



ANTON ROVNER

Moscow State P. I. Tchaikovsky Conservatory

UDC 78.021

**THE MUSIC OF ALEXANDER NEMTIN AND STANISLAV KREICHI
FOR THE ANS SYNTHESIZER***

The advent of electronic music in Russia came with the appearance of the ANS synthesizer – virtually the first electronic instrument in the Soviet Union. It was conceived of by scientist and engineer Evgeny Alexandrovich Murzin in 1938 and manufactured in 1964 (a preliminary working model was built in 1958). The name of the instrument was contrived from the initials of Alexander Nikolayevich Scriabin, a composer whom Murzin was especially fond of, and whose ideas of microtonality he incorporated into the construction of the instrument. The ANS synthesizer is constructed in such a way that there are plates of glass covered with mastic. Music is composed on the instrument by the composer scraping off bits of mastic from the glass plate and then processing the latter through an electric construction with light, so whichever portions of the plates that have the mastic scraped off convey the sound of the respective pitches and registers. By this seemingly simple means of sound production countless variants of sound become available to composers. Thereby it is possible to create purely sonoristic compositions with varying volumes of sounds. It is also possible to fixate exact pitches and, thus, to write tonal or atonal compositions, in which pitch plays a greater role than musical texture. As a result, there have even been arrangements made of works by classical composers, including Bach and Tchaikovsky for the synthesizer. Due to the capacities of the instrument for microtonal intervals, it is possible to incorporate various microtonal scales, up to 72 notes to the octave, into musical compositions. The pitch-wise possibilities of the instrument also make it possible to create overtone sounds on it. As a result, a composer working on the instrument can create certain concrete musical textures by means of applying the overtone sonorities. Thus, the possibility is open to imitate certain concrete instruments, such as violins, flutes, clarinets, etc. Finally, the instrument has also been used for sampling human speech and creating actual sounds of words “pronounced” by the ANS synthesizer, and not by a human being. The latter occurrence made it possible to use the instrument

for lingual experiments at the Moscow University’s Linguistics Department in the final decades of the 20th century. Thus the ANS synthesizer was unique in that it was able to combine the functions of composition and performance.

The preliminary working model of the synthesizer contained 576 pure tones covering the range of 42-10800 herz, 8 octaves, 72 tones per octave, four optical discs, each disc containing 144 tracks (covering 2 octaves) with diameters of 120-130 millimeters, 0.31 millimeters width and oscillation speed of respectively 12, 3, $\frac{3}{4}$ and $\frac{3}{16}$ rotations per second. The ultimate model of the ANS synthesizer, built in 1964, contained 720 pure tones covering the range of 21 herz – 21.6 kilohertz (covering 10 octaves), with 5 optical discs with oscillation speed of respectively 24, 6, $\frac{4}{4}$, $\frac{6}{16}$ and $\frac{6}{64}$ rotations per second.

The creator of the instrument, Evgeny Murzin was born in 1914 in Samara and died in 1970 in Moscow. He studied at the Samara Construction Technical School and the Moscow Institute for Engineers of Communal Construction and subsequently worked as a military engineer dealing with technical devices for military defense. At the same time, he was a devotee of music, particularly of the works of Scriabin. In 1938 he turned to the Moscow Conservatory and proposed the idea of creating a synthesizer for musical sounds. He was inspired by the musical experiments of “graphic sounds” undertaken by music theorists Arseny Avraamov and Evgeny Sholpo in the 1920s and 1930s. Murzin was only able to accomplish his task of creating the instrument in 1958, which was a preliminary experimental wooden model, built during the course of ten years in the composer’s apartment. In 1959 it was placed in the Scriabin Museum in Moscow, after which Murzin began to invite young composers to come and experiment with the instrument and compose pieces for it. Among the first composers to work with the synthesizer were Nikolai Nikolsky, Piotr Meshchaninov, Andrei Volkonsky (virtually the first composer in the Soviet Union to write

* This article was initially written as a presentation for the 14th musicological conference “Principles of Music Composing: Sonorism,” which took place in Vilnius, Lithuania (October 13-15, 2014). A version of this article is contained in the compilation of presentations of the conference, currently being prepared for publication (2015).

Данная статья первоначально написана для выступления на 14-й музыковедческой конференции «Principles of Music Composing: Sonorism», состоявшейся в Вильнюсе (Литва, 13–15 октября, 2014). Её вариант включён в сборник материалов конференции, готовящийся к публикации (2015).



twelve-tone music, who wrote “Musica Stricta” for piano and “Suite of Mirrors” for soprano and chamber ensemble in 1960), Alexander Nemtín (who completed Scriabin’s unfinished mystical composition, the “Prefatory Action”), Stanislav Kreichi, Oleg Buloshkin and Shandor Kallosh. The final version of the ANS synthesizer was constructed in 1964. Following that, the young Russian composers, who later achieved celebrity, also started coming to the Scriabin Museum to work with the synthesizer. They were Alfred Schnittke, Edison Denisov, Sofia Gubaidulina and Eduard Artemyev. The Moscow Studio for Electronic Music was formally created in 1966 within the Scriabin Museum, where the ANS synthesizer stood, even though informally it existed ever since the working model of the instrument was brought to the museum in 1959. The electronic studio became not only a place where composers came to work with the ANS synthesizer and to compose music on it, but also a setting where intellectuals and devotees of innovative musical trends, as well as philosophical, mystical and esoteric directions that were discouraged by the Soviet regime, came to socialize with the composers and to discuss important aesthetical issues. Two LP records of electronic pieces were released by the “Melodiya” record firm (under the auspices of which the Moscow Electronic Studio existed). The first one came out in 1973 and included works by Nemtín, Kreichi, Artemyev and others. The release of the second record was delayed until 1987, due to the fact that it contained pieces by Schnittke, Denisov and Gubaidulina, whose music was discouraged from being performed and promoted in the 1960s and 1970s. The contents of both LP records were released in CD format in the late 1990s by the “Electroshock” CD label.

After Murzin died in 1970, there began a campaign by Soviet authorities against the Moscow Electronic Studio, which was seen by them as a haven for “decadent,” “bourgeois” and “reactionary” artistic influences. After various repeated attempts, the government bureaucrats finally succeeded in closing the studio in 1975. The ANS synthesizer was saved from demolition with the efforts of Stanislav Kreichi, who turned to the Linguistic Department of the Moscow University and proposed that the instrument be moved to one of the buildings of the university to be used for linguistic experiments, namely, for construction of human speech. Kreichi himself found employment by the Linguistic Department of the Moscow University, and his responsibilities included tending to the instrument. The composer continued his own musical experiments on the synthesizer, by composing music on it, and he invited other composers to come and work on the instrument, albeit on a much less overt scale than it was possible to do so during the existence of the studio. In the late 1980s and early 1990s, when the last of the Soviet prohibitions against avant-garde and experimental art were lifted, Kreichi was able to invite more composers to the basement of the Journalism Department of the Moscow University, where the ANS synthesizer stood,

on a much more overt capacity. The next dramatic episode in the history of the instrument took place in the summer of 2005, when the authorities of the Moscow University decided to clear the basement of extraneous objects, among them the ANS synthesizer, in order to use the basement for the more practical purposes of earning money. Kreichi was able to have the instrument taken out of the basement and transferred to the electronic studio of the Moscow Conservatory. A few months later, Yulia Murzin, the scientist’s daughter arranged to have the instrument transferred to the Glinka Museum of Musical Culture, where it is standing up to the present day as part of the permanent exhibition.

In the late 1960s and early 1970s the Moscow Electronic Studio was a venue for many composers to come and experiment with the ANS synthesizer. The most famous Russian composers of the avant-garde direction of Russian music, Alfred Schnittke, Edison Denisov and Sofia Gubaidulina each wrote one piece for the instrument. Schnittke’s piece is called “The Stream” and it is built entirely on various stratifications of overtones upon the pitch “C,” as the result of which a most interesting, constructively intricate and emotionally saturating composition was formed out of these sonoristic strata. Edison Denisov composed a piece called “Bird Songs.” He incorporated in it actual bird calls recorded by biologist Boris Veprintsev, which the composer recreated on the mastic plate score of the ANS synthesizer. Denisov’s “Bird Songs” exists in two versions, the first one being solely for ANS synthesizer, while the second contains a piano part (also incorporating bird calls), which may also be played on other instruments. The piece does indeed bring in the atmosphere of a large assortment of birds, including owls, making their calls in a forest, along with sounds of rustling trees in the wind and other imaginative sounds, some of them purely abstract synthesizer reverberations. Gubaidulina’s “Vivende – Non Vivende” incorporates the recording of singing of a soprano along with the sounds of the ANS synthesizer. The interplay and cross relation of the sounds of the living soprano and the “non-living” sounds of the synthesizer express the basic conception of the piece. The latter include sustained and altered reverberating sounds, as well as short percussive effects. The recordings of the vocal sounds range from unaltered to heavily distorted ones, the latter bringing in a grotesque atmosphere. Eduard Artemyev, who later made his name with his music for movies, wrote two pieces for the ANS synthesizer, “Mosaic” and “12 Perspectives of Sound.” “Mosaic” presents a sound collage of mysteriously sounding, mostly reverberating synthesizer textures with a very small quantity of grotesquely distorted vocal effects. In “12 Perspectives of Sound” twelve different sound textures are developed on the instrument and presented successively, ranging from static and mysterious to dynamic and harsh ones, the latter especially endowing the composition with a

vibrant and dramatic mood. There is an assortment of pictorial associations present in the music, as could be inferred from the sounds, some of which resemble bird calls, airplane noises and sounds of wind. Artyemyev also subsequently incorporated the ANS synthesizer in music for movies, most notably, for Andrei Tarkovsky's famous film "Solaris" released in 1972. Artyemyev and Kreichi also wrote jointly music for a short motion picture "Cosmos" ("Outer Space"), part of which was released on one of the LP records with music for the ANS synthesizer. Composer Oleg Buloshkin wrote a short piece called "Sacrament," in which sonoristic synthesizer effects were combined with a diatonic melodic line as well as reverberating percussive effects, resembling present-day trends in ambient music. Shandor Kallosh's "Northern Tale" is a five-minute dramatic piece, making use of a broad range of sound textures, ranging from static to extremely dynamic and from mellow to harsh ones. The succession of these textures and the impulsive, unpredictable changes of textures and moods of the piece create a vibrant dramaturgy, suggesting a narrative of a story – the latter suggestion is greatly enhanced by the descriptive title of the piece.

Alexander Nemtin wrote a number of pieces for the ANS synthesizer, only two of which were recorded on the LP record and, subsequently, on the CD – "Tears" and an arrangement of Bach's Chorale Prelude in C major. "Tears" is basically a transcription of Nemtin's short choral piece with the same name, set to a poem by Walt Whitman. The composer was able to use the sounds of the instrument in such an original way, that the piece is not perceived in the least as an arrangement of a choral work, but as a true electronic piece, in which diatonic harmonic progressions and intricate melodic writing blends very well with non-diatonic textural sonoristic effects, the latter bringing in a cosmic feel to the piece. The arrangement of Bach's Choral Prelude demonstrates a sound texture very close to that of the organ, and yet possessing individual features of the sound of an electronic synthesizer as well. Nemtin's other pieces for ANS, not included in the recording, include "Voice" and the Suite "Forecast." "Voice" is basically an arrangement for the ANS of a movement of the composer's "Concerto for Organ", namely, the Aria. The composer included the recording of a solo soprano singing the melodic line of the Aria, with the ANS synthesizer recreating the other voices in an original manner, taking full advantage of the sonoristic capacities of the instrument, so that it is not perceived at all as an arrangement, but as an original piece, which in its own right it is. The Suite "Forecasts" consists of four movements – a lengthy "Fugue," which has a serious, philosophical mood and presents contrapuntal treatment of melodic lines. The other three movements – "Polka," "Waltz" and "March" – are much shorter and have humorous, theatrical characteristics, including humorous kitsch stylizations of the Soviet popular music of that time.

Stanislav Kreichi was one of the first composers to write for the ANS synthesizer, and he continues to use the instrument for his compositions up to the present day. His music explores the various possibilities of sonoristic technique, derived from the unusual means of sound production of the ANS synthesizer and contains rich, innovative textures, from the most experimental ones to conscious stylizations of and derivations from past styles. Many of his compositions present fertile ground for analysis and demonstration in terms of their formal structure, expressive means, depictive, theatrical possibilities and imaginative sonoristic textures. His earliest compositions were written in the 1960s at the time of the Moscow Electronic Studio, and three of them – "Echo of the East," "Intermezzo" and the music for the film "Cosmos" together with Artyemyev – have been recorded on the first LP record. Unfortunately, all the recordings of Kreichi's other electronic compositions from that time have been lost when the Electronic Studio was closed in 1975.

"Echo of the East" lasts only two minutes in duration and incorporates the exotic element of stylization of folk music of unspecified Asian countries along with modernist sonoristic textural effects common to a synthesizer, at times bordering on popular music effects. In addition to the textural sound of the melodic line resembling a folk instrument from an Asian country, the exotic ethnic element is also enhanced by the use of quarter-tones intervals, bringing in additional affinity with Asian folk music. The music for the film "Cosmos" is an extensive 12-minute piece featuring a set of successive episodes of sonoristic sound effects, including static, vibrating and glissando sonorities, all of them aspiring to explore the hidden dimension of sound and, thus, quite appropriate for depicting outer space and the cosmic dimension. The music is greatly enhanced by certain episodes with elements of more recognizable diatonic harmonies and allusions to classical musical instruments, most notably, the organ. "Intermezzo" is another short two-minute-long piece with a lively, romantic emotional mood, composed entirely in a popular quasi-jazz style current in the Soviet Union in the 1960s, the sound textures greatly emulating the sounds of a jazz orchestra, including woodwind and brass instruments, drums and even a harmonica. It was composed especially for an exhibition to which the ANS synthesizer was taken in the 1960s and was meant to demonstrate the possibility of electronic music of being accessible for mass audiences.

Kreichi continued composing electronic music after the closing of the Moscow Electronic Studio in 1975. In the late 1970s, 1980s and early 1990s he cooperated with a theater "Ognivo," writing music on the ANS synthesizer for two theatrical productions "Ogon' nadezhdy" ("The Fire of Hope") and "Zavtra nachinayetsya vchera" ("Tomorrow begins Yesterday.") Since 1992 he has been a member of the Society for Electronic Music, which is a branch of the Moscow Composers' Union, and every

year he has participated in the annual “Moscow Autumn” festival, where the Electronic Society has a concert each year, for which he writes a piece every year. Thereby, starting from the 1990s Kreichi has written a whole set of interesting and imaginative electronic compositions, most of which utilize the sonorities of the ANS synthesizer in one way or another, sometimes fully, and sometimes with added recordings of musical instruments, singing voices or living sounds, but many of which make use of other newer electronic and computer music programs. In recent times he has been using pre-recorded samples of sounds of the ANS synthesizer, processed by modern computer programs, sometimes sounding unaltered, while at other times greatly transformed. Many of his pieces are written on certain literary, artistic or theatrical plots, thereby incorporating pictorial and theatrical elements to the music.

Some of Kreichi compositions are made almost entirely of sounds of the ANS synthesizer with only a small amount of added sounds. A most noteworthy composition of this category is “ANSiana,” composed entirely of sonorities of the ANS synthesizer. The first version of the piece was written in 2000, while the second version was completed in 2014. In the latter version the samples of sounds of the ANS synthesizer are transformed in such a masterful manner, that they are virtually unrecognizable, creating a most varied assortment of sonorities, resembling both those of the most advanced computer music programs, as well as pre-recorded sounds of percussion or non-musical objects in the manner of musique concrete. Other works composed almost entirely of sounds of the ANS synthesizer include the Triptych “Ocean” (with a small amount of added voices of dolphins and drums), “The Heads” (a work inspired by the painting “Eleven Heads” of Russian artist Pavel Filonov), “The Birth of the Vertical” (with added tremolo sounds on string instruments) and his two compositions inspired by Mikhail Bulgakov’s novel “The Master and Margarita,” namely, “Yeshua and Pilate” (with added recordings of human voices) and “The Bad Apartment” (with added recordings of string instruments and also of joint improvisations with composer Nemtin and Artemyev at the Scriabin Museum in the 1960s). Three compositions were written for pre-recorded ANS sounds and live performer on the theremin – “Immersion,”

“Contemplation” and “Confession.” The latter piece also has a version with pre-recorded vocalization instead of the part for the live theremin player. In other works sounds of the ANS synthesizer are used on an equal proportion with other sounds. The latter include “Rorshakh” (with added sounds of musique concrete recordings) and “The Four Seasons” (with recordings from sounds of nature). Some pieces by Kreichi do not employ the ANS synthesizer at all. They are: “Voices and Movements,” which consist entirely of musique concrete sounds, “Ellipsiada,” a work for a home-made instrument called the ovaloid, and “Music for Wood and Metal,” consisting of the sounds of these two components.

Since the late 1980s and early 1990s many composers of the younger generations have come to compose music on the ANS synthesizer, attended by Stanislav Kreichi – first in the basement of the Journalism Department of the Moscow University, then at the Moscow Conservatory’s Electronic Studio and, finally, at the Glinka Museum. Many composers have tried out the synthesizer and written at least one composition for the instrument. Among these, mention must be made of Anatoly Kisselyov, the chairman of the Association of Electronic Music, affiliated with the Moscow Composers’ Union, who wrote his composition “ANSynopsis” with the aid of the synthesizer. Another composer who has written extensively for the ANS synthesizer is Olesya Rostovskaya, who is also an accomplished performer on the theremin.

The ANS synthesizer remains a noteworthy landmark of the legacy of Russian contemporary music, particularly electronic music. Having had an intriguing and dramatic history – having served as virtually the first electronic instrument in the Soviet Union, on which some of the greatest Russian composers of the late 20th century wrote compositions, having been twice been in danger of being virtually destroyed, having been saved just in time by Stanislav Kreichi, and finally having found a permanent home at the Glinka Museum, the instrument remains an important artifact of 20th century Russian music, and an a continued source of inspiration for younger composers. The legacy of electronic music composed for the instrument by the older and younger generations of Russian composers has yet to be discovered and appreciated in full by contemporary music fans around the world.

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The Music of Alexander Nemtin and Stanislav Kreichi for the ANS Synthesizer

The advent of electronic music in Russia came with the appearance of the ANS synthesizer. It was conceived of by scientist Evgeny Murzin in 1938 and manufactured in 1958. Its name comes from the initials of Alexander Nikolayevich Scriabin. Music is composed on the instrument by the composer scraping off bits of mastic from glass plate and then processing the latter through an electric construction with light. It is possible to create purely sonoristic compositions, and also to fixate exact pitches in the music. In 1959 the ANS synthesizer was placed in the Scriabin Museum in Moscow. A number of young Russian composers came to the Studio to work with the synthesizer, including Nikolai Nikolsky, Piotr Meshchaninov, Andrei Volkonsky, Alexander Nemtin, Stanislav Kreichi, Oleg Buloshkin, Shandor Kallosh, Alfred Schnittke, Edison Denisov, Sofia Gubaidulina and Eduard Artemyev. The Studio was closed in 1975, and the ANS synthesizer was moved to the Moscow University. In 2005 it was transferred to the Moscow Conservatory, and then to the Glinka Museum of Musical Culture. Alexander

Nemtin wrote a number of pieces for the ANS synthesizer, “Tears,” an arrangement of Bach’s Chorale Prelude, “Voice” and the Suite “Forecasts.” Stanislav Kreichi was one of the first composers to write for the ANS synthesizer, and he continues to use the instrument for his compositions up to the present day. His earliest compositions, from the 1960s, are – “Echo of the East,” “Intermezzo” and the music for the film “Cosmos.” In the 1970s and 1980s he wrote music for theatrical productions. Since the 1990s Kreichi has written a whole set of imaginative electronic compositions, most of which utilize the sonorities of the ANS synthesizer, including “ANSiana,” the Triptych “Ocean,” “The Heads,” “The Birth of the Vertical,” “Yeshua and Pilate,” “The Bad Apartment,” “Immersion,” “Contemplation” and “Confession.” The ANS synthesizer remains an important artifact of 20th century Russian music, and a continued source of inspiration for younger composers.

Keywords: ANS synthesizer, electronic music, Russian composers, Alexander Nemtin, Stanislav Kreichi

Музыка Александра Немтина и Станислава Крейчи для синтезатора АНС

Электронная музыка в России родилась вместе с появлением синтезатора АНС. Инструмент задумал учёный Евгений Александрович Мурзин в 1938 году и построил в 1958-м. Назван инструмент в честь Александра Николаевича Скрябина. В ходе сочинения композитор удаляет мастику со стекольной плитки, а затем проводит плитку через электрическую конструкцию со светом. Имеется возможность создания чисто сонористических сочинений, а также звуковысотной музыки. В 1959 году синтезатор АНС был помещён в Музей Скрябина в Москве. Среди композиторов, работавших в электронной студии – Н. Никольский, А. Волконский, А. Немтин, С. Крейчи, О. Булошкин, Ш. Каллош, А. Шнитке, Э. Денисов, С. Губайдулина и Э. Артёмьев. Студия закрылась в 1975 году, а синтезатор был перевезён в Московский университет. В 2005 году АНС переместили в Московскую консерваторию, затем в Музей музыкальной культуры имени М. И. Глинки. Александр Немтин создал несколько сочинений для синтезатора: «Слёзы»,

«Голос», сюиту «Прогнозы», а также аранжировал Хоральную прелюдию Баха. Станислав Крейчи одним из первых композиторов обратился к синтезатору АНС и продолжает писать для инструмента по сей день. Его первые сочинения 1960-х годов – «Отголосок Востока», «Интермеццо» и музыка для фильма «Космос». В 1970–1980-е годы Крейчи сочинял музыку для театральных постановок. С 1990-х годов он создал целый ряд изобретательных электронных сочинений, в большинстве из которых используется звучание синтезатора АНС. Среди них – «АНСиана», триптих «Океан», «Головы», «Рождение вертикали», «Йешуа и Пилат», «Нехорошая квартира», «Погружение», «Размышление», «Исповедь» и др. Синтезатор АНС остаётся важным артефактом русской музыки XX века и постоянным источником вдохновения для молодых композиторов.

Ключевые слова: синтезатор АНС, электронная музыка, российские композиторы, Александр Немтин, Станислав Крейчи

DOI: 10.17674/1997-0854.2015.1.18.038-042

Anton Rovner

PhD in Music Composition from Rutgers University (New Jersey, USA), Candidate of Arts (PhD) from the Moscow State Conservatory, faculty member at the Department of Interdisciplinary Specializations for Musicologists
E-mail: antonrovner@mail.ru
Moscow State P. I. Tchaikovsky Conservatory
Russian Federation, 125009, Moscow

Ровнер Антон Аркадьевич

Ph.D. (Университет Ратгерс, штат Нью-Джерси, США), кандидат искусствоведения, старший преподаватель кафедры междисциплинарных специализаций музыковедов
E-mail: antonrovner@mail.ru
Московская государственная консерватория им. П. И. Чайковского
Российская Федерация, 125009, Москва

