40 years for an instrument that generates trajectories in space, an instrument that allows me to create polytrajectories without any limitation of speed (in 1994 and in 1998, I highlighted the "spatial tones": [<http://centre bombe.org/spatialfrequency.html>] that spatial moving sound speeds beyond

40ms between loudspeakers meet audible frequencies) or dimensional path and trajectory figures, to compose a physical turbulent music. For 40 years, I have been dealing with the machines and men I met, which no one were intended for what I conceive as space music: a sonic ballet of physically perceived trajectories (its presence on our vibrating skin and crossing through our bodies), whose the audio source is the music instrument performed: a musician in an orchestra performing a musical instrument, where the trajectorization is formed by it additional instrument within his/her musical instrument. The musical instrument and the music can not be cluttered with screens that clog the sense of the audible. The instrumental play is controlled by the cerebral ear and by performed gestures, in a reflexive loop touching the vibrations.

This is what we do with my last orchestra: Les Guitares Volantes (The Flying Guitars, Der Fliegenden Gitarren) with 4 or 5 hardware trajectorization machines, called Orfeusz 206 (we would have loved to test the Orfeusz 412) created by Nicolas Holzem (who left far away on a motorcycle trip), trajectories generator with its peculiarities and limitations. The first system I conceived and realized with the help of Lawrence Casserley in London in 1983 was for the music Ourdission, for 3 flutes and sound architectural environment. Revisiting Lawrence 30 years later, he told me he cannot remember what he did at that time (with a ZX80)! But Lawrence advised me that the ICST Ambisonics system which according to him is the tool more adapted for my polytrajectophonic and choreosonic music (and to perform Ourdission's trajectories) although the access of the program is not practical! Indeed, he is not. In the 90s, I met Anadi Martel's SP1 machines that had stopped working today, and like Nicolas Holzem, Anadi moved on.

The link between Berlin Technical University (TU Berlin)* with the Institute for Computer Music and Sound Technology at the University of the Arts in Zurich** is expected to materialize with a joint program for the polytrajectophonic instrumental spatial music realizing the music choreophony, this, in an open-air park in Berlin at Tempelhof, and in Zurich at the Botanical Garden (?) that, would weave a strong link with the orchestral electric music, starting with Les Guitares Volantes (The Flying Guitars, Der Fliegenden Gitarren), which is the fundamental motivations to start to develop machines for polytrajectorization to get music choreophonies in space and: being composable as playable in "real time", where the "parameters space" added to the musical instrument are performed as musical instrument.

The machines and programs of spatialization today remain, for the non-recorded music only with the state of attempt... Because the new ideology implanted in minds since the 80s of the XXe century is: "to siege the audience" or "to beleaguered the spectator" an ideology that is opposed to what Iannis Xenakis and Karlheinz Stockhausen impelled to develop for space music from 1958 to 1988. Indeed, the space at that time resided in the idea of space travel (1969: the moon landing) = the idea to escape. The machine I used in the 90's: the SP1 of Anadi Martel, was closer to the musical instrument. Because it is about this: that the spatializing machine is transportable and playable as a musical instrument, and to be able to compose its purposes in contrary of a robot which by its visualized automation, without real choice, obliges the musician to "stay in circle" in its closed system.

Specifically, Les Guitares Volantes (The Flying Guitars, Der Fliegenden Gitarren) use an outdoor sound system arranged in a 16 summits of an asymmetric polyhedron marked by 16 speakers (doubled for a 90° angle opening) distributed such as: 4 peripheral speakers in the sky, 1 central speaker in the sky, 4 peripheral speakers on the ground, 4 central speakers on the ground (180° angle opening) and 3 speakers for the long distance: the horizon of the ears. Today's digital mixing consoles have usually 32 input channels with 16 output channels (although there are a number of higher channels on which depends the financial rental cost, which depends on grant). The sound spatializers we own for the choreophony are currently 4 Orfeusz 206 which produce 4 paths and 8 trajectories which are hexaphonic, this, obliges us *to use the routing of a digital console as a musical instrument* to modify the paths (in the quartet, we are actually 5 musicians : the "fifth element" is the sound engineer): in addition to be able to mix the trajectories in the auxiliary mix, which gives for example the possibility of transforming a single trajectory (with several musicians's sounds at the same time) in 2 and

more (to 10 for now) like a blooming flower in a fast spiral torrent, for example.

Voilà,

I hope that my brief description speaks to you, gives you a true idea of what in spatial instrumental music is essential, and that our meeting can accelerate it to make it real outdoor.

All the best,

Mathius Shadow-Sky

music conceptor, theorist, composer, musician

(born in Paris in 1961)

<http://centrebombe.org>

1 bis rue des Regans 31000 Toulouse

Telephone: +33 783078421

Few links:

Ourdission (Londres, 1982): <http://centrebombe.org/livre/1982a.html>

Ourdission régénération 2 (Montréal, 1999): <http://centrebombe.org/ourdissionG2/1.html>

Les Guitares Volantes (Toulouse, 2017): <http://centrebombe.org/livre/guitares.volantes.html>

The Lamplayers 5000 Years After (Toulouse, 1994 - 2003) was using the SP1 spatial technology : <http://centrebombe.org/lamps.html>

The Ephemerode (Paris 1984, Toulouse 2013) : <http://centrebombe.org/livre/2013a.html>

My records (stereo) : http://centrebombe.org/myster_shadow-sky_discography.html

Some publications : <http://centrebombe.org/biblio.html>

Dans le Ciel, le Bruit de l'Ombre (my music book, writings about on line, Toulouse 2007) :
<http://centrebombe.org/dansleciel,lebruitdel'ombre.html>

TU Berlin develops only wave synthesis? *

ICST Zurich develops only ambisonics? **

* http://www.ak.tu-berlin.de/menue/fachgebiet_audiokommunikation/parameter/en/

TU Berlin, Audio Communication Group, contact Pr. Stefan Weinzierl (head)

Prof. Dr. Stefan Weinzierl

Audio Communication Group

Sekr. EN-8

Einsteinufer 17

D-10587 Berlin

stefan.weinzierl [at] tu-berlin.de

Telephone: +49 30 - 314 253 59

** <https://www.zhdk.ch/en/icst>

Head of ICST

Prof. Germán Toro Pérez

german.toro-perez@zhdk.ch

ICST Ambisonics conceptors:

Philippe Kocher <philippe.kocher@zhdk.ch>

Dr. Jan C. Schacher <jan.schacher@zhdk.ch>

*** My disappointments of what I know:

. The promising ambisonic HOA project at Paris VIII University has been stopped.

. The IRCAM SPAT project first considers architectural changeable acoustics (such as the virtualisation of "l'espace de projection" where automated 3-sided panels was used to change the acoustics of the room, but broke down as soon as first years of the opening of the institute) and SPAT is working with 3D panoramic (not real trajectories).

. The GRM Tools space program in VST format remains less efficient than the "panoramic surround" included in the Native Instrument Kontakt sampler. Although I used the program on Nubus audio card: GRMTools Doppler 4 tracks, quite effective, that I then retrajectorized with an other spatializer in an octophony.

But the physical turbulence of the sonic trajectories is absent in these projects.