

DIFFERENT MUSIC... FRAGMENTS FROM THE HISTORY OF SLOVAK ELECTROACOUSTIC MUSIC AND EXPERIMENTAL STUDIO OF THE CZECHOSLOVAK RADIO IN BRATISLAVA

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Abstract: The paper presents a brief look at selected chapters from the history of electroacoustic music in Slovakia in the 20th and 21st centuries. Despite all the vicissitudes of its development (both condemnation and glorification), electroacoustic music has been a vibrant, pulsating and dynamic sphere of Slovak musical art for over sixty years. The birth and formation of electroacoustic music in Slovakia was primarily the work of two studios – the Sound Studio of the Cs. Television and the Experimental Studio of the Cs. Radio in Bratislava (*EXS*), standing at the cutting edge of technological development. Slovak composers of several generations created their electroacoustic musical visions there. While the activities of the Sound Studio of the Cs. Television were gradually curtailed due to political pressure on television production, the activities of the *EXS* were gaining in genre breadth and artistic depth. Although *EXS* eventually lost its institutional base in the 21st century, its activities have not diminished and it continues to pursue artistic *Ars Acustica*.

Keywords: Slovakia. Electroacoustic music. Sound Studio. Television. Experimental studio. Radio. Slovak composers.

"There are no non-musical sounds, there are only musical and non-musical connections."

Ivan Parík, composer (1936-2005)

1 Prolegomena

The genesis of "different music..." reaches to the turn of the 19th and the 20th century, and it is connected to the composers' efforts for a new sonority. It was Luigi Russolo who claimed that "... we must break at all cost from this restrictive circle of pure sounds and conquer the infinite variety of noise-sounds (*The Art of Noise*, 1914).¹ It was Edgard Varèse who, in his first spatial compositions, drew inspiration from the from Józef Hoene-Wroński's, that music is "... the corporealization of the intelligence that is in sound", and he perceived sounds as living matter created so that "... one could freely dispose of it without limitations by scholastic bonds and academic notions of the intervals" (*Memories and Thoughts*, 1960).² And, finally, it was John Cage who saw the future of music in the "... organization of sound", since the composer of the future "... will be faced not only with the entire field of sound but also with the entire field of time" (*The Future of Music: Credo*, 1937).³ However, the actual history of a "different", autonomous electroacoustic music began to unfold only after World War II, in several musical centres (Paris, Cologne, New York) synchronously.

Already at its birth, diverse aesthetic attitudes and composers' poetics were being formed, depending on the material used, on the compositional techniques, and on the various dispositions to performance and perception. Somewhere here lies the germ of electronic, experimental, electroacoustic, stochastic music, and of *musique concrète*, music for tape, live electronic music, computer music, *musique acousmatique*, environment sound, radio art, sonic art, sound art, etc. In the course of their historical development, and in their concrete artistic forms, these various types intertwined and influenced each other, resulting in the diverse combinations and modifications of "different music" that we have today.

In spite of all the peripeteia of its development (its execration as well as glorification), electroacoustic music has, for more than sixty years now, represented a lively, throbbing and dynamic sphere of music, resting on the actual development of

technologies and sciences which are connected to music only seemingly marginally. Especially since the end of the 20th century, electroacoustic music has experienced a quantitative (and not always qualitative) growth hand in hand with commercial computerization and the global development of digital information technologies. On the one hand, this follows from a gradual suppression of "collective" experimental authorial works in the field of academic institutions and the media, especially in the public sector, which were there at its birth and which supported, developed, and "controlled" it for decades. On the other hand, it was determined by the individualization and amateurism of authorial works as a consequence of the communication of a global community via the Internet and of the financially widely available computer technologies. Although few of us realize it today, with the radical pluralization and interdisciplinary interactivity of the artistic sphere, electronically processed sound penetrated into almost the entire musical development, as well as into other forms of art, including conceptual and media projects at the end of the 20th century. Those who were sceptical at first and spoke, with contempt, of the "dehumanization" of music, fiercely rejecting any form of "experimental" music as an elusive expression of post-war shock and spiritual chaos, or cheap cultural and commercial fraud, fell silent.

2 The Genesis of Electroacoustic Music in Slovakia

The roots of the genesis of Slovak electroacoustic music rest in the dynamic and controversial social and political period of the turn of the 1950s and 60s, when an emerging young generation of composers openly supported post-Webernially oriented New Music in spite of the disinterested or, even, rejecting attitude of local cultural politics towards the music of the protagonists and post-war followers of the European musical Avant-garde.

Pioneers of New Music in Slovakia included composers Ilja Zeljenka, Roman Berger, Pavol Šimai, Miro Bázlik, Peter Kolman, Ladislav Kupkovič, Jozef Malovec, Ivan Parík, as well as musicologists Ivan Mačák, Peter Faltin, and Miroslav Filip. In an effort to develop contacts with contemporaneous European developments in music, and to find their own place and path in Slovak music, the youth turned their attention also to the possibilities of electroacoustic music. At the end of the 1950s, when one could work in technically well-equipped electroacoustic studios in Paris (*Club d'essai de la R. T. F.*, 1948), Cologne (*Studio für Elektronische Musik*, 1951), but also in Warsaw (*Experimental Studio of the Polish Radio*, 1957), or London (*Radiophonic Workshop BBB*, 1958⁴), the first primitive sound experiments took place in Slovakia.⁵ The proximity of the centres of New Music (Donaueschingen, Darmstadt, and Warsaw), as well as the availability of the radio signals of the Viennese *Österreichischer Rundfunk*, enabled young composers to react to contemporaneous stimuli promptly. These were forged into the first electroacoustic opuses in the privacy of Ilja Zeljenka's and Roman Berger's studios as the results of teamwork (I. Zeljenka, R. Berger, P. Kolman, P. Šimai, I. Mačák). At the time, young authors had only two simple, Czechoslovak-made Tesla Sonet Duo commercial tape recorders, an East German tape recorder with a time indicator, and a borrowed four-input mixing console.⁶ The first attempts at

⁴ In Ivan Stadtrucker's essay in 1969 (*História jedného zvukového pracoviska*, [History of a Sound Studio]) published in *Slovenská hudba*, Vol. 13, Nos. 9-10, pp. 342-349) it is stated that the *Radiophonic Workshop of the BBC* was established already in 1956. According to the official website of the BBC, <http://www.bbc.co.uk/music/artists/39f0d457-37ba-43b9-b0a9-05214bae5d97>, the studio was created on 1 April 1958 and closed in 1998. [Retrieved on 20-11-2014.]

⁵ See STADTRUCKER, I.: *História jedného zvukového pracoviska* [History of a Sound Studio]. In: *Slovenská hudba*, Vol. 13, 1969, Nos. 9-10, p. 344; BERGER, R.: *Esej o elektroakustickej hudbe* [An Essay on Electroacoustic Music]. In: *Rozhlas a slovenská elektroakustická hudba*. [Štúdiijný zošit metodicko-výskumného kabinetu.] Bratislava: Metodicko-výskumný kabinet Čs. rozhlasu, 1989. pp. 111-150.

⁶ KAJANOVÁ, Y.: *Rozhovory s Iljom* [Discussions with Ilja]. Bratislava: Vydavateľstvo Spolku slovenských spisovateľov, 1997. pp. 62-68. ISBN 80-88735-59-9

¹ According to COX, Ch. – WARNER, D. (eds.): *Audiokultúra : Texty o modernej hudbe* [Audio Culture: Readings in Modern Music]. Bratislava: Hudobné centrum, 2013. pp. 30-34. ISBN 978-80-89427-22-2

² VARESE, E.: *Erinnerungen und Gedanken*. In: *Darmstädter Beiträge zur Neuen Musik*. B. Schott's. Mainz 1960. [Translation into Slovak language V. Godár.] [online]. Available on: <http://www.sonicart.sk/archives/516>. [Retrieved on 26-06-2023.]

³ CAGE, J.: *The Future of Music: Credo*. In: *Slovenská hudba*, Vol. 22, 1996, No. 1-2, pp. 294-295.

composing with tape recorders were marked by a fascination from discovering a new horizon of sound, deepening the semantic message of the composer. The young composers refined not only their hearing and analytical abilities, but new compositional techniques as well: the technique of montage and that of collage.⁷

Figure 1: TESLA Sonet Duo ANP 210 tape recorder⁸



Source: <http://www.oldradio.cz/mgf.htm>. [Retrieved on 19-11-2014]

3 The Sound Studio of the Czechoslovak Television in Bratislava: Film

It was the genre of films which provided the first professional conditions for the momentary fascination by sound and for students' "pranks" to become Avant-garde works of art. In the Czechoslovak Television in Bratislava, Ilja Zeljenka's music, in collaboration with sound engineer Ivan Stadtrucker, for the film *65 miliónov* [65 Millions]⁹ was created as early as 1961, and it brought the first recognition to Slovak electroacoustic music abroad, at the International Congress of Electronic Music in Florence (1968). Usually that moment is considered to be the birth of the first experimental studio in Slovakia, the Sound Studio of the Czechoslovak Television (ZvČs) in Bratislava.¹⁰ It was here that two of Zeljenka's electroacoustic studies (*Štúdia 0,2* [Study 0.2] [1962], and *Štúdia 0,3* [Study 0.3], [1962]) were created, one of which found its way, along with the soundtrack of the film *Výhybka* [Railway Switch] by Jozef Malovec, to the first and, for long years, the last LP record released by Supraphon in 1966.¹¹

Although the technical equipment of the Sound Studio of the Czechoslovak Television in Bratislava was not completely satisfactory in the beginning¹², gradually other Slovak composers, like Ladislav Kupkovič, Jozef Malovec, Roman Berger, Pavol Šimai, Svetozár Stračina, as well as German composer Paul Dessau, also became interested in working

there.¹³ The young composers found enthusiastic partners in sound engineers Ivan Stadtrucker, Ján Rúčka, Milan Kubiš, and Otto Bartoň, so, in the course of somewhat less than five years, electroacoustic music was being produced for several dramatic pieces and TV productions, for short documentary films as well as feature films.¹⁴ The reputation of the studio kept growing and technical equipment was being procured,¹⁵ but the emphasis on subordinating the music exclusively to the stage or television images resulted in the absence of autonomous electroacoustic music in the production of the studio. The first attempt in this direction was I. Zeljenka's music for the ballet *Kozmos* [Cosmos] which, however, remained a fragment. The music for the ballet *Faust* by W. Bukovský, who passed away prematurely, also remained unfinished. The growing political pressure on artistic creations in the television, and the reorganization of the staff, led to a gradual suppression of the activities and to the dissolution of this progressive experimental studio in Slovakia.¹⁶

Figure 2: The Sound Studio of the Czechoslovak Television in Bratislava (1961): Ivan Stadtrucker (sound engineer), Ilja Zeljenka (composer) [from left].



Source: Archive of the EXS.

4 The Genesis of the Experimental Studio: The Trick Production Room of the Czechoslovak Radio in Bratislava

At the time, however, another experimental studio was being formed in Bratislava, the Trick Production Room of the Czechoslovak Radio in Bratislava (1964)¹⁷, which came into being at the initiative of oral directors. The Trick Production Room had suitable technical equipment available at the time: there were devices made by the Development Department of the Czechoslovak Radio in Bratislava¹⁸ (including a so-called trick

⁷ For the first time since the birth of the phenomenon of electroacoustic music, a fragment from the early team experiments of I. Zeljenka, R. Berger, and P. Šimai, will be published as an LP-CD called *Zaba* [Frog] in *Experimental Studio Bratislava Series 1 – 2 – 3* in 2014. For details see www.sonicart.sk.

⁸ Illustrative photograph taken from <http://www.oldradio.cz/mgf.htm>. [Retrieved on 19-11-2014.] It was a two-track, two-speed mono spool tape recorder manufactured in 1959/1965 (4.76-9.53 cm/sec. speed; 50-10 000Hz frequency range [9.53 cm/sec.]; operated by valves [Czechoslovak patent 96168]; record and pause button; three-digit counter; thermionic indicator of the recording level). The Tesla Sonet Duo tape recorder was developed from its predecessor, the Sonet tape recorder, from which it differed mainly in its speed of 4.76 cm/sec., inputs for more sound sources with their respective switches, a pause button, a counter, and a connection adaptor.

⁹ The original title of the film was *Baladická suita* [Balladic Suite] but it had to be changed for ideological reasons.

¹⁰ This date was stated as the foundation date of the Sound Studio of the Czechoslovak Television in Bratislava, with provisional facilities on the first floor of the ex-Tatra Bank, in the *International Electronic Music Catalog* (DAVIES, H.: *Répertoire international des musiques électroacoustiques/International Electronic Music Catalog*. Paris, France: Groupe de Recherches Musicales de l'O.R.T.F.; Trumansburg, New York: Independent Electronic Music Center, 1968.). After STADTRUCKER, 1969, pp. 342-349.

¹¹ Ilja Zeljenka: *Štúdia 0,3* pre sínusový generátor [Study 0.3 for a sinusoidal generator] (1962). LP, Supraphon DV 6221. 1966. In: *Slovenská hudba*, Vol. 22, 1996, Nos. 1-2, p. 319.

¹² At the time, Sound Studio of the Czechoslovak Television in Bratislava (next ZvČs in Bratislava) had: 4 Sander-Jansen studio tape recorders, a sinusoidal wave generator and, later, a home-made ring modulator based on the designs of Polish musicologist Józef Patkowski. After STADTRUCKER, 1969, p. 345.

¹³ German composer Paul Dessau (1894-1979) came to Slovakia to create electroacoustic music for the documentary film *Ruský zázrak* [Russian Miracle] (Deutsche Film AG [DEFA], 1963) by Annelie and Andrew Thordike.

¹⁴ From August 1961 to May 1964, electroacoustic music was created in the ZvČs in Bratislava for a total of 14 short films and 4 feature films. The latter were: *65 miliónov* [65 Millions] (Ilja Zeljenka, 1961), *Slnko v sieti* [Sun in the Net] (Ilja Zeljenka, 1962), *Každý týždeň sedem dní* [Seven Days Every Week] (Ilja Zeljenka, 1964), *Výhybka* [Railway Switch] (Jozef Malovec, 1964); electroacoustic music for television adaptations: *Vzbura na ulici Sycamore* [Rebellion in Sycamore Street] (Roman Berger), *Kosmos* [Cosmos] (Ilja Zeljenka). After STADTRUCKER, 1969, pp. 342-349.

¹⁵ In 1969, ZvČs in Bratislava had a tape transcription studio, a trick and sound production room equipped with sound sources (12 pcs of tone generators of sinusoidal waves, 1 pc of a tone generator of sawtooth waves, 1 pc of a tone generator of square waves, 1 pc of a generator of white noise, 1 pc of Subharbord), regulators (1 pc of a time regulator, 1 pc of an equipment for a continuous variation of speed, 1 pc of a tape echo, 1 pc of a one-octave bandpass filter, 1 pc of a 1/3 octave bandpass filter, 1 pc of a bandpass filter of variable bandwidth, 1 pc of a band-stop filter of variable bandwidth, 1 pc of a keyer), recording and reproduction devices (4 pcs of studio tape recorders 38 – 19, 9.5 cm/sec., 6 pcs of synchronous studio tape recorders, 1 pc of a 12-channel mixing console). After STADTRUCKER, 1969, pp. 342-349.

¹⁶ STADTRUCKER, I.: Slovenské osudy hudby elektronickej [Slovak Fortunes of Electronic Music]. In: *Slovenská hudba*, Vol. 22, 1996, Nos. 1-2, pp. 34-47.

¹⁷ Because of a lack of suitable premises, the Trick Production Room was housed in the building of the Czechoslovak Radio in Bratislava in Jacob's Square, in R-4, which was originally meant for theatre production but was later adapted to the requirements of modifying speech and music by electroacoustic means. See JANÍK, P.: Premeny technického zariadenia Elektroakustického štúdia [Transformations of the Technical Equipment of the Electroacoustic Studio]. In: *Rozhlas a slovenská elektroakustická hudba*. [Štúdijský zosil Metodicko-výskumného kabinetu.] Bratislava: Metodicko-výskumný kabinet Čs. rozhlasu, 1989, p. 174.

¹⁸ Already at the end of the 1950s, the program producers of the Czechoslovak Radio felt they were in need of devices for special effects. Therefore, the Development Department of the Czechoslovak Radio in Bratislava, headed by Mikuláš Zima,

recorder, adjusted from a Sander-Jansen 100 studio tape recorder¹⁹), a mixing desk with a monitor speaker (combined design), a connection panel and several generators (Tesla BM 344 RC-generator, RFT 205 recording generator, a Fernmeldemessegerätebau Berlin 120–121 sound generator, a KRÍŽIK G 571 generator of very low sinusoidal and rectangular waves from 0.01 to 70Hz, a rectangular wave generator in the range of 50Hz to 10kHz [the studio's own make based on ORION 1142], a source of narrow symmetric impulses with a continuous variation of frequency [the studio's own make], a source of narrow non-symmetric impulses with a continuous variation of frequency [the studio's own make], a noise generator with outputs for wide-band noise and narrow-band noise of a low frequency for aleatoric modulations [the studio's own make].²⁰

Figure 3: The *EXS* trick recorder of the Czechoslovak Radio in Bratislava (1965).



Source: Archive of the *EXS*.

In modest premises (in an area of 2m x 5m), simple electroacoustic sound figures (of a concrete and electrogenic character) were produced with the aim to highlight the artistic messages in studio productions and dramatic works. Thus, the trick production room stepped on the path of designing sound for special radio broadcasts, i.e. on the path of *radiophonics*.²¹ The verbal and musical units of the Czechoslovak Radio in Bratislava gradually expanded the studio and its technical equipment.

5 The Beginnings of the *EXS*

The year 1965, when the Experimental Studio of the Czechoslovak Radio (*EXS*) was officially founded by the appointment of composer Peter Kolman to the position of a dramaturge, was a turning point in the development of Slovak electroacoustic music. Kolman's high musical professionalism and passion for Avant-garde works led to the profiling of the artistic and technological line of the *EXS*, and to its gradual establishment in the European experimental environment. Very early, the *EXS* ranked among the progressive European studios, which represented characteristic electroacoustic schools by their productions and artistic programmes. During the eleven years of

focused its attention on producing these devices and, based on foreign models, it made an effect device for producing sound figures. See JANÍK, 1989, p. 173.

¹⁹ The essence of a so-called trick recorder (also called the "mother of directors"), made by modifying a classic commercial tape recorder, was given by one recording and four playing heads placed at different distances, and a continuous variation of speed from 19 cm/s to 76 cm/s. This modification enabled a continuous variation of speed in the range of three octaves, the production of an echo and feedback and, later, when stereo was introduced, a distribution of the sound material on a reproduction basis. See JANÍK, 1989, p. 174.

²⁰ After KOLMAN, P.: Elektronische Musik in Bratislava. In: *Slovenská hudba*, Vol. 11, 1967, No. 8, pp. 348–351, and after archived documents.

²¹ Experimental studios set up in radio institutions did sound design, i.e. *radiophonics*, according to the requirements of the dramatic units. This is how one of the most significant European studios in this field, the *Radiophonic Workshop of the BBC*, also worked; by musical, literary and dramatic programmes with innovative sounds, it had an impact on the perception of a new sonority on a massive scale. For details see ĐURÍŠ, Juraj. Na ceste k umeniu zvuku / sonicART [On the Way to the Art of Sound / sonicART]. In: *Zvuk v súčasnej hudobnej kompozícii*. Žilina: Žilinská univerzita, 2012, pp. 296–297. More on this, see also *The BBC Radiophonic Workshop*. In: <http://www.bbc.co.uk/music/artists/39f0d457-37ba-43b9-b0a9-05214bae5d97>. [Retrieved on 20-11-2014]

Kolman's activities as its art director, the *EXS*²² developed contacts with several experimental studios²³ and representatives of electroacoustic music: Karlheinz Stockhausen, Józef Patkowski, Mauricio Kagel, and others.

Figure 4: The Trick Production Room of the Czechoslovak Radio in Bratislava: mixing direction bench (1964).



Source: Archive of the *EXS*.

Ever since its beginnings, the *EXS* was built, at the initiative of Polish musicologist Józef Patkowski, after the model of the Experimental Studio of the Polish Radio in Warsaw. The equipment of the *EXS* was added gradually, from local and foreign sources. Already in 1966, a generator of short impulses and a rhythm machine from the Development Department's own resources were added to the technical equipment of the *EXS* and, in 1969, it procured foreign devices, a four-track Studer J 37²⁴ tape recorder and a Subhachord²⁵ sound synthesizer.

Figure 5: Subhachord from the *EXS* (1969). Photo after reconstruction from 2009.



Source: Archive of the *EXS*.

²² Peter Kolman was the art director of the Experimental Studio in Bratislava from 1965 to 1976, when he emigrated and settled with his family in Vienna.

²³ Already in 1965, the studio developed contacts with ten foreign studios to gain information on the situation of experimental activities in the world. The studios which sent information material and promised to help in the form of information on technical equipment and work organization were: Studio für elektronische Musik Köln am Rhein, Electronic Music Center of Columbia and Princeton Universities, Studio voor Elektronische Muziek at Utrecht University in the Netherlands, the Electroacoustic Studio in Gravesano, the Experimental Music Studios at the University of Illinois in Urbana, and the Experimental Studio of the Polish Radio in Warsaw. Later on, Peter Kolman developed and systematically maintained contacts with more than 250 partner institutions. See ČIERNA, A.: Experimentálne štúdio v zrkadle doby [Experimental studio in the mirror of the times]. In: *Hudobné inštitúcie na Slovensku [Music institutions in Slovakia]*. [Zborník príspevkov z konferencie]. Bratislava: Slovenské národné múzeum Bratislava, 2012, pp. 165–182. ISBN 978-80-8060-302-1.

²⁴ The four-track Studer J 37 tape recorder was at the disposal of the *EXS* already in 1965, but was not part of its permanent inventory. See KOLMAN, 1967, p. 351; see also JANÍK, 1989, p. 177.

²⁵ Subhachord (made by RFT in Berlin) was one of the first electroacoustic devices in the countries of the Socialist Bloc. It found its way to the electroacoustic studios in the Czech and the Slovak Republic in 1969. In the *EXS* itself, it was used for a large number of dramatic and documentary works of incidental and utility music. The device consisted, among other elements, of: a generator of sawtooth impulses with subharmonic dividers, an upper and a lower frequency filter, 12 formant filters for the imitation of classical musical instruments, a frequency vibrato, chorus modulation and circular modulation, a keyer for the signal dynamics, etc. The keyboard enabled a regulation of the dynamic progression as well as a single-voice control of the generated signal. See JANÍK, 1989, p. 178; see also KOLMAN, 1967, p. 351 and STADTRUCKER, 1996, Nos. 1-2, p. 37;

The range of the artistic activities of the *EXS* was quite wide, from the production of sounds and sound effects, and fillers for radio bands and plays (*radiophonics*), through processing spoken word, up to electroacoustic incidental and autonomous music. Contrary to the *ZvČs* in Bratislava, the attention of the *EXS* was focused, from its very beginnings, primarily on the production of autonomous experimental electroacoustic and concrete compositions. An extremely creative production team headed the studio: sound engineers Peter Janík and Ján Backstuber,²⁶ along with art director, composer and dramaturge Peter Kolman.

6 The First Achievements of the *EXS*

In the autumn of 1966, the first autonomous Slovak electroacoustic composition, Jozef Malovec's *Orthogenesis*, was created in the *EXS*, with the incidental music for the grammophone record *Moderná svetová básnická tvorba v slovenských prekladoch* [*Modern World Poetry in Slovak Translation*] (released by Supraphon in its Gramoklub edition, 1967), forming its basis. Its "pseudo" stereophonic version was made in the same year, in the radio drama of Production Room 6 of the Czechoslovak Radio in Bratislava, where 4 monophonic tape recorders were available. After cutting the recording mechanically (montage, collage) and adding reverberation, all four tapes were synchronized. Mostly this meant a dynamic mixing with "... localizing each track at a constant place on the stereophonic base".²⁷ A year later, the first stereophonic version of Malovec's *Orthogenesis*, mixed on Studer C 37 tape recorders and a Tesla (SRK type) mixing console, was created in the Research Institute of the Radio and the Television in Prague (on 13 March 1967). The world premiere of the work was played at a seminar on electroacoustic music in Pilsen in the presence of Pierre Schaeffer.²⁸ As its Slovak premiere, the stereophonic version of the *Orthogenesis*, for which J. Malovec received the Award of the Czechoslovak Critique, was played in the 1st year of the seminars on contemporary music in Smolenice in the presence of K. Stockhausen and musicologists C. Dahlhaus and H. P. Reinecke.²⁹ In 1968, a quadroversion of the *Orthogenesis* was produced on a Studer J 37 four-track tape recorder and, in the spring of 1968, it successfully represented Slovak electroacoustic music at the International Congress of Electronic Music in Florence.³⁰ The *Orthogenesis* became a success also at the international competition in Dartmouth College, and was released on an American LP by Turnabout-Vox.

²⁶ Sound engineer Ján Backstuber joined the *EXS* on Peter Janík's request in early 1968, after the studio had moved to new premises freed for the use of the radio by the Post Office on the ground floor of their building in Jacob's Square in Bratislava.

²⁷ Since there were no stereophonically equipped production facilities, not even stereophonic tape recorders in Bratislava at the time, the stereoverison was "produced" by using a Phillips RK 56 commercial tape recorder (with a speed of 19 cm/s). See JANÍK, P.: Elektroakustické intermezzo [Electroacoustic Intermezzo]. In: *Slovenská hudba*, Vol. 22, 1996, Nos. 1-2, pp. 51-52. On the development of stereophony in Slovakia see also BREZINA, P.: The Development of Stereophonic Sound in Slovakia. In: *Journal of Electrical Engineering*, Vol. 62, 2011, No. 6, pp. 370-374. DOI: 10.2478/v10187-011-0060-9. ISSN 1335-3632.

²⁸ The Bratislava premiere of the stereophonic version of Malovec's *Orthogenesis* took place at a public performance in the Concert Hall of the Czechoslovak Radio in Bratislava on 15 March 1967. After JANÍK, 1996, p. 52.

²⁹ See CHALUPKA, Ľubomír: Jozef Malovec / *Orthogenesis*. In: *Hudobný život*, Vol. 34, 2002, No. 4, pp. 29-30. See also ČIERNA, A.: Poetika elektroakustických kompozícií Jozefa Malovca [Poetics of Electroacoustic Compositions by Jozef Malovec]. In: *Osobnosti slovenskej hudobnej tvorby II* [Personalities of Slovak music production]. [Zborník príspevkov z 3. a 4. seminára Tadeáša Salvu, Lúčky pri Ružomberku 2003 a 2004.] Banská Bystrica: Akadémia umení, 2006. pp. 51-63. ISBN 80-89078-21-4.

³⁰ The quadrophonic version of the *Orthogenesis*, which its author called the *Fiorentinese*, was produced on a four-track Studer J 37 tape recorder, with the extensive help of a trick recorder, and with making use of the possibilities of modifying stereosignals on a Tesla TRK 186 mixing console. After JANÍK, 1996, p. 53.

Figure 6: The beginnings in the new premises of the *EXS* in 1968: Peter Janík (sound engineer), Jozef Malovec (composer) [from left].



Source: Archive of the *EXS*.

In the latter half of the 1960s, key personalities (J. Malovec, P. Kolman, L. Kupkovič, R. Berger, M. Bázlik, I. Parík, J. Pospíšil, T. Salva) of the then young generation of composers came to the *EXS* and electroacoustic music became an organic part of Slovak music in a national as well as international context.

7 Rebuilding the *EXS*: The Second Generation of Technological Facilities

The *EXS* moved from the unsuitable premises of the small Production Room 4 (1968) to a new place, innovated its technical equipment to a significant extent, and switched to stereo operation. As a result, electroacoustic production in Slovakia experienced a new boom.³¹ The production of stereophonic recordings also increased in the verbal field since, in the first half of the 1970s, the Czechoslovak Radio placed a great emphasis in its broadcasting on the use of modern means of expression in the field of spoken word. By 1975, 84% of the total number of 94 stereophonic literary and dramatic programmes was produced in the *EXS*, e.g. Ramuz: *Dolina Derborance* [*The Derborance Valley*] (directed by Vladimír Rusko sr.), Hudec: *Ešte raz navštíviť Železnú studničku* [*To Visit Železná studnička Once Again*] (directed by Imrich Jenča), Candoni: *Hlma* [*Mist*] (directed by Eva Galandová), Repka: *Chcieť istotu* [*To Want Certainty*], *Vtáci* [*Birds*], *Maximo* (directed by Vladimír Rusko sr.), Wilde: *Salome* (Vladimír Rusko sr.), etc.³²

The turn of the 1960s and 70s was marked by the invasion of the Warsaw Pact troops of Czechoslovakia, and a consequent turnaround in its politics to a totalitarian regime. This reflected also into the postulates of the doctrine of socialist realism in the spirit of the motto: "art belongs to the people". The course of the Avant-garde development of Slovak music was forcefully broken, several progressively oriented composers were expelled from the Association of Slovak Composers, and stopped composing; others (P. Faltin, L. Kupkovič, P. Šimai) emigrated. The tensed situation in the mid-1970s led to Peter Kolman, dramaturge of the *EXS* for many years, leaving Slovakia. The baton was picked up by composer J. Malovec (1976).

³¹ In 1968 and 1969, the following autonomous electroacoustic compositions were produced in the *EXS*: Peter Kolman: *D 68* (1968), *Motto non perpetuum* (1968); Jozef Malovec: *Punctum Alfa* (1968), *Tmel* [*Binder*] (1968); Ladislav Kupkovič: *Intermezzo 2* (1968), *Preparovaný text 1* [*Prepared Text 1*] (1968), *Preparovaný text 2* [*Prepared Text 2*] (1968), *Preparovaný text 3* [*Prepared Text 3*] (1968), *Preparovaný text 3½* [*Prepared Text 3½*] (1968), *Collage* (1968), *Vianoce* [*Christmas*] (1968), *Marceau de Genre* (1968), *Etuda* [*Study*] (1968), *Confessio* (1968); Roman Berger: *Elégia in memoriam Ján Růčka* [*Elegy In Memoriam Ján Růčka*] (1969); Ivan Parík: *Hommage to Wiliam Croft* (1969). In 1970 and 1971, the production of original electroacoustic works increased in the *EXS*: 8 autonomous electroacoustic compositions were concurrently produced in 1970 and 1971. The subsequent years brought a decline in original electroacoustic works due to the overall cultural and social situation: 3 compositions in 1972, 2 compositions in 1973, 4 compositions in 1974, 4 compositions in 1975. See ČIERNA, A.: Elektroakustická kompozícia na Slovensku. [Electroacoustic composition in Slovakia]. In: *Slovenská hudba*, Vol. 22, 1996, No. 1-2, pp. 67-111.

³² See RUSKO, V. sr.: Slovesná tvorba v Experimentálnom štúdiu [Verbal Production in the Experimental Studio]. In: *Slovenská hudba*, Vol. 22, 1996, No. 1-2, p. 124.

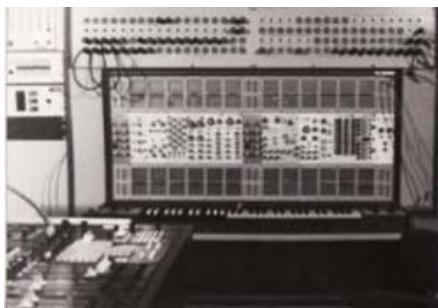
Figure 7: The Experimental Studio of the Czechoslovak Radio in 1968 (new premises).



Source: Archive of the EXS.

Paradoxically, in spite of the worsening political and social situation and its impact on musical culture, the first half of the 1970s saw an extensive development of Slovak electroacoustic music. The EXS headed systematically towards the technology of a semi-automatic control of the devices by voltage control, and to analogue programming. In 1971, an eight-track Studer A80/8 tape recorder was added to the technical equipment of the studio, and it became a source of a sophisticated technology of multitrack recording, and served as a basis for more perfect mixings. After 1972, however, an ARP 2115 synthesizer with a keyboard, which was partially programmable by a voltage control system of some of its modules, became the core technology of the EXS. Voltage from the keyboard, or through controlled generators, enabled the control of the frequency of the generators, the frequency limit of the filters, the speed of the steps of the sequencer, and other functions. The ARP 2115 synthesizer became the central device for the production of hundreds of radio programmes, and was also used for the production of electroacoustic compositions.³³

Figure 8: The ARP 2115 synthesizer in the EXS. Photo from 1985.



Source: Archive of the EXS.

8 The First Problems and New Initiatives

In the latter half of the 1970s, standardization had an alarming impact on the activities of the studio: financial funds for further development were cut, and the staff had to defend the meaningfulness and usefulness of this type of a studio within a public institution. By this time, the universal character of the studio had been definitely profiled. Besides the production of autonomous and incidental electroacoustic music, the work profile of the EXS included representative recordings of the folklore and the entertainment genre, the production of technically and artistically demanding musical and verbal programmes, programme jingles, sound effects and fillers, modifications of sounds, and the restoration of historically valuable archive recordings of musical pieces into a pseudo-stereophonic version. Moreover, they managed to secure regular

³³ Production by the EXS grew by new quadrophonic electroacoustic compositions and radio bands: *Vyznanie [Creed]* (directed by Vladimír Rusko sr., quadrophonic band, 1975), Michail Jurievíč Lermontov: *Démon [Demon]* (directed by Viktor Lukáč, quadrophonic dramatization of the play, 1980), Tadeáš Salva: *Plač [Lament]* (electroacoustic radio opera, 1979). See JANÍK, 1989, p. 179.

programmes for electroacoustic music and performances of electroacoustic works in concerts and festivals, although with respective commentaries.³⁴ Under pressure from the management of the radio, the EXS had to change its name to a less "provoking" one in 1977: to Electroacoustic Studio (EAS), which remained its official name until 1990.³⁵ Autonomous electroacoustic music in Slovakia experienced a period of stagnation. In 1976, only two autonomous electroacoustic compositions were produced in the EXS, whereas not a single Slovak electroacoustic composition was produced in the EXS in 1977 and 1978. The invitation by the EXS was accepted only by German composer Lothar Voigtländer (*Structum I*). It was only in 1979 that Tadeáš Salva, who created the first Slovak electroacoustic radio opera called *Plač [Lament]* here, and also Roman Berger and Jozef Malovec, returned to the studio. Martin Burlas's composition *Hudba pre modrý dom [Music for the Blue House]* foreshadowed the emergence of a new generation of young composers.

Figure 9: Photo from the realization of T. Salva's radio opera *Plač [Lament]*. From left: Miroslav Vajdička (sound director), Sergej Kopčák (singer), Tadeáš Salva (composer); with their back, from left: Ján Backtuber and Peter Janík (sound engineers).



Source: Archive of the EXS.

In this difficult stage of its development, the international folklore competition *Prix de musique folklorique de Radio Bratislava* provided fresh impulses to the EXS. At the time, unconventional processing of authentic folklore by electroacoustic means was truly unique in the European region. Dozens of noteworthy compositions were born in the studio, and almost all the Slovak representatives of New Music took turns in their production. The compositions of Tadeáš Salva, a disciple of the Polish School of composers, and Svetozár Stračina, an ardent folklorist, deserve particular attention.

9 New Building: New Generation

At the turn of the 1970s and the 1980s, the team of the EXS was enlarged by sound engineer Juraj Ďuriš (1978, who later succeeded in composing electroacoustic music, too), and by Viťazoslav Kubička (1980), a representative of the emerging generation of young composers, who took up the position of dramaturge. The studio renewed contacts with abroad, revived the production of original electroacoustic compositions (presented also in concerts), and launched the production of programmes on experimental works, called *Hlási sa vám Elektroakustické štúdio [The Electroacoustic Studio Reports]*. An increased interest of the programme units of the radio in the activities of the studio manifested itself in its equipment as well. In the early 1980s, the studio acquired a Vocoder Sennheiser VSM 201,³⁶ a new Tesla ESR 1806 direction panel, several additional devices (modifiers) of its own make and ones made by the Research Institute of the Radio and the Television, and a new

³⁴ In 1977 a concert of electroacoustic music was included in the program of the Bratislava Music Festival and, in 1978 performances took place in Music Fund Slovakia. See JANÍK, 1996, p. 61 and BERGER, 1989, p. 118.

³⁵ After the 1989 change in the social and political situation, the studio returned to its original name, Experimental Studio (EXS). In: ČIERNA, 2012, pp. 165-182.

³⁶ Vocoder Sennheiser VSM 201 may be characterized as a set of filters on the basis of voltage control, which can be, for instance, even the human voice. An alternative source may also be selected, whose sound passes through these filters.

trick recorder, made by modifying a Studer A 80 tape recorder, which provided extended possibilities for speed regulation with lower fluctuation of speed.

In 1985, the *EXS* moved to the new building of the Czechoslovak Radio, where it received lucrative facilities: two production rooms, a recording studio, and a listening room. Now, it had digital synthesizers and multifunctional digital processors with a wide range of possibilities, while new technologies were used also in the field of modulation modifiers and correctors of the frequency progression.³⁷ The studio switched from the analogue system to a digitalization of all the elements of production: from recording, editing, cutting, up to the final mixing and reproduction. A new generation of Slovak composers, V. Kubička, R. Rudolf, A. Mihalič, M. Burlas, P. Machajdík, J. Vlk, P. Zagar, as well as visual artist S. Ilavský (1989), showed interest in working in its new premises.

Figure 10: From left: Juraj Ďuriš (sound engineer), Vítazoslav Kubička (dramaturge and composer), Ján Backstuber (sound engineer). Photo from 1985.



Source: Archive of the *EXS*.

The emerging generation enriched electroacoustic music by fresh perspectives on the message of the Moderne and the Avant-garde in the context of non-European musical styles (*minimal music, sound environment, meditative music, etc.*). It experimented with the visualization of the concert production, making use of light productions and *performance art; live performance art, sound sculptures, visual and kinetic performance art, etc.* came into being. Their entry widened the range of composers' poetics and, thanks to fusions with other genres of music (rock, alternative music), this type of music managed to arouse even the interest of young listeners. The young generation's works were in high demand even in international forums.

Figure 11: From left: Dušan Buchel (sound engineer), Martin Burlas (composer) and Juraj Ďuriš (sound engineer). Photo from 1989.



Source: Archive of the *EXS*.

³⁷ The new generations of digital processors enabled the equalization of the dynamics of the sound, adjustment of the acoustics, and shifting the sound along a stereobase. See JANÍK, P.: *Technické aspekty rozhlasovej tvorby v uplynulých desaťročiach činnosti rozhlasu na Slovensku* [Technical Aspects of Radio Productions in the Past Decades of the Activities of the Radio in Slovakia]. In: *Príspevky k dejinám rozhlasu* 6. Bratislava: Slovenský rozhlas, 2001, p. 31.

10 Post 1989

After the fall of the totalitarian regime in 1989, the production and presentation of electroacoustic music intensified. A return to its original name (*EXS*, 1990), the lively activities in the field of contacts with abroad, and the increased number of events, meant a new stage for Slovak electroacoustic music. After V. Kubička left the radio (1991), the artistic management was taken over for some time by J. Ďuriš, along with A. Zmeček, and new faces (R. Bartoš, E. Walzel, S. Kaclík, R. Sabo) gradually joined the team. The development of electroacoustic music in Slovakia intensified by the establishment of an association, the Centre for Electroacoustic and Computer Music (1992), with J. Ďuriš, Andrej Zmeček and Rudolf Žákovský as its founders.³⁸ The International Forum of Electroacoustic Music (IFEM '92) in Dolná Krupá³⁹, in which leading specialists and composers from Central European countries participated, was one of its first events. The IFEM '92 programme included a concert of the electroacoustic works of the participating authors, a seminar evaluating the historical development of EAM in the countries of the former Socialist Bloc, and the presentation of the first anthology of Slovak electroacoustic music published by the Slovak Radio in Bratislava. The forum became a platform for exchanging experience, information, contacts, as well as a room for projecting subsequent collaboration. IFEM '92 enlivened the interest in EAM in the Central European region and, a year later, as part of the 2nd year of the Melos-Étos international festival of contemporary music in Bratislava, there was a workshop and a concert from the production of a leading centre of EAM in Europe, the Institut de Recherche et Coordination Acoustique/Musique (IRCAM) in Paris.⁴⁰ The 2nd year of the international forum on electroacoustic music, IFEM '94, took place in 1994 and, in the following two years, the activities of the *EXS* in collaboration with the CECM extended to multimedia and interactive projects BEE95CAMP and BEE96CAMP, and two years of a Festival of Electroacoustic Music, FEM '95 and FEM '96, took place as part of the projects. Another festival of electroacoustic music took place in 1997. Besides the above projects, electroacoustic music was presented also as part of intermedia projects (SOUND OFF), interactive audiovisual installations (BIOFEEDBACK), multimedia performance art (...MEDZI...), and at an exhibition of graphics of electronic media (MEDIAGRAPHICS). There was more room for the presentation of EAM even among the programmes of the Slovak Radio. In 1992, the *Ex Tempore* programme began to be broadcast, and the radio recordings found their way, through international radio exchange projects within the European Broadcasting Union (EBU), even to the programmes of foreign radio stations. New members gradually joined the team of the *EXS*, enriching its production by new perspectives (sound engineers Robert Bartoš and Ernest Walzel, composer Marek Žoffaj).

11 The Sound Creation Centre and the *EXS*

Software (Alchemy, Sound Designer II, Samplacell II, MacMix, Performer), which brought a range of advantages like speed and precision in cutting and editing, the possibility of additional

³⁸ The mission of the CECM was to work "... with the historical legacy of electroacoustic activities, and to formulate history and presentation in this field, simultaneously, by targeted programmes." In: DUBOVSKÝ, R.: *Elektroakustická hudba na Slovensku* [Electroacoustic Music in Slovakia]. [online]. Originally available on <http://www.radioart.sk>, at present see www.sonicart.sk. [Retrieved on 11-06-2009.]

³⁹ The International Forum of Electroacoustic Music IFEM '92 took place on 5 Nov to 7 Nov 1992 in Dolná Krupá, and it included a seminar on the subject of the *Traditions, the Present, and Perspectives of Electroacoustic Music*, with the active participation of Dieter Kaufmann, Zoltán Pongrácz, Roman Berger, József Patkowskí, Lothar Voigtländer, János Decsényi, Hugh Davies, Gian Franco Maffina, and Rudolf Růžicka. The papers on the seminar were published in its proceedings, and were accessible also on the website <http://www.radioart.sk> [Retrieved on 11-06-2009] In: *Zborník medzinárodného fóra elektroakustickej hudby IFEM '92* [Proceedings of the International Forum of Electroacoustic Music IFEM '92]. Bratislava: CECM, 1993. At present, see www.sonicart.sk.

⁴⁰ The workshop took place in Studio 5 in the building of the Slovak Radio in Bratislava on 8 Nov to 11 Nov 1993, chaired by Xavier Chabot and Alexander Mihalič. The participants could learn not only about the activities and the structure of the IRCAM, but also about the latest software developed by this institute. The works of composers Yi Xu, Philippe Manoury, Frédéric Durieux, and Fabio Cifariello Ciardi were performed at the concert (10 Nov 1993).

corrections, a wider range of sound corrections and modifications, and flexibility, came to the forefront. Post 1997, however, room for electroacoustic music productions in the radio gradually began to narrow. The massive spread of computer technologies and the emergence of new private studios brought about a change in composers' attitudes to work in broadcasting media. This reality became a reason for the loss of the exclusive position of several experimental studios, which were forced to enrich their activities by new ventures (e.g. by the research and development of new technologies and software with an emphasis on organization, consultation and publication activities). Although the *EXS*, which experienced yet another change in its technological facilities (2001 to 2003), strengthened its position as part of a public institution, this did not last long. In 2006, for a short period, it became part of the Sound Creation Centre, which was to serve as a programme service for all types of programmes of the Slovak Radio.

Figure 12: Production Room A: *EXS*, 2001.



Source: Archive of the *EXS*.

Until April 2009, the Sound Creation Centre was headed by Juraj Ďuriš, who continued to participate in the realization of the progressive artistic and journalistic programme *Ex Tempore*, and in the dramaturgy, organization and realization of a series of concerts called *RadioART CONCERT*. The fact that the *Experimental Studio* suddenly disappeared from the organization structure of the Slovak Radio in Bratislava was symptomatic of the situation in the Slovak Radio at the time.⁴¹ The indifferent attitude of the management of the radio to the existence and activities of the oldest experimental studio in Slovakia, which was the only one to represent novel, progressive solutions to sound production in Slovakia, resulted in a gradual suppression of the production of autonomous electroacoustic compositions. In mid-2009, in its seventh meeting, the Radio Committee expressed its dissatisfaction with the activities and production work of the Sound Creation Centre. It criticized the one-sided focus of the centre on so-called online elements, and did not agree even with the planned closure of two production rooms, which "once..." formed part of "... the experimental centre".⁴² According to the Radio Committee, by the number of its jingles and spots, the production of the Sound Creation Centre was significantly shifting to commercialization instead of public service and a support of a modern perspective on broadcasting. Consequently, it may be observed that, similarly to the case of the Sound Studio of the Czechoslovak Television, the intensive experimental productions of this studio gradually became only tolerated rather than supported within the Slovak Radio (now called Radio and Television of Slovakia, RTVS)

⁴¹ See 2006 Annual Report of the Slovak Radio, Bratislava, April 2007, pp. 62-63.

⁴² In early 2009, four technical studios (in the form as they were established after its technology was revamped in 2001 to 2003) and nine employers (one of them external) formed the essence of the Sound Creation Centre. The former verbal director Peter Jezný criticized the activities of the new management of the SCC for its effort, as part of the new structure of the centre, "... to demolish the walls of the experimental studio". In: *Rozhlasová rada je nespokojná s Centrom kreatívneho zvuku*. In: *SME*, 15. 07. 2009. [online]. Available on: <http://www.sme.sk/c/4935410/rozhlasova-rada-je-nespokojna-s-centrom-kreativneho-zvuku.html>. [Retrieved on 14-06-2011.]

12 Epilog: A Change of Scene

EXS was looking for the meaning of its existence and the space for its activities and the fulfilment of new challenges. In 2013, *EXS* merged with the Academy of Performing Arts in Bratislava and found a new institutional umbrella.⁴³ The accent of its activities shifted to the field of education, and to scientific and research activities connected to the revitalization of monophonic audio recordings. However, artistic and concert productions of Slovak authors have remained in its portfolio of activities. Along with the other executive units of the Centre for Science and Arts of the Academy of Performing Arts in Bratislava, it became a centre for the management, coordination and programme conceptions of the publishing activities, artistic research and public presentation of the APA.

It is outright symptomatic that, through the *EXS*, Slovak electroacoustic music became yet again connected with film production, as it had been in the early development of the electroacoustic genre of music in Slovakia. The database of Slovak electroacoustic music in the APA was enriched by the creative contributions of newer and newer young generations of composers (including Marián Zavarský, Matúš Wiedermann, Matej Haász, Marek Kundlák, Martin Ožvold, Rudolf Pepucha, Marek Piaček and others) with a new attitude and perspective on the phenomenon of sound art. The attitude to the phenomenon of electroacoustic music is changing, and the compositional attitudes are changing as well. Real-time processions on concert stages came to the fore; music was increasingly combined with visual expression. Within new approaches and expressions, a wide live improvisation scene opened up, gradually replacing the "classical" composition of music on mg tape in a stone experimental studio.

However, the active cooperation between *EXS* and the Academy of Performing Arts did not last long, despite the efforts of the parties involved. This is also evidenced by the new *Organisational Regulations of the Centre for Arts and Science of the Academy of Performing Arts in Bratislava*⁴⁴ of 4 December 2020, where the *EXS* is no longer located. What was behind the cancellation of the cooperation? It can be assumed that, on the one hand, there were ideological contradictions in the views on the content of the activities of the *EXS* on the premises of the Academy of Performing Arts and, on the other hand, the economic difficulty of running the *EXS* on campus. In any case, despite the efforts of those involved to harness the creative potential of this progressive workplace, the *EXS* was once again left without an institutional umbrella.

The *EXS* has never shunned new initiatives. Ever since its beginnings, its activities were of a wide range, and the new findings and initiatives from the various fields of its activities enriched and widened also the range of possibilities and approaches to electroacoustic music. The achievements of the *EXS* are documented not only by awards from Slovakia and abroad (Dartmouth College, USA, 1968; Bourges, France, 1974, 1975, 1976, 1992; Varèse, Italy, 1979, 1980, 1981, 1985, 1987, 1990, 1991; Stockholm, Sweden, 1988; Aarhus, Denmark, 1992; Prague, Czech Republic, 1994), but also by its discography. Besides early

⁴³ See the *Organization Plan of the Centre of Arts and Science of the APA in Bratislava* from 13 March 2013, as well as the original *Framework Agreement on Collaboration* between the Academy of Performing Arts and the Radio and Television of Slovakia, which proclaims the scientific, research, consultation and education activities of the *EXS*. At the same time, the agreement binds the *EXS* to take care of the obsolete but historically valuable electroacoustic devices which had lost their function at the RTVS but, within the APA, they serve for teaching and research. An annex to the agreement is a contract on the lease of technological equipment (an EMT gramophone, Revox A 700, Studer A 80/RC and Studer A 812 tape recorders, a 5X 90 II reverberator, an ADR digital modifier, Kurzweil and Yamaha synthesizers, and an expander amplifier compressor).

⁴⁴ See Article 3: Scope of Activities and Organisational Structure, point 4: In the organisational structure of the Centre for Arts and Science of the Academy of Performing Arts only: a) the Institute of Theatre, Film and Music Theory and b) the Section of Editorial Activities remained. [online]. Available on: https://www.vsmu.sk/wp-content/uploads/2022/01/Organizacny_poriadok_CUV_VSM_U_2020_11_FINAL.pdf [Retrieved on 29-06-2023.]

recordings on LPs⁴⁵, these include also recordings on CDs: R. Berger's *De profundis* (Music Fund, SF 0012 2131, 1993), M. Bázlik's *Spektrá [Spectra]* (Slovart Records SR 0033, 1999), and recordings from the production of the CECM and the Radio Bratislava label.⁴⁶ Recent additions to the discography of the production of the EXS is an edition of three LPs/CDs: *Experimental Studio Series 1-2-3* (2014/2015), which presents a cross-section of the development of the EXS, and of Slovak electroacoustic music, from the beginnings of experimental team productions up to contemporary audio manifestations. That is why the three storage media bear the titles *Different Music*, *New Generation*, and *Live Stages*.

In spite of the peripeteias and numerous traps of the sudden boom of computerization and information globalization, which several experimental studios on the academic, public and private commercial scene succumbed to, the EXS activity has continued unabated in the second decade of the 21st century. Similarly to other entities, EXS has also moved part of its activities to the virtual environment of the Internet alongside its concert activities. With a new logo and a new website (<http://www.son.icart.sk>), EXS promotes and showcases electroacoustic music across the full breadth of historical and contemporary genres of sound art. Examples of recent EXS projects include *Imago Sonoris – Art's Birthday 2023* (Radio Devín, Euroradio EBU, radio internet stream, 17.1.2023), *Imago Sonoris/Lost Time?* (A4/Associations for Contemporary Culture, Bratislava, 9.11.2019), *IFEM 2019/International Festival of Experimental Music* (A4/Associations for Contemporary Culture, Bratislava, 21.-22. 6. 2019), *Electroacoustic Music from Six Decades* (EOA Concert, 7.7.2018), *IFEM 2018/International Festival of Experimental Music* (Slovak Radio, Bratislava, 23.-24.3.2018), *Vae Victis – division into unequal parts* (Ostrava, 17.1.2018), *Bonsai Garden – dedicated to Milan Adamčík* (Kino Cineport Ostrava, 17.1.2018) and many other.

Although one of the features of the development of Slovak music in the 20th century is a certain developmental lag behind European music, in the case of electroacoustic music (despite the unfavourable cultural and political situation at the time of its birth) it is only a minimal time shift. Already at the end of the 1950s, the first electroacoustic compositions were created in the domestic environment (R. Berger, I. Zeljenka, P. Šimai). In the same period, thanks to I. Stadtrucker, the Sound Department of the Czechoslovak Television in Bratislava was established, and soon the Experimental Studio of the Czechoslovak Radio in Bratislava was formed under the leadership of P. Kolman. Thus, already in the first years of its existence, the generation of the young Slovak musical avant-garde of the 1960s gained favourable technical conditions for the creation of "other music". However, it was not an easy path and the changes and development lines outlined only partially outline the peripeteias of Slovak electroacoustic music. For some composers, the electroacoustic medium lost its appeal over time, while others explored its possibilities throughout their lives. And although today the technical possibilities have advanced by leaps and bounds, the idea of creating music based on the acousmatic perception of sound phenomena obtained through technology is still alive – whether in the form of electroacoustic music, RadioArt, SonicArt or Ars acustica.

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Primary Paper Section: A

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⁴⁵ Electroacoustic compositions by J. Malovec and I. Zeljenka on Supraphon DV 6221 LP from 1966, J. Malovec's composition *Orthogenesis* on Turnabout-Vox 34301 LP from the year 1968.

⁴⁶ See CD recordings by the CECM Bratislava EM CD 001 and 002 from 1992, with compositions by J. Malovec, P. Kolman, M. Bázlik, I. Parík, R. Berger, M. Długosz, J. Đuriš, L. Voigtländer, V. Kubička, T. Salva, M. Burlas, and CECM Bratislava EM CD 003 from 1994 (P. Zagar, M. Piaček, J. Đuriš, M. Bázlik, R. Rudolf, V. Kubička, R. Berger). Also, Rádio Bratislava CD Exeditions 5 (M. Bázlik *Epoché*, T. Salva *Pláč [Lament]*) and CD Exeditions 6 (J. Malovec, R. Pepucha, N. Uličná, V. Parobková, V. Kubička, M. Krajčí).