The installations and audiovisual performances by TeZ, an Italian artist who lives and works in Amsterdam, are truly immersive. Using *flicker*, spatial sound and other techniques he creates an experience for the audience that can change their perception of space. I interviewed him in September 2009 in the large studio space that he shares with Evelina Domnitch, Dmitry Gelfand and others. He has just returned from the exhibition *See the Sound* in Linz, in which his work was featured in the *New Modes of Perception*. The DVD of his Optofonica project, which dealt with synesthesia and spatial sound, has just been released. He intends to focus on psychophysics for the next few years. He is working on a photosonic environment in which he hopes to use a magnetic liquid to modulate light.

I am specifically interested in how you deal with space and spatialization in your work. How did you get involved in those issues?

The Optofonica project has been my main focus for the last four years. It started as a platform for synesthetic media and sound spatialization. The idea was to investigate synesthesia and sound spatialization together, the connection between both, and why that connection is interesting. I had been creating audiovisual art before Optofonica, mostly performances with generative sound and visuals. The more I worked with that, the more I discovered how to actually connect image and sound. I was also researching *why* the image–sound connection is interesting. What exactly is it that makes generating image and sound together different from playing images with sound, or sound with images? To answer that I looked into the idea of synesthesia, not in a speculative way, as has often been done in the arts, but from a scientific standpoint. Synesthesia is a condition that certain people have. In their brains the perception of a stimulus is wired to different senses. Recent research has shown that this is a physical condition: there is a physical connection in the brain that allows a spreading out from the receptive area of the brain to other areas. This condition is natural in newborn babies, for whom the senses are not yet separated. The more the brain specializes, the more the senses are separated. But they potentially stay a little bit connected. This intrigued me.

And then you started Optofonica…

I was interested in how other artists were dealing with the connection between sound and image. An artist who works with sound and image unconsciously dreams about creating a kind of third element – or maybe a fourth or even a fifth. If you connect sound and image, you want to extend the sensation of a piece. For me there is an unconscious drive towards achieving that effect. I think artists want to discover things; they are looking for wonder and surprise and present that to an audience so that they can experience this wonder and surprise as well. The idea behind the Optofonica project was to invite artists to seriously reflect on the relationship between image and sound, and create a new piece where this

connection would be enhanced by means of spatialized sound. I've been more interested in sound spatialization since the early 1990s when I first heard pieces, mostly by academic contemporary composers, for quadraphonic systems and other less conventional setups. I did not seriously engage with this practice until 2003 when I started experimenting with generative multi-channel compositions related to the *Protoquadro* project. The breakthrough was when I did a performance with Wim Jongedijk in 2004 at the Mercatorplein in Amsterdam. I truly wanted to recreate an impression of space because I was interested in how people would react to it. I used ambisonics, a sound spatialization technique, and we performed a six-hour sound piece in the square, using four speakers in the four corners. We were playing sounds of thunderstorms, rain and other aquatic sounds, and it truly felt as if these were real. People kept looking up to see if it was raining, whereas it was obviously not. With spatial sounds you can penetrate certain perceptual modes that are deeper and different from the habitual listening to stereo sound. For me this totally connects to the idea of synesthetic media. I wonder why it is so often ignored, despite there being a history of sound spatialization that is relevant to contemporary artistic practice.

You have the acousmatic approach for instance…

Acousmatics is not merely a technique of sound spatialization but a more specific approach, and I truly admire it. It. The Groupe de Recherches Musicales (GRM, the studio and laboratory originally set-up by Pierre Schaeffer in 1951), where the acousmatic approach was developed, has recently been more open to artists wanting to work with their system. I performed with Kim Cascone and Taylor Deupree using the Acousmonium, their phenomenal spatial multi-channel speaker set-up. The people at GRM were spatializing a stereo input over their system – it was amazing. Many other academic institutes conduct a lot of research into sound spatialization, but as they are usually not very open to artists, it is difficult to finally collaborate or show things there.

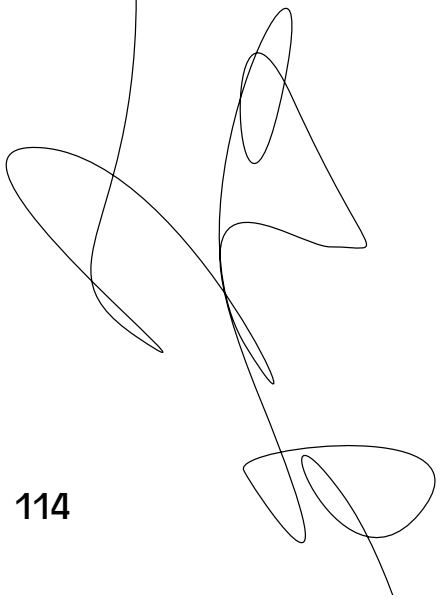
Which is why you initiated Optofonica?

I was basically curious about who was doing what in sound spatialization and how they were implementing it in audiovisual works. That is why for the past four years I have been encouraging artists to work with it. In Optofonica I am more a producer than an artist. I now also have a medium for displaying the Optofonica works: the capsule. The one that I made and currently use is really a prototype. I do not see it merely as an artwork, it is rather meant as an example of a different way to present an audiovisual artwork, to make it more immersive and more synesthetic. I consider this experiment a success. It was nice to create an object that creates a real space.

Can you explain the capsule? How is the sound created in the capsule?

There are no speakers. The sound is produced by special transducers that are fixed to the structure of the capsule. There are five transducers in the panels of the helmet-like object on top, and one transducer below your feet that transmits the low frequencies. This arrangement produces a tactile, haptic sound. You do not really

We still know very little of the senses. We always think of the five senses, but scientifically you could say there are at least twenty different senses.



hear the low frequencies; instead you feel them in your body. The aim was to create a way to transmit sound to your bones in a direct way. The sound spatialization is actually more or less comparable to normal surround sound. But because the capsule has a dome structure, it comes out really differently: for example, rotating standing waves are generated inside the capsule. That makes being inside the capsule a more interesting and more enveloping experience. I also wanted to have spatial video inside the capsule, so a viewer could have a panoramic view of projected or generated images, but that turned out to be too complicated. To achieve that I would have had to transform the original capsule idea into something that could be projected on from the outside, and I did not want to do that. Projecting from the inside was impossible, as there are not yet large enough flexible screens that can cover the inside of the capsule in such a way that your entire field of vision is covered. But I discovered that you can also achieve quite interesting effects if a screen is very close to your field of vision. You never stand that close to a screen normally. The capsule now has such a screen on the inside. It is still a simple solution, but it works fine. I am not doing any sort of far-out SF-like video spatialization that some people sometimes expect me to do.

Five panels plus one transducer under your feet, that sounds like normal 5.1 surround sound?

Yes. I wanted to create a platform that artists would be able to work with fairly easily. Many of them are not familiar with any other sound spatialization technique than 5.1; quite a few had never worked with multi-channel sound. Ambisonics could have been another possibility, as it is fairly easy to re-encode ambisonics – which is made for 4 speakers – into a 5.1-sound source. In the capsule you have uncompressed surround sound that is different from most surround sound DVDs. The capsule has also been improved since last year by working again on the amplifiers and the tactile platform. There is now a DVD with the works that I commissioned for Optofonica. That is, in a sense, the end of the Optofonica project as my solitary initiative. Optofonica has now changed into a laboratory for immersive art-science and psychophysics, and the contributions of Evelina and Dmitry are as relevant as mine… we are the core group of the laboratory and many former Optofonica fellow artists are still associated and collaborate with us.

Central to your approach is that you try to completely immerse the audience in sound and images. One could call it experiential art because you set out to create an experience for the audience. There might be even a Wow! effect. It begs the question: what does that experience mean? Is there a meaning beyond the experience? Or is it the experience itself that matters?

That's the most important question one could ask. First of all, I always try to make work that really interests *me*. In am not interested in aesthetic seduction. I don't think that is a real function of art – it has nothing to do with what drives an artist. What motivates an artist like me, are experiences. An experience is something that first passes through a physical mode, through the senses. We still know very little of the senses. We always think of the five senses, but scientifically you could say there are at least twenty different senses. There might be even more. A great book

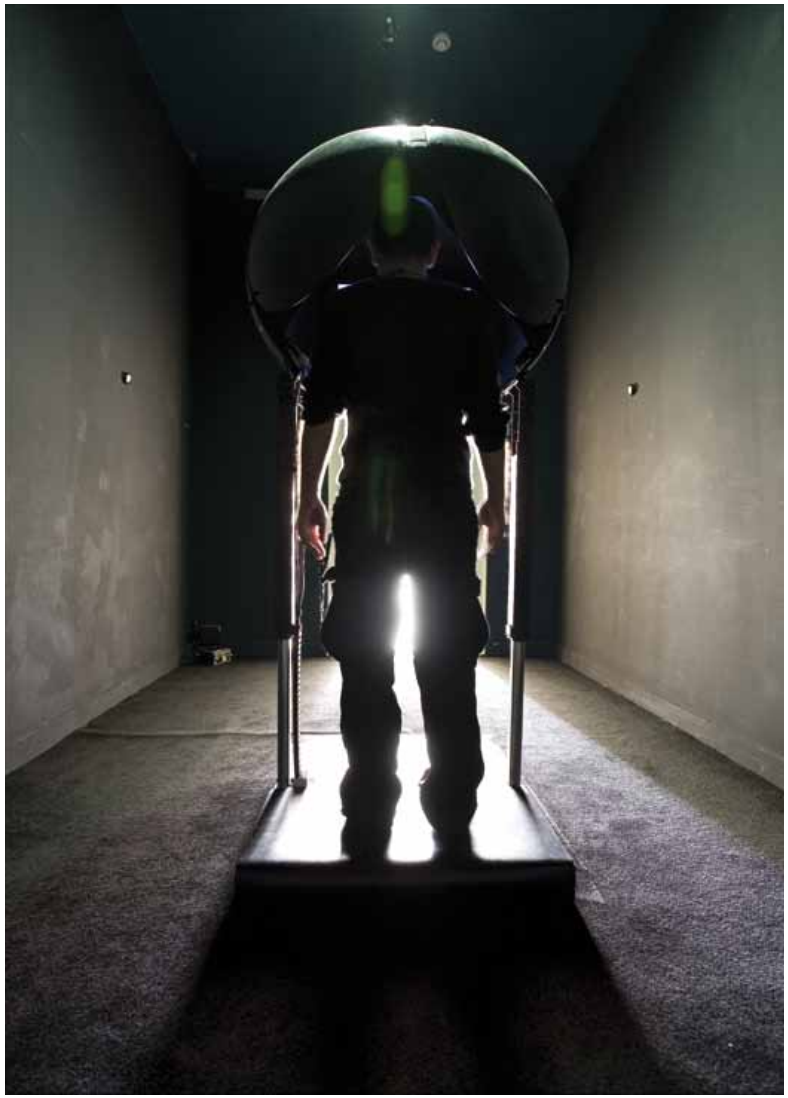
about this is Juhani Palasmaa's *The Eyes of the Skin. Architecture and the Senses*. Because we do not know that much about this, it is an enormously interesting field to research. I explore this domain because I want to discover something when I create art. An artwork, as any experience, relates to me both as a physical and metaphysical being. In the end it is about the ontological question: why am I really here? If I know what I am, then maybe I can begin to understand why am I here. To understand what I am, I first have to become more aware of my physical being, and my physical being is subjected to physical perceptions, to impulses. If we keep absorbing external stimuli without questioning them, they become habitual. That happens a lot in contemporary society, I find that everything has become very mechanical and formulaic. You run the risk of becoming like that too, and then you limit your possibilities, you limit yourself to a limited domain of actions. For me art should open up these possibilities. The aim is to understand more, and to question more deeply how the stimuli are influencing you, how they are penetrating you, how they open you up, how they create intuitions. To understand how that happens should be a very primary concern of artistic practice. We can research it, for instance, by creating very basic stimuli and then try to understand how they work. That is why I try to create these instruments, immersive installations and other experiential machines, and why I play with them. I am now developing a new installation that I conceive of as an instrument. It is a photosonic environment. I find it fascinating that I can create an instrument that is also an environment, a space, and an object with sculptural and architectural components. There is even a design aspect to it, not for aesthetic reasons, but in order to optimize the experience. And it is an experience that opens up to the non-habitual.

This photosonic environment is a sensory, physiological instrument?

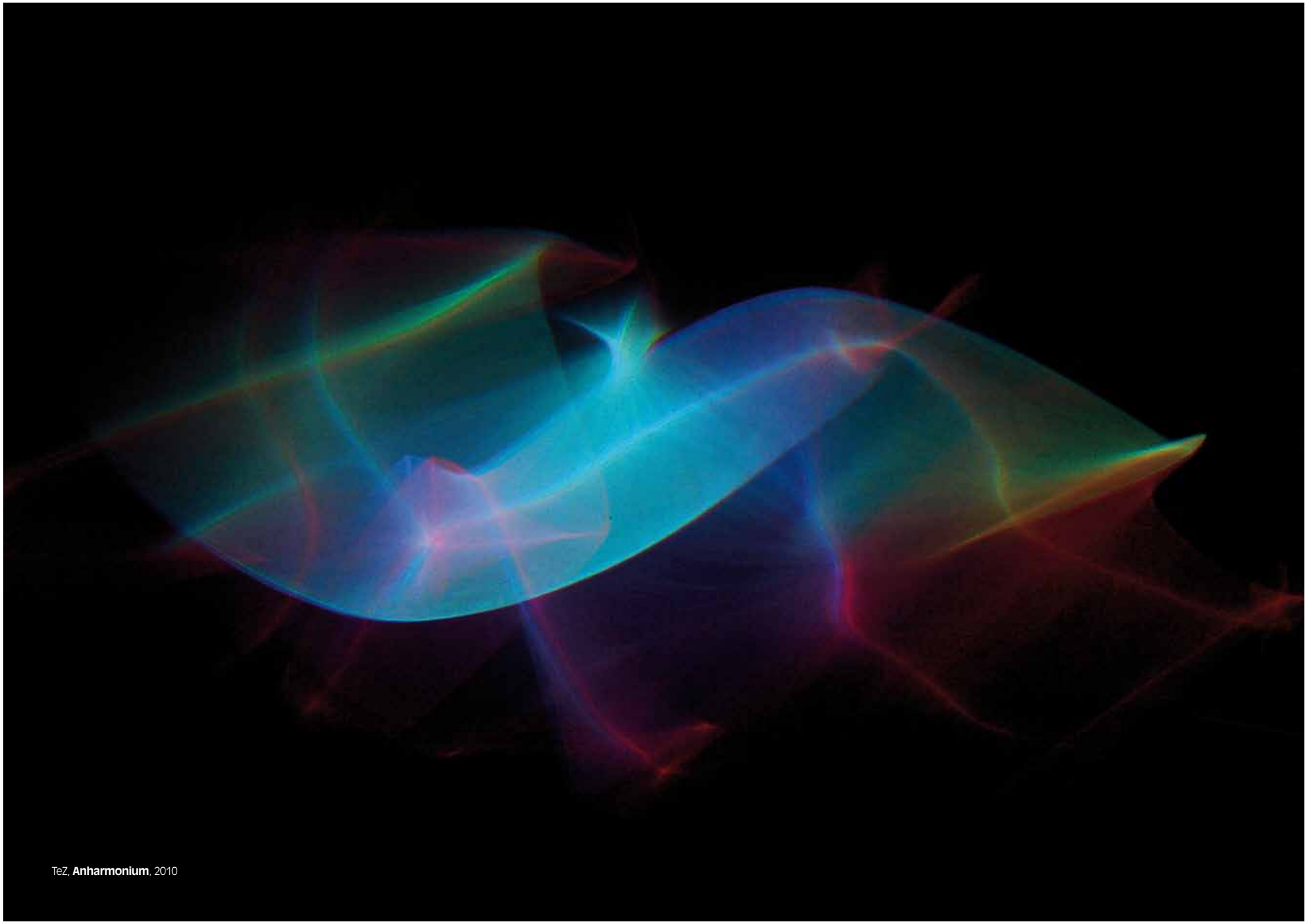
Yes. This is also where we get to the psychophysics that we are now investigating at the laboratory. It is a real branch of science, which has been somewhat obscured by the more specialized domains of neuroscience. Anyway, it is difficult to label what we are really doing. Is it art-science, immersive art, post-media, or something else? What counts in the end is the materialization of serious research in a piece. This is what interests us, to materialize a space, create instruments, find our own techniques, always approaching it from the experiential aspect, more than from an aesthetic angle, and including science not as just an option.

I'll play devil's advocate for a bit. What if I say that your work stays at the experiential level, and does not ascend – as art should do – to a level of interpretation, to meaning and to an application of that meaning to life? It's fun to have the experience, but that's it.

The aim of what I do goes beyond the idea of representation. The interpretation is important though, because the development of society is based on the development of our consciousness. Consciousness develops in tandem with understanding, but it also develops through physical functions and emotions. My conviction is that when the intellectual, the physical and the emotional are engaged in an experience, consciousness opens up, and expands as well. Only this allows a more sincere and effective progress of individuals, and thereafter society. But that's

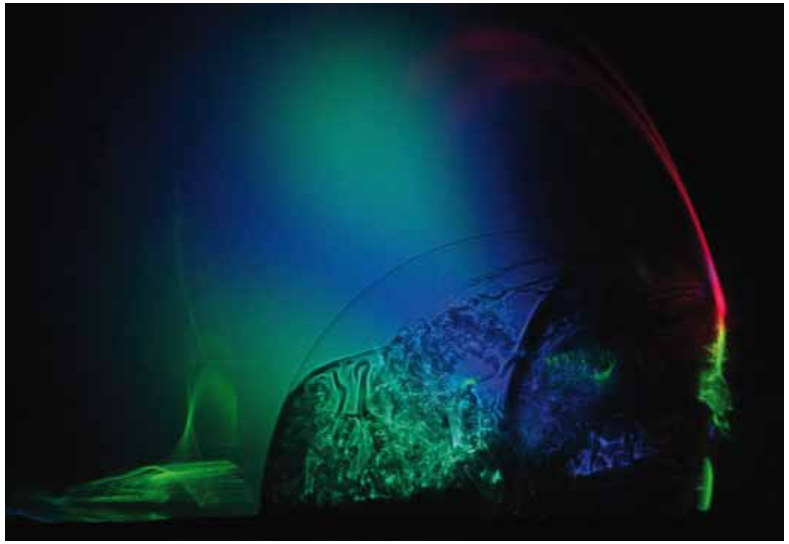


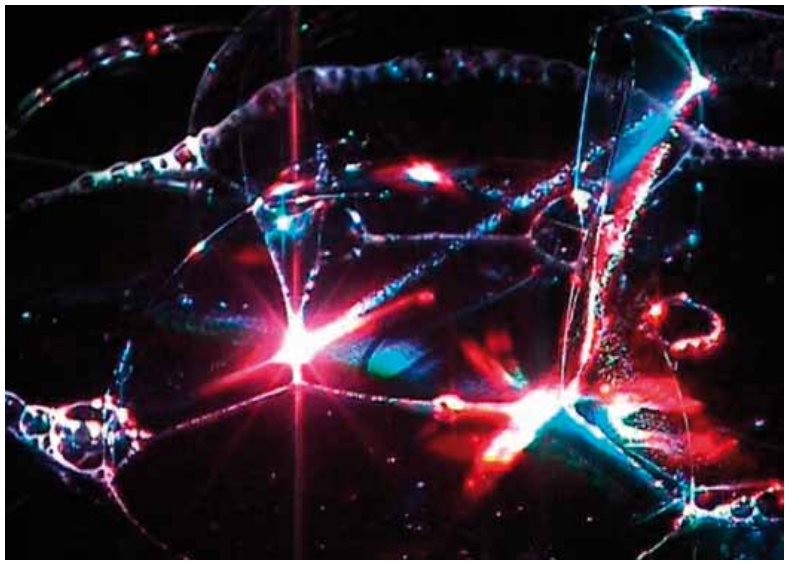
TeZ, Optofonica Capsule, 2008



TeZ, **Anharmonium**, 2010

TeZ, **pv868 ,** Elektra, Montréal, 2008





Evelina Domnitch & Dmitry Gelfand, **10000 Peacock Feathers in Foaming Acid**, 2008

just my idea and I am completely convinced of it. It motivates me to work. I am not saying that because I provide instruments for expanding consciousness, my work will change the world or society. When I start a work I start it for myself, because I am interested in expanding my own consciousness. I am trying to create something that engages these three levels of comprehension, and if it works for me, who knows... it might work for someone else too.

There's something in your work that refers back to underground ideas of the 1960s. The *Dreamachine* of Gysin and Burroughs is an obvious reference, 1960s environments, expanding consciousness... What attracts you to that period?

Periods repeat, certain practices recur, there are cycles in the history of art. That's important to understand: these cycles happen and renew themselves, hopefully refuelled with fresh possibilities. I feel completely connected to the 1960s underground. What is so interesting about that period is that many things, such as the idea of expanding consciousness and experiential art, happened on such a broad level – it was not only happening in the arts world, it was everywhere. Not that these things were novel to the 1960s: history is full of examples of creating spatial occasions and spatial environments where an experience can occur; consider, for example, the Dionysian cults. I think we should take advantage of past research, as we do in all other fields of science. We should try to improve on it as much as we can.

What strikes me is that you take on the hard sciences, but you connect that to, let's say, spiritual techniques as well. This seems to me to be an aspect that was taken seriously at some point in the 1960s, but has somehow degenerated into commercial new age since the 1970s.

That's correct. The interest in hard sciences and metaphysical teachings connects us at the laboratory. Moreover, different areas of human knowledge have become too separated. Buckminster Fuller pointed this out very well; his teachings are still fundamental to our society. When you understand this you look again for the unity of things... synergy! We always deal with both aspects of nature, the physical and the metaphysical. That is not an option – it is immanent. We can hardly speak about truth; nonetheless, we can always look for something that transcends habitual perception and habitual reality, something that addresses our psychophysical being without much mediation.

In *PV686* you use ambisonics and a flickering projection of colours. The last time I saw it I found it very contemplative, whereas I also remember a performance that I felt was almost an attack on my senses. How does *PV686* work?

No-one sees exactly the same thing, and that interests me. The stimulus is objective, but it creates a subjective perception. People often see all kinds of morphing forms and colours. There are also people who become slightly nauseous, for whom the work is too far removed from what they are used to. For some people it is very light, and for others it's a heavy piece. My aim is to make people understand that certain perceptions happen beyond the superficial part of their senses, they happen inside their bodies. What you perceive depends on your own

state. What you perceive in *PV686* and in other works that are based on the same principle, is the interference between the stimuli, the stroboscopic lights, and your own brainwaves. You see the actual interference, and that differs from person to person because none of us have the same brainwave frequency. Thank goodness! This is something that has been explored since the 1950s. It has been done partially with the brain machines of the 1990s, which also worked with light and binaural beats. I wanted to bring that to a performance level, where I could play with it, and combine it with spatial sound, in order to improve the sense of space in the performance. It can work quite well if the conditions are good.

What is your opinion on the new loudspeaker systems, the surround sound, the 'home cinema theatre' that some people have now. Do they also reflect a change in how we listen?

I don't think so. None of these new ways really improve the spatial sense of hearing. The 'iPod-like' medium is not creating a new sensibility. It seems to me that in recent times a lot of interest has emerged around sound spatialization, but most people generally do not know how it really works. But all these developments are really exciting. We now have computers that enable us to work with spatialization in a fairly simple way. Even though it is a very poor system, surround sound is often one of the reasons why people become interested in sound spatialization. Panning sound can be very effective, but it is not exactly the same as, for example, ambisonics or wave field synthesis. Maybe the new 7.1 channel sound standard for Blu-ray discs, which is rumoured to be uncompressed, opens up a new way of distributing true spatialized sound, albeit in an unorthodox way.

Will you continue to use flicker in your future works?

I keep experimenting with it. I will soon start working on a new piece that will use flicker again. The idea is to create a sort of aura in the space using a UV stroboscope. It might create another perceptual mode of flicker, one that is even more interior. In this installation the light will come from below while you stand on a translucent platform. I hope to use a magnetic liquid for light modulation. That material is still in an experimental stage. The piece will be called *Baptisterium*, and the idea is to create a rather transcendental experience. It's a new project, but I have been working on it for more than a year now. I see it as an instrument, I hope to create compositions for it and I'd like to play with it. It's an instrument for complete experiences, and for more than one person at the same time. It will have spatialized sound, part of which might be generative. I will not use interactive or reactive techniques, and I will make it truly physical. It will be an architectural piece too, with specific morphing laser light projections orchestrated with the sound. This is the level at which I am working now. I can't go back. Okay, I performed a sound-only piece last week, and I'd like to continue doing that on the side, but these many faceted immersive works for complete experiences are what I want to work on now.

Cyborg Ritual and Sentic Technology in the Vortex Concerts

Trace Reddell