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The Voices of the Cosmos. Electronic Synthesis of Special Sound Effects in Soviet vs. American Science Fiction Movies from Sputnik 1 to Apollo 8¹

Abstract

It took about thirty years from the invention of film to establish the motion picture as an audible artwork. And it took another thirty years from the introduction of cinematographic (electrified) voices to the “voicing” of electricity. The science fiction genre in particular made electricity acoustically perceptible on the movie screen. In this paper I propose to examine how science fiction plot and acoustic special effects were compositionally related in early socialist (Soviet, East German, Polish and Czech) science fiction movies, where human voices typically communicate with the voice of electricity. Finally, the paper will demonstrate how the connection of science fiction plot and acoustic media-semantics overlays the ideological message implied in science fiction movies that intended to prefigure the socialist future in the present of the Cold War era.

When the film *Forbidden Planet* arrived on screens in 1956, the opening credits gave the audience an acoustic surprise: the familiar roar of the MGM lion was highlighted with a strange electrical sound, classified by a newfound term, “Electronic Tonalities”. It is well-known that the term originated from the American Federation of Musicians that opposed crediting the sound design of *Forbidden Planet* as “music” (Larson 1985: 268). *Forbidden Planet* became a milestone in the history of film music and experimental electronic music. It was the first film which was designed exclusively with electronic sound effects and which largely abandoned conventional Hollywood orchestration (Leydon 2004: 62, cf. Wierzbicki 2005). At the same time, Barrons surprisingly made no use of the theremin—an innovative electronic instrument with a wide range of notes linked by exaggerated slides, and with sustained pitches layered with a rich vibrato and a quasi-vocal timbre. The theremin had been used in a number of early 1950s American science fiction films, for with its special characteristics it seemed predestinated to represent acoustically alien planets and (the infinitude

1 This essay was supported by funds made available by the Center of Excellence “Cultural Foundations of Integration” at the University of Konstanz, established in the framework of the German Federal and State Initiative for Excellence.

of) interstellar space (cf. Wierzbicki 2003: 129–130). The acoustic design of *Forbidden Planet*, which delights in experimentation, not only deviated strikingly from Hollywood conventions but was also remained unique for its time, failing to set trends in film music (Leydon 2004: 62). The “Electronic Tonalities” by Louis and Bebe Barron fell victim to the same fate as the music composed by Gottfried Huppertz for the film *Metropolis* (1927). In spite of innovative approaches and marketing strategies, it had no influence on the sound design of subsequent science fiction films (Hayward 2004: 4). Already at that time, filmmakers remained highly skeptical toward experimental electronic music, as Philip Hayward maintains (Hayward 2004: 25). “What this means, of course, is although SF music sounds the same from film to film, music SF has no characteristic sound. [...] The SF film has had no such musical identity” (Sobchack 1991: 208). The detailed musicological analysis of the science fiction film genre by Jeremy Barham has comparable results². On the other hand, the mutual influences of science fiction film and popular music of the 1950s to the 1990s have been of great interest for film music research (Allen 2009).

The science fiction film genre has only come relatively recently to the attention of Western music history researchers³. That is why Soviet and Eastern European films of the early 1960s are seldom mentioned in the aforementioned publications⁴. The history of Soviet science fiction film has not yet been systematically examined in Russian scholarship, either⁵. At first glance, this finding could lead one to assume that sound experiments in Soviet science fiction films would offer little of substance for media-historical debates or that they did not experience much of a reception in the West. After all, the science fiction film *per se* was an ideologically highly-charged genre⁶. To the same extent as the

2 “[M]ost science-fiction films of the last half-century have fallen back on one of two options: either regression to the security of the aforementioned largescale, neoromantic, or neo-avant-garde symphonism in which filmscores (and, to an extent, the films themselves) become indistinguishable from those of any other genre; or, more rarely, reduction of music to minimal proportions, and replacement of it by increasingly sophisticated sound effects so as to avoid any identifiable cultural or stylistic implications—an approach which, like the rapid expansion in visual special-effects technology, tends to mask an ever-increasing intellectual conservatism” (Barham 2008: 263).

3 On the use of the theremin in American science-fiction films of the early 1950s, see Wierzbicki 2003, Scheurer 2008: 68–74. In the development of modern science fiction sound designs, Stanley Kubrick’s *2001: A Space Odyssey* (1968) was a particularly important influence (Whittington 2007: 52).

4 An exception is Andrei Tarkovsky’s *Solaris* (1972) which nonetheless lies outside the relevant period for present study (Hayward 2004: 18 f, Barham 2008: 265 ff.).

5 The only attempt to get closer to this material is the book by Kharitonov & Shcherbak-Zhukov (2003), yet it provides little more than a rough overview of the filmmakers.

6 The literary science fiction genre in its beginnings was already characterized by the narrative techniques of the adventure novel and its central themes of the ‘colonial adventure’ and technological conquest (Seeßlen & Jung 2003: 75).

American science fiction film of the McCarthy Era, it used fantastic metaphors to perpetuate the foundational Cold War narrative of infiltration (or invasion); Soviet and Eastern European films of the early 1960s always maintained the superiority of the project of a socialist future⁷.

In the following discussion, I wish to show how the Soviet science fiction film of the early 1960s was given a “voice” and how that “voice” was conveyed in Hollywood. For after the 1950s, the “Golden Age” of the Hollywood science fiction film—accelerated by the Sputnik launch—was already past (Wierzbicki 2003: 127, 129). Along with the 1960s as a whole, the golden age of the socialist science fiction film was just beginning. And this did not go unnoticed in Hollywood.

Sound For Sputnik

When *Forbidden Planet* was first screened in 1956, the Leningrad Film Studios for Popular-Scientific Films was just starting work on the film *The Way to the Stars* (*Doroga k zvezdam*). It was directed by a professional special-effects cameraman—Pavel Klushantsev. This film was produced despite resistance from the state film administration⁸. It premiered shortly after the Sputnik launch in 1957 and became an international success. The film not only depicts in a popular form the basics of space travel, but it also features spectacular animation and special-effects techniques. Its effect on the cinema was similar to the shock occasioned by Sputnik at the time. On the one hand, it led to uncertainty and a lack of initiative in the science fiction film genre in America. There it arrived in moviehouses on 4th of June 1958. On the other hand, it inspired a future generation of filmmakers such as Stanley Kubrick, George Lucas, and Robert Skotak⁹. Yet in the area of the science fiction feature film, the Soviet film industry still

7 The reconnaissance mission of the ‘United Planets’ in *Forbidden Planet* locates the threat in the subconscious of science which threatens to get out of control on the forbidden planet—figured as psychoanalytic metaphor for the Iron Curtain. “To corporate liberals, Russians in turn stood for the eruption of primitive aggressive behavior. Reds, in other words, were monsters from the id” (Biskind 1983: 132–133).

8 The management of the studios and the central authorities in Moscow suggested to the director that he should keep away from the subject, since it had nothing to do with the ‘everyday working people’ and instead to make a popular-scientific film about increasing the crop yields of beets.

9 As special-effects supervisor, Robert Skotak was involved in productions including *Aliens* (1986), *Terminator 2: Judgement Day* (1991) and *Titanic* (1997), all of which received the ‘Academy Award for Best Visual Effects’. The rediscovery of Pavel Klushantsev is due to him. After repeated conflicts with studio heads, Klushantsev had to turn his back on the cinema in the mid-1960s and lived very modestly as a writer of popular-scientific books for young adults. As George Lucas in the early 1990s wanted to visit Klushantsev during a visit to Moscow, his hosts did not know who he was. Shortly thereafter, Skotak wrote a letter to

had a great deal of catching up to do¹⁰. The first postwar Soviet science fiction film was *The Sky is Calling* (*Nebo zovet*). It was produced in the Dovzhenko Film Studios, in Kiev and premiered on the 12th of September 1959. The ideological orientation for the film is the Nikita Khrushchev's doctrine of peaceful coexistence proclaimed as the new general foreign policy line at the Twentieth Congress of the Communist Party of the USSR in 1956. The space race between the Soviet Union and the United States was portrayed in the sense of fair play amid competition.

The main plot can be summarized briefly¹¹. The first flight to Mars is being prepared on a Soviet space station, but the launch has been postponed due to a meteorite storm warning. However, an American expedition lands on the space

Klushantsev with detailed questions about his special effects techniques. His Russian counterpart answered by sending him the documentation of his work on *Road to the Stars* and other films. After a visit to Moscow and St. Petersburg, Skotak published an article about Klushantsev in *American Cinematographer* (Barker & Skotak 1994). After that, the Russian public paid more attention to Klushantsev. In 1997, Russian television showed a retrospective of his films, including commentary from the now very elderly director. Shortly after Klushantsev's death in 1999, the St. Petersburg Studio of Popular-Scientific Films 'Lennauchfil'm' produced a short TV report about Klushantsev that lacked information and failed to do justice to his technical innovations. By contrast, the 2002 Danish documentary *The Star Dreamer*, in which Skotak was involved, tells Klushantsev's life story with much sympathy and competent analysis of the latter's special-effects innovations. In 2009, the television feature *Special Effects Champ* (*Velikie kombinatory*) reached a wide audience in the former Soviet Union while making ample use of Skotak's trip to Russia and his catalogue of questions about the history of Soviet special effects.

- 10 The Soviet filmmakers had very little experience in the science fiction genre. Only Iakov Protazanov's *Aelita* (*Aelita*, 1924) and Vasilii Zhuravlev's *The Cosmic Journey* (*Kosmicheskii reis*, 1936) formed the canon of Soviet science fiction film until 1959. Significantly, the sphere of the acoustic plays a very little role on the diegetic level of these films. In both cases, optical-visual signs from the universe from the starting point of the plot, and they dominate the design dramaturgical conflict as leitmotifs. The original film score of *Aelita* (which is only partially preserved) hardly provides enough information to draw conclusions about the nature of its soundtrack (Hayward 2004: 5). *The Cosmic Journey* was planned as a silent film; the dialogue is reproduced in intertitles. The rhythm of the film, however, is entirely subordinated to the music. Until that point, composer Valentin Kruchinin had mainly experience in military music and adapting the operetta genre for the ideological-aesthetic system of socialist realism. The director Vasilii Zhuravlev was likewise a well-established member of the party's youth organization (Komsomol) where he had chiefly distinguished himself as director of films for the young. The peripheral genre of the youth film allowed him access to the ideologically controversial science fiction, which within the normative system of socialist realism was treated as a difficult child, always being pushed to the margins of cultural production and subject to vigilant censorship (Geller 1985: 71).
- 11 The framing narrative is extremely interesting from a metapoetic perspective. The film opens with the visit of a young writer to a space research laboratory. After he has listened to the sedate professor and observed his assistant creating spaceship models and paintings of the cosmos, his imagination is kindled. This segues into the main plot acoustically (with a crescendo of rising strings) and visually (in the indistinct splendor of the stars).

station, and its crew is likewise preparing for a mission to Mars. When they learn about the Russians' plans, they decide they want to get to the red planet first. Despite the meteorite warning, they hurriedly depart for Mars. In the process, they travel off-course and wander into the gravitational field of the sun. The Russians race to their assistance, yet use up their remaining fuel in the process. Both crews have to make an emergency landing on the asteroid Icarus using the same rocket. Although an unmanned rocket attempts to land with a fuel delivery from the Earth, because of defective radio control, it explodes upon landing, destroying the radio antenna as well. Now without a link to the Earth, the Russians and Americans appear to be stranded forever on Icarus. A way out of the hopeless situation is provided by light signals that help them successfully transmit a sign of life to the satellite. An additional fuel delivery is launched from Earth, and this time the rocket is under the control of an astronaut on board. The heroic pilot lands successfully on Icarus and is able to bring the news on foot to the Soviet and American astronauts there. Yet because of the cosmic rays, he then dies, literally vaporized on the asteroid¹². As the result of his fuel delivery, the Russians and Americans are fortunate enough to return to Earth. The red flag flutters, and the American people are deeply impressed with the courage and the self-sacrificing help of the Russians. Friendship has won out over enmity. "Astronauts of all countries—unite!" seems to be the ultimate ideological message of the movie.

Overall, *The Sky is Calling* is a multifaceted and highly professional production. Its director, Mikhail Kariukov, was an experienced special-effects director. In 1938, he had been the head of the newly established workshop for stunts and special effects at the central Moscow film studio "Mosfil'm"¹³. It was here that he first teamed up with Iuri Shvets, the most outstanding set designer of his time. Shvets in 1935 had collaborated with Aleksandr Ptushko on the latter's *New Gulliver* (*Novyi Gulliver*)¹⁴, and he also had experience in designing cosmic landscapes and spaceship models. In 1936, he was responsible for art design in *The Cosmic Journey* (1936), for which Konstantin Tsiolkovskii—the intellectual father of

12 Of course, the writer from the framing narrative imagines himself in the heroic victim role.

13 Very little is known about Kariukov, a native of Odessa. In 1939 he published his standard work on the special-effects technique (Kariukov 1939) and was transferred in the same year back to Odessa. From 1963 to 1965 he chaired the working group 'SF film' at the Dovzhenko film studio in Kiev.

14 While the science fiction genre hardly had a right to exist in Socialist Realist cinema, the fairy-tale film was fertile grounds for developing innovative experiments in film technique. In the case of *The New Gulliver*, the sound experiments are also worth listening to. Interestingly, that applies not only to the voices of the Lilliputians, 'created' by accelerating adult voices, as that of the young protagonists, 'slowed down' for the film. Rather, on the diegetic level of the film, a significant factor was the music, in addition to the mechanical reproduction of voices and the self-reflective disclosure of synchronizing procedures.

Russian space flight—acted as scientific advisor by preparing rocket sketches for Shvets.¹⁵ Shvets made further use of this know-how in *The Sky is Calling*.

The screenplay for the film was by Eevgenii Pomeshchikov. He had previously written scripts for Ivan Pyr'ev's musical of the kolkhoz, *Rich Bride (Bogataia nevesta, 1937)* and *Tractorists (Traktoristy, 1939)* as well as for the musicians' drama, *The Song of Siberia (Skazanie o zemle Sibirskoi, 1947)*. Each of these films was highly canonical examples of socialist realist cinema. Pomeshchikov thus had two important skills at his disposal: a mastery of ideological plot forms and dramaturgical expertise in film scores. For even in the case of film music, an ideologically-tested team was needed. Its composer Iulii Meitus had created the first Turkmen opera *Abadan* (1943). In 1951 he was awarded the Stalin Prize for his opera *The Young Guard (Molodaia gvardiia)* based on the novel by Aleksandr Fadeev¹⁶. The music for *The Sky is Calling* was composed in the framework of these socialist realist operas, and thus seems out of place and tiresome across long stretches of the film¹⁷.

Nonetheless, the film's sound design reveals some surprising moments for audiences. As soon as the Russians and Americans land on Icarus, electronic music can be heard, thus giving outer space an acoustic identity. It was contributed by the experimental 'Ensemble of Electro-Musical Instruments' ("AËI"), founded in Moscow in 1957 and under the direction of Viacheslav Meshcherin. The ensemble's instrumentation consisted of: a thereminvox (an electronic harmonium also developed by Lev Theremin), a vibraphone, an electric organ (modeled on the Hammond). There were 'classical' instruments as well—piano, strings, guitar, and accordion—all supplied with innovative recording techniques and effects. The soul of the ensemble was the "Ekvodin," another instrument that Meshcherin had developed together with Andrei Volodin¹⁸. The Ekvodin was unique for its time, with a sound breadth of 7.3 octaves, automatic and manual vibrato, built-in reverb, and a keyboard that responded to the force of the players' fingers.

15 The model of the space station designed by Konstantin Tsiolkovskii that appears already in the frame story is one of the spectacular attractions of the movie and was adopted with only a few changes by Stanley Kubrick in *2001: A Space Odyssey*.

16 The score for the 1948 film adaptation of the novel was composed by Dmitri Shostakovich.

17 The literature and painting of socialist realism were based on late nineteenth-century models of critical realism. In the case of music, arriving at a normative consensus proved more difficult, because the concept of 'realism' had not found its own form in musicology. Thus, Soviet music critics and historians appropriated the late Romantic composers (Mussorgsky, Borodin, Rimsky-Korsakov) as musical 'realists,' on which the socialist realist opera had to be based (Roziner 2000: 167).

18 Volodin had already developed a prototype of this analog synthesizer in 1937. The "Ekvodin 9" used for the sound design of *The Sky is Calling* was honored with a gold medal at the 1958 World Exhibition in Brussels (Smirnov 1997).

In its early days, the Ensemble's existence was precarious, and reviews were not positive¹⁹. The collective was only legalized as an institution one year after its founding. And then, in 1959, Meshcherin was summoned to KGB headquarters. Once he was there, however, he learned he had not been arrested but was being commissioned by the government to record a 'spacey,' arranged version of "The Internationale," intended to be used as a recognition signal for Sputnik 3²⁰. Unfortunately, it is not known what became of this project²¹. Yet the Ensemble of Electro-Musical Instruments was once again allowed to perform publicly after that. When Iurii Gagarin met Meshcherin in the mid 1960s—the ensemble had in the meantime achieved a certain notoriety in the Soviet Union—Gagarin purportedly stated that he had heard celestial music while orbiting the earth in his capsule. The sounds he heard were said to be similar to those of electronic musical instruments. Similarly, the Russian cosmonaut Aleksei Leonov, who made the first spacewalk in 1965, is said to have maintained that the music made by the electro-musical instruments corresponded closely to his state of mind in outer space (Khvoinitskii 2005). Immediately after Leonov's return from space in 1965, a television documentary was made entitled *In a Spacesuit Above the Planet (V skafandre nad planetoj)*. The footage of the crew and Leonov's space walk were scored with the music of Meščerin's ensemble. The perception of Soviet television viewers, along with that of the cosmonauts, was that the sound of the electro-musical instruments had virtually become the sound of the cosmos²².

In the end, it was less the sound design of *The Sky is Calling* than its innovative special effects and impressive art direction that led Hollywood producer Roger Corman, with his unerring instinct, smell the opportunity to make a profit²³. In

19 The ensemble received much needed support in the bureaucratized Soviet musical industry from Dmitri Shostakovich.

20 Dmitri Shostakovich, who was very receptive to innovative electronic music and sound recordings, arranged a theremin version of "The Internationale" for the patriotic Civil War film *The Friends (Podrugj)* of 1935.

21 There are extremely few sources on the activities of Viacheslav Meshcherin. The information on the 'Sputnik sound' were first released on the 2001 CD cover *Easy USSR*, which brings together the prominent pieces of his ensemble from the 1960s and 1970s. Further clues have been provided by the foundation of composer Vladimir Khvoinitskii (Khvoinitskii 2005).

22 An illustration for this is the group portrait of the ensemble, taking together with the crew of a Soviet rocket, photographed in the 1980s at the Baikonur Cosmodrome (Khvoinitskii 2005). For the information on the date of the photograph I am indebted to Lydia Kavina.

23 In 1963 the successful duo of Mikhail Kariukov and Iurii Shvets produced another science fiction movie, this time in the Odessa film studios. *Encounter in Space (Mechte na vstrechu)* was a space romance, virtually free of ideological implications. Its art direction was impressive, albeit less expensive than that of *The Sky is Calling*. The film was scored by Vano Muradeli, one of the greatest socialist realist composers and music functionaries, who temporarily fell from favor in 1948. By a decision of the party, he—together with Dmitri Shostakovich and Sergei Prokofiev—was placed under the general suspicion of 'formalism' (Maximenkov 2004: 44). The creation of this film's sound design launched the career of

1962 he produced for American International Pictures *Battle Beyond the Sun*, a re-cut version of *The Sky is Calling* that was ideologically re-adjusted for American distribution. The actual names of the characters as well as the Soviet filmmakers and actors were replaced with fictitious ones. “Thomas Colchart” is named as the director in the credits but it was the pseudonym for a young Francis Ford Coppola. His re-editing of the Soviet film actually constituted his directorial debut. Here is his account of the genesis of the film²⁴:

“Roger, having heard about my theater experience and good work with actors, which was rare for a cinema type, took me on as his assistant for \$90 a week. He was very proud that the winner of the Goldwyn prize was in his employ. He also made sure to tell me he once worked for \$45 a week. Of course, I’d have worked for him for nothing, except that I needed a meal once in a while.

The Russian sci-fi film was very ideological and symbolic in its conflicts. Roger’s thinking was that there was a fortune in special effects and he could jazz it up for American audiences. I had to translate the images into an English story line that fit the mouth movements. He told me to put in a scene where an astronaut has a vision of two moon monsters, one vaguely male, the other female, battling it out. I shot that for him and cut it into the film. Meanwhile, I was also given the job of dialogue supervisor on *Haunted Palace* during the day. I ran lines for Vincent and the others. Then I’d stay up most of the night to do the sci-fi work. I don’t think I ever saw the final version of *Battle Beyond the Sun*” (quoted in Corman 1998: 91).

Coppola replaced the framing narrative by a prologue spoken offscreen. It transposes the plot into a world divided into southern and northern hemispheres after a nuclear war²⁵. The film score by Iulii Meitus and the sound design by Meshcherin were by and large maintained and then expanded into a leitmotif. The musical re-editing of the Soviet film was undertaken by the prominent film composer and arranger Les Baxter under the pseudonym of “Jan Oneidas” (Larson 1985: 173)²⁶. Baxter’s concept album, *Music Out of the Moon* was re-

Russian composer Éduard Artem’ev, who began working in 1960 with the first model of the Soviet ANS synthesizer. After that, he scored music for the films of Andrei Tarkovsky, Andrei Konchalovsky, and Nikita Mikhalkov (Egorova 2006). Of particular note is Artem’ev’s sound design for *Solaris* (1972) (Hayward 2004: 18–19).

24 In the opening credits, Francis Ford Coppola is named as the executive producer. A year before Coppola had written the Americanized dialogues for *Sadko*, the Soviet fairy-tale film for which Aleksandr Ptushko won the Silver Lion at the 1953 Venice Film Festival. The opulent musical adaptation of the northern Russian epic poem *Sadko* came to the American screens in 1962 as *The Magic Voyage of Sinbad*.

25 In this way, Coppola used the same technique for controlling aesthetic ambiguity ideologically as his Soviet and East European counterparts. Their films, especially after 1945, tended toward the subversive undermining of the plot through visual poetry, thus avoiding the stylistic pitfalls of socialist realism, on the one side, and of Hollywood, on the other (cf. Murašov 2010: 18).

26 Also listed in the credits is Francis F. Coppola’s father, Carmine Coppola, who incidentally

leased in 1950 by Capitol Records, becoming one of the best-selling theremin albums of all times (Leydon 1999: 70). In re-arranging the sound design of *The Sky is Calling*, Baxter was operating on familiar ground. Very similar to the way that Meshcherin's Ensemble of Electro-Musical Instruments became the ultimate sound of space in the Soviet Union, Baxter's theremin albums—*Music Out of the Moon* (1950) and *Space Escapade* (1957)—also achieved immense popularity with American audiences and American astronauts alike²⁷. As a result, *Music Out of the Moon* was broadcast in spaceship cockpits during the Apollo program of the 1960s, and Neil Armstrong was one of the greatest fans of the album (Leydon 1999: 71)²⁸.

Voices Of Venus

In connection with the early East European science fiction film, it is essential to mention the pioneering 1960 German-Polish production *The Silent Star* (*Der schweigende Stern*). For reasons of space, we have to forego a detailed analysis of the film²⁹. In recent years, moreover, a considerable number of publications on the film have appeared in the context of science fiction reception in the GDR (Ciesla 2002, Fritzsche 2006, Kruschel 2007). And yet, the exceptionally innovative sound design by Andrzej Markowski has mostly been ignored³⁰. Something else is important on the diegetic level of the film in regard to its theme: Venus in this film is always referred to as the silent planet—in keeping

wrote the music for other of Coppola's films, such as *The Godfather* (1972) and *Apocalypse Now* (1979). In 1975, he and Nino Rota received the Oscar for Best Original Music for their work on *The Godfather-Part II*.

27 Like Les Baxter in America, Viacheslav Meshcherin was one of the Soviet pioneers of exotic easy listening music as well as one of the originators of world music. It remains an open question to what extent the Ensemble of Electro-Musical Instruments might have been influenced in its initial phases by Les Baxter. Chronologically, it is very likely that the Baxter's music was known in the Soviet Union. On the other hand, Soviet musicians were almost completely cut off from the new developments behind the Iron Curtain but that did not exclude a subtle diffusion of Western music in the Soviet Union.

28 Cf. Sound Souvenirs: http://www.harsmedia.com/SoundBlog/Archief/00690.php?show_id=00690#bk_00690 (accessed on July 1st, 2011).

29 We can also not consider in detail the canonical science fiction film *Ikari XB-1*, produced in Czechoslovakia in 1963. On the American version of the movie, see Höltgen 2010: 40.

30 Philip Hayward has a brief (but very appreciative) mention of the work of Polish composer Andrzej Markowski (Hayward 2004: 11). Markowski composed the score, among others, for Andrzej Wajda's 1955 film debut, *A Generation* (*Pokolenie*) as well as many of his other films. Their years of friendship were memorialized by Wajda in his 1980 film, *The Conductor* (*Dyrygent*). Based on conversations and interviews with Andrzej Markowski, this psychological and social drama focuses strongly on the ensuing inner conflicts of musicians under the constraints of a nationalized culture industry.

with Stanisław Lem's first successful novel *The Astronauts* (*Astronauci*) (1951). "Venus is silent!" When the international team of researchers that has landed on Venus finally succeeds in deciphering the voices of the lost inhabitants of Venus, it receives the apocalyptic message that the Venusians have destroyed themselves in a nuclear explosion.

This film too was re-cut by Crown International Pictures, a production company founded in 1959. It was then released for American distribution in 1962 under the title *First Spaceship on Venus*. The adaptation managed this time without papier-mâché genital monsters. And in the highly reduced credits, the name of director Kurt Maetzig and the actors were also maintained. Yet a number of cuts were made to the film score. The responsible party was Gordon Zahler, a very colorful figure—even for the Hollywood of the early 1960s³¹. The concept behind Zahler's post-production company, General Music Corporation (established at the end of the 1950s), was to provide music for films in the most cost-effective and profitable manner possible. The music used for this purpose was recycled from other films. In order to adapt the complex experimental sound design of *The Silent Star* for American listeners, Zahler used two themes in orchestrating *First Spaceship on Venus*: "In Outer Space," composed by Leith Steevens for the science fiction classic *Destination Moon* (1950) and Herman Stein's "Metaluna Catastrophe" composed for *This Island Earth* (1950). The film score from the classic horror film *The Wolf Man* (1941) was also utilized for additional musical fillers.

In contrast to *The Silent Star*, the planet Venus in the Soviet film *Planet of Storms* (*Planeta Bur'*) has a very sonorous environment. This film, made by the Leningrad Studio for Popular-Scientific Films, premiered on 14th of April 1962 as part of celebrations marking the anniversary of Iurii Gagarin's successful landing. The director was the special-effects cameraman Pavel Klushantsev. Seen from today's perspective, *Planet of Storms* represents a milestone in the genre, a veritable compendium of the most innovative special-effects techniques of the time, such as the staging of zero gravity, of an underwater world, of space vehicles such as a hovercraft, and of relatively convincing-looking monsters. Although Klushantsev's visionary special effects have been recently acknowledged in a series of documentaries (see the footnote above), his sound effects have to the greatest extent gone unnoticed. At the same time, Klushantsev had chosen for his feature film debut a literary model much indebted to sound experiments: the eponymous novella by the Russian science fiction author Aleksandr Kazantsev, who also collaborated on the screenplay.

In Kazantsev's novella *Planet of Storms*, which appeared at the same time in 1957 as the Russian translation of Lem's *Astronauts*, the Russians and Americans

31 See his extremely readable biography (Jacobs 2008).

are not competitors but are working together in an international research mission to Venus. When upon landing the Americans have an accident with their robot, John, getting into a hopeless situation, the Russians are able to land successfully and hear the extraordinary, mysterious voice of the planet through their external microphones. Using a hovercraft vehicle, they rush to help the Americans. The journey in which the prehistoric landscape is shaken by ground eruptions takes them through violent storms and past singing, man-eating plants. They even encounter dinosaurs and a dragon that can only be defeated with an ultrasonic cannon. In the course of the film, the enigmatic voice of the planet increasingly appears as a leitmotif. It gives the Russian cosmonauts an opportunity to engage in enraptured imaginings as well as an occasion to have a scientific discussion about extraterrestrial civilizations and alien visitors to Earth³².

In his film adaptation, Klushantsev de-ideologized the plot as much as he could, concentrating on the possibilities of more spectacular special effects and the arrangement of an exceptional sound design³³. For the voice of Venus, he wanted to achieve a truly exceptional sound experience that might nonetheless be recognizable and associated with the sphere of the feminine-magical and the exotic. When the film first appeared, many viewers were pleased and amazed to recognize the voice of Yma Sumac, Hollywood's "Inca Princess" and "Queen of Mambo" in those scenes which are punctuated by the enigmatic voice of the planet³⁴.

Sumac, a native of Peru with a (more than) four-octave vocal range, made her career in the U.S. of the 1950s with exotic recordings of stylized Peruvian folk music³⁵. Her discoverer, manager and husband was Moisés Vivanco—the self-

32 The stimulating thing about this literary model is that, as one of the first works of Soviet science-fiction, it anticipated the *Chariot of the Gods* (1968) notions of Erich von Däniken, according to which human civilizations were established by extraterrestrial visitors at a higher stage of development. Significantly, this discourse is introduced at the beginning of the story through Friedrich Engels's *Dialectics of Nature* (1925), thus providing it an anthropological and ideological foundation. I am grateful to Igor' Smirnov for the suggestion that these ideas were developed in the context of the sci-fi working group of the Leningrad Writers' Association initiated by Anatolii Britikov. In the discussions of the sci-fi working group of literary scholars, V. K. Zaitsev distinguished himself in particular. His 1960 lecture *Cosmic Reminiscences in Written Monuments of Antiquity* (*Kosmicheskie reministsentsii v pamiatnikakh drevnei pis'mennosti*), where he explained the extraterrestrial origin of Jesus Christ, became the founding moment of that working group.

33 The film was scored by Aleksandr Chernov, the Leningrad composer, music educator and popularizer of jazz music in the Soviet Union. He was not only ideologically correct in 'smuggling' into the film a lively swing number that emanates from the loudspeaker of the American robot, but he also composed the title song sung by the popular actor and pop singer Vladimir Troshin. That song became a hit in the Soviet Union in the years to follow.

34 From a meta-reflexive and ironic standpoint, it is significant that the film's protagonists jokingly argue whether it might be the mysterious voice of a woman singing or only an auditory hallucination.

35 Les Baxter was instrumental in the success of her international breakthrough, the album

appointed “George Gershwin of Peru”—who became a notorious tax evader in the U.S. In 1960, he repeatedly got into trouble with IRS and thus promptly arranged a six-month tour in the Soviet Union. For Yma Sumac also had fans behind the Iron Curtain, including Nikita Khrushchev (Mal'tsev 2000, cf. Krause 2001: 46).

In terms of the sound design of *Planet of Storms*, the question should really be asked how the voice of this capricious diva from the West, under KGB surveillance, came to be recorded at the Leningrad Film Studio for Popular-Scientific Films. After all, her husband / manager only accepted hard currency, and it was the poorest film studio in the USSR (according to Klushantsev). In fact, this feat was pulled off without her direct participation, thanks to Meshcherin and his Ensemble of Electro-Musical Instruments. Meshcherin—who had otherwise studied the history and theory of folk music and possessed an impressive collection of folk instruments—got hold of radio recordings of Sumac's voice. He then excerpted her idiosyncratic vocal modulations and arranged them into the soundscape of Venus for *Planet of Storms*³⁶. Sumac's voice was then integrated into a melodic composition accompanied by the theremin virtuoso Konstantin Koval'skii, who had worked with Meshcherin from the beginning of the Ensemble. Here, too, Meshcherin was able to base the sound on *Voice of the Xtabay*. For

“[h]aving recently completed *Music Out of the Moon*, Baxter no doubt approached his *Xtabay* album with the sound of theremin still fresh in his ears. Each of his two original compositions on the LP—‘Xtabay’ (subtitled ‘Lure of the Unknown Love’) and ‘Accla Taqui’ (‘Chant of the Chosen Maidens’)—exploits Sumac's status as a kind of human theremin” (Leydon 1999: 66)³⁷.

Although it cannot be said with certainty whether Meshcherin had been able to hear Baxter's music before 1959, by the time he was working on *Planet of Storms*,

Voice of the Xtabay (1950). As he recalled: “I made her most successful album; I don't think she realizes that. Frankly, it was that successful on account of my music. Because she also made other records. In Esoteric Magazine they wrote: ‘Baxter has hollywoodized this great folk talent.’ My answer: ‘Then go and buy her folkloric albums.’ I arranged this album and it was the world's bestselling record. So I must have had something to do with it” (Krause 2001: 29).

36 Meshcherin's way of proceeding was very similar to how Les Baxter worked in recording *The Voice of the Xtabay* “I knew what I had to use of hers. She has made so many other records that had not sold well. She had hit the high notes many times, but I knew where I had to put them. It was the era of cutting tape; we didn't have all these buttons like now. We let her sing until we had a phrase that we liked. Then we said, ‘Sing a high E,’ and when she had finally hit it, we attached it to the end of that part. That is to say, a lot of it was stuck together” (Krause 2001: 29–30).

37 Meshcherin processed his experience in *Planet of Storms* in the composition “Peruvian Fantasies” (“Fantazii na peruanskie temy”), which achieve great popularity in the Soviet Union. In this composition Konstantin Koval'skii imitated Sumac's voice on the theremin. http://theremin.org.ru/index.php?option=com_content&view=article&id=66&Itemid=74 (accessed on July 1st, 2011).

he had adopted Baxter's technique for producing and integrating exotic sounds into a melody familiar to modern Europeanized listeners³⁸. At the same time, Baxter, while working on *Battle Beyond the Sun*, had likewise gotten to know the sound of Meshcherin's ensemble. Whereas Baxter was using Sumac's voice as a theremin, Meshcherin was deploying the theremin as if it were Sumac's voice. All in all, *Planet of Storms* proved to be a unique viewing and listening experience for its times.

Roger Corman liked the film very much. He bought the rights to it when he was on his way back from the Pula Film Festival of 1962 when making a side-trip to Moscow³⁹. In 1965 American International Pictures brought to screen a film entitled *Voyage to the Prehistoric Planet*. The pseudonym "John Sebastian" concealed the identity of the director Curtis Harrington, who prepared this Americanized version of *Planet of Storms* for Corman. Harrington was not satisfied with a simple compilation but also filmed additional material with Basil Rathbone, who portrayed a typical American professor, and Faith Domergue, who replaced the cosmonaut Masha who had appeared "too Russian" for American spectators. At the same time, Harrington had to abandon one of the most impressive camera effects of the entire film: Masha dancing in zero gravity⁴⁰. Nor did Harrington leave in much of the original soundtrack, sub-

38 The mechanisms for 'exoticizing' Western music were fundamental in the oeuvres of European impressionists, as modeled by Claude Debussy, Igor Stravinsky and Maurice Ravel whom Baxter felt indebted to all his life (Leydon 1999: 55). According to Baxter, he was greatly influenced by Ravel's style in his arrangements for *Voice of Xtabay*. In that sense, he was able to render the Peruvian folk tunes compiled by Sumac and Vivanco "listenable" for the broad mass audiences of suburban America, the main consumers of popular exotic music.

39 In his memoirs, Corman reports that on that occasion he received an offer from Mosfil'm to shoot a movie in Moscow. Corman sensed an opportunity to make a bombastic science fiction film using elaborate special effects financed by the state film industry. This film would take place in the distant future, avoid Cold War subject matter, and be technically oriented. Yet the project failed at the start, when Corman was explaining his idea to a senior representative of the censorship authority: "To this day, I find his response startling. 'Very interesting idea,' he said. 'Science Fiction is very popular here in the Soviet Union. I must caution you on one point. Many Soviet filmmakers come to me with science fiction ideas about the future. I must turn many of them down because their stories do not portray the future five hundred or a thousand years from now the way it is going to be. Even though I know you are working here in good faith with your capitalist education, it might even be more difficult for you to predict the future.' Having failed the ideological test, I headed back to more familiar capitalist terrain" (Corman 1998: 117).

40 In Kazantsev's novel, the literary basis for the adaptation, Mary, an American, is waiting alone in the space station while orbiting Venus. In the screenplay, the Americans have been decimated, leaving only a cynical technocrat and his robot; the separated couple was transformed into the Russians Masha and Sergei. Masha was figure leading to doom in *Planet of Storms*. As Pavel Klushantsev remembered in a 1997 television interview, at the premiere of the film in Moscow, Ekaterina Furtseva, the USSR Minister of Culture, was restrained in her

stituting it instead with film music composed by a veteran of the science fiction genre, Ronald Stein, for the 1960 movie *Dinosaurus*⁴¹.

None of those involved, however, were really pleased with the result⁴². Consequently, Corman commissioned his new protégé, Peter Bogdanovich, to make a new version of *Planet of Storms*. Bogdanovich gives a humorous account of this assignment:

“What Roger said was ‘I want you to take twenty minutes of Karloff footage from *The Terror*, then I want you to shoot twenty more minutes with Boris—I’ve shot whole pictures in two days—and then I want you to shoot another forty minutes with some other actors over ten days. I can take the twenty and the twenty and the forty and I’ve got a whole new eighty-minute Karloff film. What do you say?’

‘Sure.’ In the meantime Roger asked me to work on one of those Russian sci-fi films he acquired, *Planet of Storms*. ‘It’s got spectacular effects,’ he said, ‘and we’re dubbing it into English for AIP. But there are no women. So run down to Leo Carillo beach. It’ll match the Black Sea but it’s really supposed to be Venus. Shoot women. We’ll cut it all in. I’ll pay you six thousand dollars for the two jobs.’

I hired the Gill-Women of Venus—just a bunch of stoned kids walking around Carillo Beach dressed like mermaids, with seashells covering their breasts. Tackiest fucking costumes I have ever seen. And now they were praying to a pterodactyl or something and communicating telepathically with Mamie Van Doren. This was hell. We retitled it *Voyage to the Planet of Prehistoric Women*” (quoted in Corman 1998: 142).

response to the movie, revealing its gross ideological error: “A female Soviet cosmonaut has no right to cry in the cosmos and to lose her self-control in her hour of hardship!” Despite the international audience success of *Planet of Storms*, Klushantsev was not allowed to make any more feature films after that.

- 41 Ronald Stein, who had just worked for American International Pictures with Francis Ford Coppola on the horror movie *Dementia 13* (1965), apparently had no objection to being named in the credits. Stein also put out his *Dinosaurus* soundtrack with musical elements from *Planet of Storms* as an LP entitled *Voyage to the Prehistoric Planet-Original Score*.
- 42 Curtis Harrington did not let the matter rest. In 1966 MGM brought the movie *Queen of Blood* to theaters. Its director was Harrington, this time appearing under his own name. From the Soviet films *The Sky is Calling* and *Encounter in Space*, Harrington adopted only the spectacular rocket launch and space sequences, in addition to the stunning settings by Iuri Shvets. From his failed *Voyage to the Prehistoric Planet*, he gleaned the scenes with Basil Rathbone and the music by Ronald Stein. *Queen of Blood*, starring John Saxon and Dennis Hopper, has an independent plot. A female vampire from an alien planet, the eponymous Queen of Blood, sucks her victims and lays slimy green eggs, thus prefiguring the subject of *Aliens* (1986). In *Queen of Blood* one can recognize the form of *Aelita—Queen of Mars* (the actual English-language title). These immanent references to the Soviet classic films, as the seductively menacing specter of the American science fiction industry illustrate implicitly the qualitative decline of American science fiction cinema in the ten years between *Forbidden Planet* and *Queen of Blood*, both of them MGM productions. Yet in one, everything was produced in an innovative and elaborate fashion; in the other, nothing was done.

Bogdanovich, who took the pseudonym of “Derek Thomas” for this film, altered the story of *Planet of Storms* almost beyond recognition. Holding the plot together were the spectacular rocket-launch and outer-space sequences from *The Sky is Calling* as well as the skillful dramatic use of a first-person narrator reflecting on the action. Bogdanovich himself is incidentally listed in the credits as portraying that voice.

Furthermore, Bogdanovich proved to be far more sensitive than Harrington to the exceptional sound design of the Soviet film. The enigmatic sounds from *Planet of Storms* are applied as a leitmotif accompanying the telepathic séances of the bathing beauties from Carrillo Beach. The voice of Venus thus takes on a face, specifically that of Miss Palm Springs 1948. She was none other than the American film and musical actress Mamie Van Doren, one of the biggest sex symbols of her time whose career began at Universal Pictures in 1953. At the end of *Voyage to the Planet of Prehistoric Women*, Van Doren’s voice is overlaid with that of Sumac—or rather the *sound* of Sumac’s voice as artificially generated in the theremin recordings by the Ensemble of Electro-Musical Instruments. This scene can be viewed as the metapoetic manifesto of a dubious practice of synchronization (and dubious cultural and business practices)—the end of which was being proclaimed with *Voyage to the Planet of Prehistoric Women*.

The film appeared in cinemas on New Year’s Eve 1968. Nearly half a year later, *2001: A Space Odyssey* premiered on 2nd of April 1968. *That* film permanently revolutionized the genre of the science fiction film, setting new standards in film music and sound design. On Christmas Eve 1968, American viewers were treated to a television broadcast with a minimalist design: the surface of the moon recorded by the spaceship Apollo 8. The sound of the cosmos was effectively accompanied by a prayerful recitation of Genesis 1 by the astronauts. *That* film was entirely devoid of spectacular images and exotic music. It was science *fact*, signaling that the shock of Sputnik was now past.

What does this forgotten chapter of film and music history ultimately tell us? Starting from the diagnosis of Vivian Sobchak and recent research findings that the genre of science fiction film is disinclined toward experimental electronic music, we have tried here to integrate the (thus far) neglected experiences of Soviet and Eastern European science fiction filmmaking into the history of the genre. It has been demonstrated that the socialist science fiction film of the detente period developed promising and innovative approaches toward creating an acoustic identity of the genre. Although the American film industry, unsettled by the Sputnik shock between 1957 and 1968, temporarily abandoned its commitment to producing science fiction, thereby slowing down its own development of innovative narrative and cinematic procedures, socialist science fiction productions were imported and adapted to the requirements of the local entertainment market. And this process was taking place in a period when the

American film industry was undergoing radical changes and forced to reinvent its production as well as distribution system.

Corman influenced the business model that made it possible to produce entire movies inexpensively by prolonging reenacted scenes with footage recycled from old films. As a result, a type of cinematic fast-food was created in order to be injected into the distribution system of the drive-in cinemas. Boosted by the explosive progress of innovative sound technology, a post-production industry emerged at the same time. That opened up the possibility to furnish the movies with cost-efficient soundtracks that were edited from the scores of older films. These new methods of production led to the exploitive integration of socialist science fiction film into the American entertainment market—particularly using many works containing highly elaborate (state-financed) special effects. To adapt this alien material, the (more or less) neutral videotrack of these films was separated from the soundtrack with its ideological-saturated content. In this manner, not only dialogues but also plots could be reinvented. As clearly illustrated by the American versions of *The Silent Star* (1960), *Planet of Storms* (1962), and *Ikari XB-1* (1963), even the ‘non-ideological’ electronic music of the socialist films was interfered with significantly. For the most part, these scores were replaced by a mere compilation of existing soundtracks consisting of classical Hollywood orchestrations.

The recourse to classical music in the ‘cosmic’ sound design of *2001: A Space Odyssey* (1968) clearly rejected experimental electronic music as an acoustic expression of science fiction. Likewise, George Lucas was careful to ensure that the sound design of *Star Wars* (1977) would be emotionally familiar and decidedly non-futuristic, as John Williams, the composer of the score (which ranks among the most successful ever), has stressed in interviews (cf. Paulus 2000):

“The films themselves showed us characters we hadn’t seen before and planets unimagined and so on, but the music was—this is actually George Lucas’s conception and a very good one—emotionally familiar. It was not music that might describe terra incognita but the opposite of that, music that would put us in touch with very familiar and remembered emotions, which for me as a musician translated into the use of a 19th century operatic idiom, if you like, Wagner and this sort of thing” (Byrd 1997: 19).

Although the electronic ‘sound of space’ was only sporadically used in science fiction film, it nonetheless influenced in the longer term the development of pop and rock music. The electro-acoustic experiments of Pink Floyd on their concept album *The Dark Side of the Moon* (1973) represent a milestone, in this respect. As far as the pioneers of electronic music are concerned, the theremin experiments of Baxter and Meshcherin laid the foundation for the development of an exotic easy listening style while the soundtrack of *Forbidden Planet* by Louis and Bebe Barrons continued to be regarded as a cornerstone of techno and ambient music.

Although science fiction film and electronic music went their separate ways after their early convergence in the 1950s, experiments with the design of a cosmic soundscape that resulted from this interplay remained influential in the development of popular music genres in the twentieth century.

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