STUDIA UBB MUSICA, LXI, 1, 2016 (p. 7 – 15)
(RECOMMENDED CITATION)

# ON THE PERFORMANCE OF ELECTRONIC MUSIC – INTERVIEW WITH COMPOSER ADRIAN BORZA

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**SUMMARY.** An overview of Adrian Borza's activity comprises interesting preoccupations as well as figures, as the composer knows and uses over 50 utility software and operating systems and programming languages and environments, which have generated the authoring of 12 software programmes that he holds author's rights for. His 60 music works, composed mainly in the electro acoustic genre, are the outcome of such pursuits in the field of computer programming. His most recent works reflect composer Adrian Borza's pursuits regarding the possibilities of real-time interaction of computers and performers as well as the indeterminacy coefficient of the computer's actions in relation to the sonorities spontaneously created in the improvisational process. I thus initiated a discussion on the paradigm changes in music performance seen as a phenomenon that integrates the "computer" into electronic music, replacing or not the performer in the traditional creator - art work – performer - public equation**.**

**Keywords:** interview with composer Adrian Borza, the performance of electronic music, interactive computer, interactive music software, acousmatic music, live electronics


Adrian Borza (1967–) has been recognized as a versatile musician, dedicated to writing vocal, instrumental and electro-acoustic music, to music software development, to audio post-production, to artistic research, and to music teaching. His recent research and compositions have been focused on the interaction between performer and computer. His music has been

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performed in festivals, concerts and broadcasted across Europe, Asia, North America, Australia, South America, and New Zealand, such as the Ai-maako Festival – Santiago de Chile (2007), Zeppelin Festival – Barcelona (2008), La Nuit Bleue Festival – Besançon (2008), JSEM/MSL Electroacoustic Festival – Nagoya (2009), Musica Viva Festival – Lisbon (2009), ISCM World New Music Days – Sydney (2010), International Computer Music Conference – New York City (2010), SIMN International New Music Week – Bucharest (2014), Art & Science Days – Bourges (2015), CAMP Festival – Stuttgart (2015), and more. He has received commissions from renowned soloists, ensembles and institutions, including Swedish Concert Institute and Magnus Andersson – Chaconne for guitar solo, Jörgen Pettersson – akSax for saxophone quartet and Daniel Kientzy & Reina Portuondo – Fragile for saxophones, viola, and electronics. He organized Elektro Arts 2013, an international call for electro-acoustic works, for the "Cluj Musical Autumn International Festival". He joined the teaching staff at the Gheorghe Dima Academy of Music in Cluj-Napoca (1992), where he has taught Musical Analysis, Electronic Music, and Musical Stylistics. He initiated the introduction of the Interactive Music Systems course into the Theoretical Faculty's curriculum (2008), a premiere in Romania. His music has been recorded on CD by Hungaroton Classic Hungary and Nova Musica France. His books and studies have been published by Editura Muzicală Bucharest, Babeş-Bolyai Studia Universitatis, Lucian Badian Editions Ottawa, the Music Faculty in Braşov, and MediaMusica in Cluj-Napoca. He was awarded a PhD in Music (2004), the George Enescu Prize of the Romanian Academy (2013), and the Prize of the Romanian Association of Composers and Musicologist (2012) – If for Oboe and Interactive Computer.[2]

An overview of Adrian Borza's activity comprises interesting preoccupations as well as figures, as the composer knows and uses over 50 utility software and operating systems and programming languages and environments, which have generated the authoring of 12 software programmes that he holds author's rights for. His 60 music works, composed mainly in the electro-acoustic genre, are the outcome of such pursuits in the field of computer programming. Some of these software programmes are: *Interactive Algorithmic Composition* (IAC) created in 2004 for algorithm-based composition, *Video Tracking/Real-time Audio Processing* (VT/RAP) created in 2006 in order to transform video data into audio processing and sound synthesis data and thus optimise live syncretic events of theatre, dance or theatre-dance, installations, *Score Follower* produced in 2010 in order to use the computer as a musical instrument, *Interactive Freezer Player Processor Harmonizer* (iFPH) created

[2] www.smorfe.com

in 2011 for interactive performance, Vee-Jay Music Visualizer (2013), Hot HandRocket (2014), Hot Hand Player (2015), these last programmes being created especially for performance in multimedia events. His most recent works reflect composer Adrian Borza's pursuits regarding the possibilities of real-time interaction of computers and performers as well as the indeterminacy coefficient of the computer's actions in relation to the sonorities spontaneously created in the improvisational process. I thus initiated a discussion on the paradigm changes in music performance seen as a phenomenon that integrates the "computer" into electronic music, replacing or not the performer in the traditional **creator - art work – performer - public** equation**.**

**M.M-Ț.** – *What is the performer's role in electro-acoustic music, in your opinion? Is the performer different from the composer, technician, programmer in respect of his tasks in an electronic music event?*

**A.B.** – To start with, I would like to enumerate several of the electro-acoustic music sub-genres in which the performer's role is less usual. Acousmatic music, recorded entirely on magnetic tape, on CD or more recently on computer is broadcasted in concerts by means of electronic means. The particularity consists in that the technician at the mixing desk is performer at the same time, in the sense that, in a personal manner, he renders the music piece with the help of an *acousmonium* (loudspeaker orchestra). The second category is mixed music, as it is called in the literature. Its simple definition refers to the combination of sound sources, different by their nature, for instance an instrument or voice and an electronic environment. The performers' role is explicit, but their actions are subordinated to the electronic medium of rendition. Eventually, another subgenre is *live electronics*, a direction of creative work that I am currently anchored in. In this last case we talk about an overlapping of the composer's and performer's tasks, when the artist is on stage. Returning to the last case, maybe the most interesting personal experience I had as acousmatic music composer and performer was the *multichannel* broadcasting of my work *Fractus II* in the *Rencontre électroacoustique Birmingham-Montréal* in 2005. As unusual as it may seem, the piece was created for two loudspeakers, but I had at my disposal an *acusmonium* with 12 channels, 10 satellites and 2 LFE, spread in the concert room of *Notre-Dame-de-Grâce* so as to surround the audience. Thinking of the technical aspects of the sonorous multichannel "projection", a first conclusion was that the piece did not lose any of its original quality, as the frequency spectre of the device was very generous. However, let us assume that the piece is broadcast on a less efficient "instrument", i.e. sound system. The risk for some low and high frequencies to

be eliminated is real. The work's colour is subtly modified, the sounds are filtered, which means that the "performance" may be jeopardized. Nevertheless, the most important characteristic in performing this music is spatialization. In order to shift the sound from one satellite to another, I used the mixing console, operating on the sound amplitude by means of two types of potentiometers. After all, the perception of sound position in space is closely connected to its intensity. So that my role as performer was to create, in the show, a multi-channel version of my own piece.

**M.M-Ţ.** – *We can understand that more often than not the composer is also performer.*

**A.B.** – Not necessarily. In practice, a skilled technician often engages in broadcasting and sound effects. I am referring to *La Nuit Bleue* Festival in Besançon. Then, composers are rarely invited to festivals in order to broadcast their work... Let me add a personal experience. In 2013, I organized for *Cluj Musical Autumn* an international appeal of acousmatic pieces, concretized in an audio-visual show. Next to the visual artist Claudia Robles I went on stage in order to "perform" the selected pieces. I resorted to a *surround* 5.1 sound system and, instead of the mixing desk, I used the *nanoKontrol* device.

**M.M-Ţ.** – *Ant then, if another performer broadcasts the piece, which is the perimeter within which they can manifest their creativity? Can the performance be controlled only within the described parameters: spatiality, intensity, and colour?*

**A.B.** – I would say that these parameters are the important ones, as long as the structure of the piece stays the same. The intervention is therefore limited. The change of such parameters as frequency and duration, for instance, pertain rather to the making of the acousmatic piece, of the *sound design*. I refer to *pitch shifting* and *time stretching*... On the other hand, in *live electronics*, respectively in interactive music, the performer's role is determinant on the level of musical expression.

**M.M-Ţ.** – *The educated audience is not very numerous at present. Is there a current need for specialized performers of this music?*

**A.B.** – In my opinion, no. Usually, a piece is broadcasted on the same number of loudspeakers that was created for. Thus, the music is faithfully rendered to the audience. This would be an ideal situation for some... Nevertheless, an *acusmonium* brings out the quality of the piece, as I was saying. As performer of

the piece *Fractus II*, I was obviously aware of its structure, knowing beforehand the moments which can be highlighted by positioning the sound in the concert space. The immersion of the audience into the sound matter was the benefit.

**M.M-Ţ.** – *Since there is no score, which are the structural landmarks which help the composer or performer in projecting the sound strategy?*

**A.B.** – Acousmatic music is at a loss... a known truth, when we talk about scores, as a landmark and inspiration in performance. As such, the technician – performer will have to employ imagination in order to find, but particularly highlight the particularities of the piece. Returning to *Fractus II*, the landmarks were the intensity, the register, the sound texture, the texture density, and colour. The performance focused on leading the sound from one point of the room to another, considering the given configuration, namely the positioning of the loudspeakers's pairs against the background, in front of and above the stage, on the sides and behind the audience. Depending on the fluctuations of the musical tension and textures, I coordinated the shifting of the sounds on the axes left-right, front-back, up-down, linearly or circularly and semi circularly, first slowly, then faster. In my opinion, the piece was spectacular. On the other hand, I think the audience will make a qualitative difference between an acousmatic piece heard in headphones and its version broadcasted by a *acusmonium*. The concert variant remains the happiest choice.

**M.M-Ţ.** – *Can we talk about that frequently used term of sound sculpture?*

**A.B**. – By sound sculpture I understand *sound design*... It is a metaphor referring to sound synthesis and I regard it as different from sound "projection", which is spatially articulated and coordinated in the show. François Bayle described the concept in the 90s by making an analogy to cinematography: an acusmonium is a device with various „sound screens", an ensemble of "sound projectors", and the musician at the desk is a veritable performer who gives life to music.

**M.Ţ** – T*he acousmatic music performer can thus project any recorded piece?*

**A.B.** – By means of an imagination exercise, the performer's intervention could be extended onto musique concrete as well, such as the pieces of Pierre Schaeffer – *Cinq études de bruits* and Bernard Parmegiani – *De natura sonorum*. After all, François Bayle's ideal was to immerse the listener into sound, facilitated by the *acusmonium*, thus enriching the audience's perception.

**M.M-Ţ.** – *Which is the performers' role in the case of pieces written for an acoustic instrument and a recorded, immovable, electronic environment, that is, tape?*

**A.B**. – This is the kind of work that I debuted with in the 90s. One of my pieces that I recall now is *Désintégration* for flute, traditional Romanian recorders, and magnetic tape. The performance of the piece, in the vision of artist Filip Ignác, fully reflected the written score. However, at that time, the technology I had enabled no interaction between the performer and the electronic environment. The duet involved adapting the performer, in terms of adjusting the *tempo*, to pre-recorded music. Years later, I managed to overcome this impediment of synchronization by programming the computer.

**M.M-Ţ.** – *What is the expressive or maybe structural role of using the electronic sound here?*

**A.B**. – The electronically and acoustically produced sounds that I recorded and used in *Désintégration* crested a contrast in terms of timbre, melody-rhythm, and character. The concept was the articulation of a piece based on the relationship continuity – discontinuity, which is in fact a characteristic of many of my compositions. The musical quotation, the fragmentation, and the contrast contributed to the piece's "disintegration", turning it into an eclectic piece. Already then, in 1994, I understood the potential brought to composition by processing the sound on stage, by transforming it electronically during the show. The performance, though, in the common meaning of the word, cannot be dissociated from *live electronics*. I employed the same genre for the score and the electronic music of *Fragile*. It is a piece for saxophone, viola and electronic environment, ordered in 2008 by the French saxophonist Daniel Kientzy. The electronic environment was provided by musician Reina Portuondo, who used *Ennéaphonie*, a system of multivocal performance and broadcast with 8 channels, as she herself defines it. The premiere took place in October the same year, at the *Oldenburgisches Staatstheater*, the trio being complemented by Cornelia Petroiu.

**M.M-Ţ.** – *If a recorded piece can be re-broadcasted in concert in the manner of acousmatic music, we understand that the performer can render any piece in a personal vision, whereas the creative factor intervenes in terms of spatialization, intensity, and speed of motifs' circulation...*

**A.B**. – If we were to make another imagination exercise, even L. van Beethoven's 5th Symphony could be projected on François Bayle's "sound screens"... To play in the same imaginary space, one condition is that the

Symphony must be rendered by a virtual orchestra: *VSL Vienna Instruments & Ensemble*. It would be interesting and at the same time it would require a huge effort to programme instruments in the smallest details. I have however reserves regarding the artistic finality of such a project of *acusmonium* performance, beside developing creativity and programming capacities.

**M.M-Ț.** – *Maybe as an exercise... In countries where they consider that the evolution of electronic music, as well as of the systems/programmes which make it possible represent the future, they are taking into account the education of a generation of composers and performers in schools. The children can get to know the mixing desk, make a small sound system, receive technical information and knowledge necessary in order to make an electronic composition...*

**A.B**. – It is unquestionable that education in schools and universities should be up to date, which means it should offer young people a type of education adequate to our times, in order to be competitive in composition or music directing, *sound design*, *foley recording*, etc. It is ideal to teach interdisciplinary theoretical and practical knowledge, knowledge of musical acoustics, music directing, music theory, morphology, and syntax of musical language, and the list can go on...

**M.M-Ț.** – *We have eventually arrived at the third hypostasis of the performance phenomenon, the one in which we refer to interactive music.*

**A.B.** – Interactive music represents a modern and provocative sub-genre, and interactive music systems, which offer its technical support, have reached maturity. The field has evolved first of all due to the improvement of programming languages and of *computers'* computing power. The perspective on music creation is different and very attractive, with a view to the artist's role: the composer, performer and programmer at the same time, "trains" the computer to react promptly to the soloist's actions. Generalizing, I would say that music is the result of the reciprocal conditioning between man and machine. If I must refer to *If* for oboe and interactive computer, a piece that I composed in 2011, performed by artist Adrian Cioban, I can say that the phenomenon of stage performance emerges under three aspects. The first is the interpretation of the score by the instrument player, then the computer's reaction to the music produced by the soloist, and the last, the composer's intervention with a miniature MIDI device, endowed with various potentiometers and buttons. The computer's software is called iFPH and I wrote it in Max.

**M.M-Ţ.** – *The computer becomes a performer but at the same a particular instrument*?

**A.B.** – The *computer* becomes an autonomous music instrument. It analyses sounds captured by the microphone, it distinguishes amplitude variations, follows the global intensity envelope, notices pauses, differentiates among frequencies, and, depending on intensity and pitch indices set by the programmer, called *cues*, the computer generates its own sounds and accompanies the soloist... *Drones II* for violin and computer requires the same principles of capture and processing. The piece was composed exclusively out of violin sounds, with the contribution of performing artist Ladislau Csendes.

**M.M-Ţ.** – *Both If and Akedia have been performed more than once. Which would be the differentiations, the resemblances related to the performance space on the concert stage or to that on the personal computer, at one's desk?*

**A. B.** – *If* has a few performing versions, with Adrian Cioban and with a virtual oboe, elaborately programmed on the computer, in other words with an oboe of my performance. They are versions which closely abided by the compositional concept. I will focus on performances in which the soloist was forefront and which were presented to the public in the *Conference-concert on interactive music* in 2011 and within the *remote ctrl* project in 2012. While the computer governed by iFPH produces the sound by granular synthesis, the resemblance between the electronic sound and the oboe's sound is striking. The computer takes a few millisecond granules from the acoustic sound in order to produce the accompaniment, the "drone", the chords. In this sense, the oboe becomes, together with the computer, an „augmented instrument". The versions of *Akedia* are different in terms of structure and timbre: oboe and computer, respectively voice and computer. *Akedia* is an ambient piece; it is a sonorous image of hopelessness, of soul's numbness and of sweet idleness, of the passion that the Church Fathers called "akedia". Irinel Anghel, *performing artist*, with whom I presented *Akedia* in the *Cluj Musical Autumn* in 2012, created her own sonorous discourse, maintaining the initial concept. In her performance space, Irinel Anghel is composer, performer, and actress. We created together a *live* version, where the improvisation factor, in the sense of spontaneous creation, influenced the piece as well.

**M.M-Ţ.** – *The computer is, therefore, a musical instrument?*

**A.B.** – Used as such, the computer becomes a musical instrument. We should ask ourselves: is the modern *computer* a smartphone, a military or civilian telecommunication system? What does the computer do, so that we may consider it an instrument? Max Mathews answered this question in 1963: composers write code lines for every sound they imagine, next to the score, and the software is the musical instrument. Extrapolating, an instrument is an object. The object in an informational sense is programmable and has a precisely defined use. MAX programmers assemble various objects which primarily serve the artistic act.

**M.M-Ț.** – *In entertainment music shows, live performances with electronic sounds and light games fill vast concert halls, entire stadiums, bringing huge financial profits both for the companies which trade this music and the DJs who are the stars of our times.*

**A.B.** – Electronic music artists and trance music DJs are to be admired. However, I think it is a burden to be a star... Albert Einstein said: *What is right is not always popular and what is popular is not always right*. I mean that some innovations reach the public's awareness late. The techniques of *musique concrète* employed by Pierre Schaeffer reached the public awareness when the personal computer was present in almost all studios of pop-rock, dance, etc. Experimental music does not aim at the public on a stadium. And professional electro-acoustic music communities are few in many countries.

**M.M-Ț.** – *Nevertheless, electro-acoustic composers and musicians are the ones who represent the elite, the spearhead of music evolution in the 21st century.*

**A.B.** – Probably so. After all, everything is a matter of choice.

**M.M-Ț.** – *Thank you*.