

ESSAY

Eduard Artemyev's Compositional Strategies

VOL. 110 (DECEMBER 2020) BY PANTELIS LYKOUDIS

Eduard Artemyev was born in 1937 in Novosibirsk. He studied composition at the Moscow Conservatory and is considered to be one of the pioneers of electronic music in film scoring. He was one of the early exponents of the ANS photoelectronic synthesizer, developed by Evgeny Murzin, an instrument which he used in his first collaboration with director Andrey Tarkovsky on *Solaris*.

The ANS, named after Alexander Nikolayevich Scriabin, who had experienced synesthesia, was designed to interpret sound and color in a similar way to the way the Russian composer perceived them. Murzin developed a process which allowed sound waves, generated by the synthesizer, to be printed on a black glass surface, which constituted a form of musical notation.¹ The composer used a chisel to carve points and lines on the glass. These points determined the pitch, duration, dynamic and timbre of each note; it therefore comes as no surprise that Artemyev was influenced by painters such as Miro, Klee and Mondrian.² The instrument could produce 720 microtones of 16,67 cents each over a range of 10 octaves. This interval, barely audible for human ears, is smaller than a quarter of a semitone. In 1979, Artemyev would move on to the semi-digital Synthi 100 for *Stalker*. His first major success came that year, with the theme to Andrei Konchalovsky's *Siberiade*.

He still recalls his first meeting with Tarkovsky: "Music as such was of no use at all to him in his films, and the job consisted more in arranging natural sounds, perhaps reworking them through the tones and rhythms of the synthesizer, and enriching these natural sounds by means of some kind of musical material that would endow them with an individual and specific emotional expressiveness".³ Artemyev's music shifts from *harmonicity* to *inharmonicities*, from *empty* to *filled spectral densities*, in order to aurally match the director's focus on spatial textures and facial topographies.⁴ Tarkovsky and Artemyev often blur the limits of sound and vision perceptibility in their work, ignoring realistic sound design conventions. The director's narrative nihilism, where montage does not follow a linear timeline, is guided by the subject, which imposes its own means of storytelling through idiosyncratic amalgams of speech and amplified environmental sounds.

Solaris opens with the J.S. Bach organ prelude 'Ich ruf zu dir, Herr Jesu Christ'.

Artemyev's role is initially limited to source bonding, i.e. "the natural tendency to relate sounds to supposed sources and causes".⁵ The intercom beeps, during the conference with the pilot who presumably experienced hallucinations during his flyby of the planet's ocean, enhance the scene's clinical atmosphere. A first instance of technological listening, i.e. when a listener "perceives the technology or technique behind the music rather than the music itself"⁶, is a brittle *attack-decay*, which occurs after the dialogue between Kris and his father in the form of a sound which foreshadows his travel. The classic black-and-white scene on Akasaka's highway is full of repetitive environmental sounds that, combined with Artemyev's *gesture-framing*, help establish a futuristic cityscape.⁷ They are then replaced by Berton's sound world, immersed in PTSD-laden memories of his takeoff, which results in a split between sound and image.

As Kris takes off, consonant and dissonant chords interchange, while delay effects are used to represent the travel's duration. The music gradually gets louder and more complex, as the camera fixates on his eyes. It explodes with laser sound effects when he sends a distress signal. Sounds with empty *spectral densities*⁸ are emitted from the space station, although a mouth harp-timbred glissando acts as a recurring theme and is heard for the first time when Kris encounters an erratic Snaut. As overwhelmed Kris watches Gibarian's last video log, a windy sound comes from across the room in another case of source bonding; the sound will reappear later, when Snaut attaches pieces of paper to the air vents in order to remember Earth's rustling leaves.

During Kris' presumed hallucinations of long-lost wife Hari, the space station's sound presents a timbral variation with high-pitched chimes, which develops into an eerie drone, distinguishing his daydream (imaginary) from the planet's effect (real). After the escape pad incident and more ominous dreams, Hari reappears and gets injured amidst turbulent attack-decays; they will repeat later, when Kris walks in front of the scene of the incident. "In dreams, the sense of hearing is never solicited. The dream is a strictly visual phenomenon, and it is by the sense of sight that what is addressed to the ear will be perceived: a matter, one might say, of acoustic images".⁹ The ANS synthesizer is, therefore, a suitable vehicle for the music in these oneiric scenes.

The organ prelude returns when Kris shows Hari a short family film from his childhood; as they reminisce about the past, a distant choir, accompanied by an organ, is heard; the sound is deliberately muffled, like a clouded memory. During the long conversation in the library, Hari insists she is human to a cruel Sartorius; when she drops a chandelier on the floor, the sound and its reverberation prove she is emphatically real, even though she cannot sleep or drink. As she observes *The Hunters in the Snow*, brief themes represent its characters as the camera moves across it. Where Tarkovsky initially didn't want any music, Artemyev recreates faint, muffled dialogues, the sound of church bells and bird calls, all of which are depicted in the painting. During the zero-gravity scene, Artemyev alters Bach's prelude, extending certain cadences with a marimba-timbred sustain; he actually imposes a counterpoint of his own on top of the organ. The scene is broken off abruptly by a broken liquid-oxygen bottle. Kris examines Hari's frozen body as the sound of breaking glass

intensifies due to the ocean's restlessness. According to Michael Chion, "these sounds suggest that Hari is constituted of shards of ice; in a troubling, even terrifying way, they render both the creature's fragility and artificiality, and a sense of the precariousness of bodies".¹⁰

The space station's music creates a feeling of abandonment, and reflects Kris' psychological state; the ocean, in contrast, has emptied sonically after being bombarded with his encephalogram, Snaut's idea to counter the planet's effect. He urges Kris to return to Earth, while the camera zooms in on a small bush that has grown inside a tin box of the space station, and Bach, still transformed by Artemyev's marimba counterpoint, reminds us again of humanity. The final scene is set at Kris' father's house, which emits a frightful drone. It is raining inside and, as father and son exchange looks, a crescendo leads to the music's climax. As they embrace, the camera zooms out, revealing that the whole scene took place on an islet amidst the Solaris ocean; distorted white noise dominates during the last seconds.

The Mirror also opens with a J.S. Bach organ prelude, '*Das alte Jahr vergangen ist*' in this case. It is played after the first scene, in which a doctor examines a stammerer. Environmental sounds materialize in the first dialogue between another doctor and the protagonist's mother, as an amplified insect buzz startles the former. After Arseny Tarkovsky, the director's father, recites his poem *First Dates*, a cuckoo clock and barking dogs engulf the spectator in the atmosphere of a rural household. As the wooden shed burns, Artemyev uses the low frequencies of a fibrous drone to magnify the fire's crackling. The scenery is taken from Tarkovsky's own childhood. He insisted on a completely accurate reconstruction of the house he grew up in: "When we took my mother there [...] she experienced a return to her past".¹¹

As the film switches to the dreaming child, a descending sequence of long notes at a slow tempo is interrupted by an ocarina-timbred E_b when he calls for "Papa". While the notes (A_b , G_b , F , E_b , D , C) do not correspond to any known scale, minor thirds dominate the passage, which contains two diminished triads, leading to unresolved tension. In the proceeding surreal scene, where the mother is washing her hair and the ceiling crumbles to the floor, Artemyev creates artificial water drops, while the fibrous drone and ocarina timbre reappear. As the mother grows old, the composer uses his signature timbral transformation, from the sound of her hand in the mirror to the screechy sound of a string instrument. During the flashback to her workplace, the repeated percussive sound of the printers remains unchanged, even when Tarkovsky alters the image speed. The second of Arseny's poems is accompanied by the steady beat of the mother's footsteps. While she is taking a shower, Artemyev reveals a counterpoint between low, bubbling, watery sounds, and high, irritating, hydraulic sounds; the fibrous drone returns momentarily as she remembers the fire incident. At the next scene, Ignat is watching the great matador Palomo Linares on TV, a program which is followed by news reels from the Spanish Civil War. Alexei is hosting a Spanish family who fled their country. As the father narrates their flight, his daughter starts dancing to the flamenco song '*Navegando me perdí*' by Jacinto Almadén. The image cuts to Soviet stratospheric balloon testing, while the music changes to the last

movement of Pergolesi's *Stabat Mater*, 'Quando corpus morietur'.

Ignat browses through a picture book, daydreaming; he claims he feels an electric shock, which triggers a déjà vu effect and a soundscape similar to the fibrous drone. His reading of Pushkin's 1836 letter to Chaadayev on the Mongol-Tatar invasion of Russia, is accompanied by an eerie high-pitched choir timbre, ending in deafening trumpet honking, just as Alexei's mother rings the doorbell. He calls Ignat and, during the conversation, recounts the story of his first, red-haired love; as she walks in the snow, Henry Purcell's aria 'They tell us that you mighty powers above' from the *Indian Queen* is played, but ends abruptly with a gunshot. As Alexei learns to shoot a rifle with other children, he throws a grenade and Artemyev responds by muting all environmental sounds and creating an artificial heartbeat to highlight the suspense. The redhead smiles, with blisters on her lips, and a brief bass drum solo begins. Tarkovsky intercuts more news reels from the crossing of the Syvash lagoon during WWII. The bass drum and a distant choir give the music an austere, desolate quality, as Arseny begins narrating another poem and the music gradually fades away. The masterful homage to *The Hunters in the Snow* follows; Alexei whistles with frozen tears on his cheeks and takes a deep breath. Quick-cut to WWII reels and the atom bomb testing at Bikini Atoll, as trills by string and wind instruments transform into dissonant *graduated continuants* in full orchestral force.¹² Alexei lingers in the field of snow, as the choir/bass drum theme returns. He catches a bird on his hat and the music transforms into a bass drum concerto, as reels from the Sino-Soviet border conflict show people demonstrating and holding up images of Mao. A diminuendo leads to a drum/synthesizer dialogue, as Soviet soldiers form a human chain against the Chinese, while a crescendo resolves to a grainy cluster, with the camera simultaneously locking onto the terrified eyes of a Soviet soldier. This dense sequence is a masterclass at sound editing and montage; Tarkovsky directs a collage of short documentaries out of archival footage, and Artemyev composes compact program music for it. "The orchestra's purpose here was to play the role of 'living water' [a term in Russian folklore having to do with spiritual regeneration and renewal]. I used variations on a single chord [E minor], while constantly changing instrumentation, using all possible timbres of the triad, gradually increasing its dynamic and condensing its texture".¹³

In a forest, where the amplified sound of woodpeckers dominates, Alexei's sister warns him about a book he stole, the same one his son will browse through in the future. Their father calls them and they run to him under Artemyev's fiendish *texture-setting*.¹⁴ The term implies compositional or hermeneutic actions concentrated on internal activity rather than gestural, or linear music. The page where Alexei left off shows Leonardo. As they embrace their father, the music is interrupted by an organ and the evangelist through the recitativo 'Und siehe da, der Vorhang im Tempel zeriß in zwei Stück' from Bach's *Johannes Passion* as the scene changes to a close-up of Ginevra de' Benci's portrait.

After the dialogue between Alexei and his wife that is full of psychoanalytical nuance and identity shifts, the transition to a forest scene queues in distant ocarina notes as he

narrates a dream from his childhood. Dissonant white noise streams from the synthesizer while his younger self is walking in the forest. Slow motion occurs as a rooster breaks a window and a heavy gust of wind commences. He continues looking for his mother; sticky non-sounds transform into dripping water when he finds her. In his teens, Alexei visits a neighbor with his mother and, as he waits for them and looks in the mirror, '*They tell us that you mighty powers above*' is played again. A flashback to the redhead occurs, with mixed sounds of fire and water as the gas lamp goes out.

After an homage to *Girl with a Pearl Earring*, the three of them watch the neighbor's son as he sleeps, but dark soundscapes reflect the mother's uneasiness. The mother slaughters a rooster and looks straight into the camera, only to find her own father on the other side, caressing a levitating woman; Bach's organ prelude reappears. Arseny narrates yet another poem, while young Alexei is drinking milk. The dogs barking during the final color scenes in the countryside draw connections to *Du côté de chez Swann*. Tarkovsky, after diving deep into his conscious and unconscious memories, returns to the rural atmosphere of the first scenes, much like Proust returns to his own room after placing himself in other rooms throughout his childhood.

As the narrator is dying, he holds the little bird, reminding us of the snowy scene when a different bird stood on his hat. The final, paradoxical scene shows his own mother and father, intercut by images of himself as a child walking around with his elderly mother. Bach's '*Herr, unser Herrscher, dessen Ruhm in allen Landen herrlich ist!*' from *Johannes Passion* is playing. Alexei screams and, as the camera delves deep inside the forest, the faint ocarina is heard one last time. "We wanted the sound to be close to that of an earthly echo, filled with poetic suggestion - to rustling, to sighing. The notes had to convey the fact that reality is conditional, and at the same time accurately to reproduce precise states of mind, the sounds of a person's interior world."¹⁵

Stalker was a notoriously difficult film to make. Changes in the script, damage to the film's color and differences with the cinematographer, forced Tarkovsky to re-shoot many scenes. Different production stages involved different budgets, which only music could bind together. The director mentioned the following poem to Artemyev when elaborating on the musical theme of the film:¹⁶

Oh, East is East, and West is West, and never the twain shall meet,

Till Earth and Sky stand presently at God's great Judgment Seat;

But there is neither East nor West, Border, nor Breed, nor Birth,

When two strong men stand face to face, though they come from the ends of the earth!

The movie's theme fades in simultaneously with the credits and first scene, where the professor is drinking at the bar. The Synthi 100 produces a high pitch with vibrato, followed by a low tanpura-timbred drone and its overtone spectrums. After the Indian string instrument, a multinational one is also introduced: the *tar*, used in the Caucasus

and Central Asian regions, plays an improvised melody based on '*Pulcherrima Rosa*', a 15th century Czech ode to the Virgin Mary. In modern terms, we would say the piece is in aeolian mode, even though the *tar* player uses ornaments (such as C#). Artemyev filters the sound, creating reverb, while a flute is subsequently heard, which also uses ornaments (such as B \flat) and signifies a union between orient and occident. Both are "instruments whose sounds are in large part shaped by encoded information that reflects past or changing historical styles and traditions".¹⁷ The sound production, as well as the recurring motifs of the music itself, create a meditative, static atmosphere, which was exactly what Tarkovsky was after. Artemyev and Tarkovsky both studied Grigory Pomerants' writings on Zen Buddhism at the time. Artemyev describes the theme as "an intricate fusion of electronic and acoustic elements, but with an astonishing timbral density which seems to transcend the limitations of either process. [...] I filtered the music through effect channels of the Synthi 100 synthesizer, having invented various unusual modulations for flute. Concerning the tar, it was recorded by me at first on one speed, and then it was lowered."¹⁸

The second scene introduces a faint train sound, whose volume increases as it approaches Stalker's house. The furniture is shaking around the house, while the sounds of a marching band playing '*La Marseillaise*' can be heard. While Stalker is getting dressed, a distant train whistle persists, creating an aural contrast between the sounds of a futuristic society and those of the primitive stove at his kitchen. His wife rebukes him for leaving his family and, as he departs for the Zone, the train sound mixes with his wife's weeping and a fragment of Wagner's *Tannhäuser* overture. During the scene where the writer talks to a woman about the Zone, there are boat horns heard in the background. They are repeated when writer and professor meet at the bar and exchange views on inspiration and truth, their respective motives for this Faustian quest. The sound changes to a train whistle when the camera, after a long take where it is moving extremely slowly, centers on Stalker. Much of the suspense in the following scenes, where the trio attempts to enter the Zone, is built up by sound design: through steps, the roar of a policeman's motorcycle, rain drops, and finally echoes of the trio's steps as they spy on trains, all of which are altered by the synthesizer. During the wagon trip, Artemyev builds a rhythmical counterpoint between the train's steady pulse and reverberations from delay effects. When they reach the Zone, Stalker declares it is the quietest place on earth; nature moves to the foreground, with sounds of water, and a mysterious howl. As the camera lingers on the ground, ending up at an abandoned house, the tanpura drone returns. In the next scene, Stalker falls to the ground and remembers his past, while the delay-filtered *tar* improvises in dorian mode, with additional microtonal ornaments. As they explore their surroundings, the writer begins whistling '*Erbarme dich, mein Gott, um meiner Zähren Willen!*' from *Matthäus Passion*, quite out of style. They argue about taking a shortcut and, when Stalker lashes out at the writer, the *tar* starts playing a dorian melody; the dynamic increases as he lectures them about the dangers lurking around.

At the beginning of the second part, as Stalker philosophizes on strength and weakness, choir timbres are produced by the Synthi 100. Artemyev transforms the water drops as well, creating rhythmic patterns that could hardly occur in nature. As

the camera explores different parts of a waterfall, Artemyev creates a collage of natural and artificial sounds with the falling water, a high-pitched squeaking metal sound and a low-register drone. As color turns to black-and-white during the argument between professor and writer, the *tar* theme in dorian mode resurfaces for a brief moment as the camera centers on Stalker. He declares he never intended to fulfill his wishes in the Zone, while natural and electronic sounds mix. During his dreams, a female voice is harmonized by empty *spectral densities*, which gradually fill and mix with the *tar* and the flute;¹⁹ the camera travels above the black-and-white shallow waters of the Zone, which reveal John the Baptist, among other things, as a detail from the van Eyck brothers' *Ghent Altarpiece*. The sound of footsteps and water dripping are at the epicenter of the tunnel scene. A meticulous sound design utilizes selective delay, only to emphasize certain dramatic words. The theme, albeit without *tar* or flute this time, sounds in the haunting slow-motion scene at the desert dunes. The writer drops a rock at the well's bottom; when it hits the bottom, Artemyev prolongs the loud noise's reverb into what is reminiscent of piano cluster chords. Stalker recounts the words of Porcupine, in the form of Arseny Tarkovsky's poem which can also be heard in *Solaris*. As they approach the wish-granting room, bird calls signify life. The theme is played when the professor reveals he wants to destroy it. In trademark Tarkovsky fashion, rain starts pouring indoors. As they throw rocks in the water, a train is heard, as well as Ravel's '*Bolero*' in the distance; both foreshadow the final scenes, where Stalker returns home to his wife and daughter. As the camera focuses on Monkey, the theme returns. The final scene presents yet another sound collage, created out of glasses Monkey moves on the table, the passing sound of a train, the furniture's shaking, and Beethoven's '*An die Freude*' from the *9th Symphony*, which is heard in the background.

After zealously narrating the story of Christ appearing at the road to Emmaus, Stalker declares that "music is connected to reality less than anything else, it's done mechanically, not by way of ideas, just by a sheer sound, devoid of any associations. And yet, music, as if by some kind of miracle, gets through to our heart. What is it, that resonates in us in response to noise brought to harmony, making it the source of the greatest delight, which stuns us and brings us together?". While the writer ridicules his faith, especially when he wears a crown of thorns, Stalker reflects Tarkovsky's classification of music among the immediate art forms, which don't need a mediating language. This declaration answers why, in the clash between science's materialism and art's spiritualism, the latter will always win out.

In spite of believing in the soul's immortality, Tarkovsky also believed that "art's aim is to prepare a person for death".²⁰ Art strives for authenticity, rather than beauty, as "the setting-itself-to-work of truth".²¹ This concept expands in front of the celluloid as transcendental, cinematographic time that exists outside the limits of language. Cinema, the most complex meta-language, "in contrast to sound recording, began with reels, cuts, and splices".²² It evolved from a technological spectacle to a *Gesamtkunstwerk* that reaches above and beyond the technological means required for its creation.

In the words of Zielinski, “cinematography, is a technique [...] oriented toward the illusionizing potential of projection, the production of artificial reality”.²³ This artificiality, especially since the 70s, found its organic counterpart in electronic music, which was not bound by instrumental music's limitations. Even though Tarkovsky was against the concept of progress in art, Artemyev was indeed influenced by avant-garde works, such as Stockhausen’s *Gesang der Jünglinge* and thereby influenced other artists in his turn, such as Tangerine Dream in the soundtrack for *Thief*, which “defined the use of sequenced ostinatos for synthesizers in film”.²⁴ His work, an integral part of the films analyzed above, exemplifies the immense possibilities of electronic music in cinema.

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