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Sounds of *The Silent Star*

The context, score and thematics of the 1960 film adaptation of Stanisław Lem's novel *Astronauci*

Philip Hayward and Natalie Lewandowski

Our study examines the production context and interrelation of sound design, score and thematics in the feature film adaptation of Stanisław Lem's 1951 novel *Astronauci* ('Astronauts'). This article analyses the production of the original 1960 version, directed by East German Kurt Maetzig (in dual language versions) as an East German/Polish co-production entitled *Der Schweigende Stern/Milcząca Gwiazda* (both translating as *The Silent Star*), with particular regard to its innovative use of sound design and electronic music, and the manner in which these function to create senses of interplanetary difference, alienation and modernity appropriate to the film's cautionary moral-ecological narrative.

Jim Finn's film *Interkosmos* (2006) provides an account of the East German space programme in the 1970s, depicting the national space agency's attempt to explore and subsequently colonise the moons of Jupiter and Venus. Peppered with Marxist rhetoric, the film shows visualisations of space flights accompanied by dry narration and crackly voice communications between astronauts. The film is – of course – a spoof. During the Soviet era all space exploration and rocket development was coordinated and developed by the USSR. Indeed, the film's title alludes to a specific programme developed by the Soviet Union in the late 1960s (see Szawłowski 135–41 for discussion). As Zbigniew Kłos¹ outlined in 2003, *Interkosmos* was significant since, 'despite various ideological factors ... it enabled the smaller states' participation in rocket and satellite experiments, interplanetary missions and manned flights' (Markert). But the target of Finn's affectionate satire is not so much East German aspirations for interplanetary expansion via the actual *Interkosmos* programme as the small corpus of sf films produced for DEFA, the East German state film body, in the 1960s and 1970s – *Der Schweigende Stern* (*The Silent Star*),² *Eolomea* (Zschoche

1. Director of the Centre for Space Research of the Polish Academy of Sciences.

2. The film was subsequently acquired by the US company, Crown International Pictures, who adapted, abbreviated and repackaged it under the title *The Silent Star* for US cinema release in 1962. This version excised 13 minutes of the original, including substantial sections of the film's introduction and dialogue references to US atomic bombing of Japan (and the resultant infertility of a Japanese crew member), and added English-language overdubs and additional stock dramatic score by Gordon Zahler. It was released as part of a double bill with a similarly modified version of the Japanese

1972) and *Im Staub der Sterne* (*In the Dust of the Stars*; Kolditz 1976) – that, in turn, reflected an earlier moment of Communist rocketry: the first pioneering ventures of the post-War era.

The decade following the end of World War II saw both the US and USSR developing rocket propulsion technologies with the aid of plans, equipment and/or personnel sourced from Nazi Germany's military rocket programme. This activity prompted a revival in the production of sf literature in Eastern Europe, exemplified by the work of Stanisław Lem. Lem was born in Lwów in Eastern Poland in 1921 and experienced the German occupation, the subsequent Soviet annexation of Eastern Poland and relocation to Kraków, where he studied medicine, before beginning a career as a writer in 1946.³ His early work included a serial about a Martian, published in the magazine *Nowy Świat Przyszłość*; and he published his first novel *Astronauci* in 1951, commissioned by the Warsaw publishing house Czytelnik. While Lem has subsequently distanced himself from the novel because of its simplistic moral universe and heavy-handed pro-Soviet rhetoric (resulting from strict Stalinist constraints on cultural expression during the period),⁴ the novel proved popular in Poland and in Eastern Europe in general, appearing in German translation in the mid-1950s under the (considerably more sensationalist) title of *Der Planet des Todes* ('Planet of Death').

Lem's book begins with the discovery of an alien device adjacent to a blast area on the Tunguska River in central Russia. Now widely inscribed in sf lore through its representation in *The X-Files* TV series (1993–2002), the Tunguska region was hit by an aerial explosion (probably of a comet or meteor) in 1908 that left a zone of devastation over 2000 square kilometres. Due to its remoteness, the event site was not formally investigated until 1927, with further Soviet scientific research teams visiting in the 1950s and 1960s. One of the principal enigmas of the event was the absence of any crater, a factor that led to considerable speculation about the possible causes of the explosion. One of these was suggested by Russian sf author Alexander Kazantsev in a 1946 short story that attributed the blast to a malfunctioning atomic engine on a Martian UFO visiting Earth⁵ and compared the effects of the blast to the nuclear devastation of

monster feature *Daikajū Baran* (Honda 1958) with inserted English language scenes, entitled *Varan the Unbelievable*. The version we analyse was released on DVD in 2005 as part of the triple DVD set entitled *The DEFA Sci-Fi Collection*. This version (also re-released under the title *First Spaceship on Venus* (1962)) was subsequently dubbed into German and released in West Germany under the title *Raumschiff Venus antwortet nicht* (*Spaceship Venus doesn't reply*).

3. He supported himself as a scientific assistant.

4. See, for example, his succinct comments archived online at <http://english.lem.pl/index.php/works/novels/astronauts>. Accessed 21 June 2010.

5. *Гость из космоса* ('A Visitor From Outer Space'), the title contribution to a volume of short stories by Russian science fiction authors published in 2001.

Nagasaki and Hiroshima in 1945. Lem's book echoes a number of themes from Kazantsev's story, both in featuring an alien explosion at Tunguska as a starting point for the narrative and by inscribing references to the detonation of US nuclear bombs in Japan. Lem's book offers a striking description of the impact of the detonating fireball, which he calls a *bolid* (7), rendered in colourful Polish terms – such as the huge *łoskot* (a roaring, thunderous din) heard over a 750 metre radius with accompanying *dygotanie* (intense shaking and rumbling) (7). These descriptions attempt to convey the magnitude of the event and set the scene for the book's later representation of a post-apocalyptic planet Venus.

Lem's book is set in 2003, at a time when the world is unified under a communist system in which science and engineering play a dominant role. The narrative centres on an international team's attempt to decode an alien artefact uncovered in the blast area that scientists had identified as containing a message spool. Emphasising its otherworldliness, Lem describes how 'the wire was magnetized', as if electronic vibrations had been 'written' upon it, creating a kind of 'interplanetary letter' using a technique 'reminiscent of the recording of magnetic sounds on tape' (22).⁶ Later he comments that 'the language of the "report" reminded one not so much of speech, but more of a type of unusual music, since what might be considered to be words in Earthly contexts came out in the form of assorted "tones"' (24). Linguistic experts and scientists from all over the world constitute a Translation Commission that is employed to decipher the spool's message, which eventually reveals itself to be a data log of a Venusian spaceship's journey to Earth. The log also includes the worrying message that 'After two rotations the Earth will be radiated. When the radiation intensity drops to half, the Great Movement will commence' (34). This ominous message results in the Earth organising a group of international astronauts to travel to Venus to discover if there is indeed life there and, if there is, whether it is as hostile as the message suggests.

The book includes a detailed account of the building of the spacecraft (named the *Cosmokrator*)⁷ – complete with diagrams of its construction, information about the onboard computer (named Marax) and a description of the build-up to the launch. The craft makes rapid progress to Venus and the crew discover a planet whose civilisation has been destroyed in a civil war, leaving no survivors. The astronauts' day-to-day discoveries on the planet are detailed through the personal diary of the pilot, Robert Smith, who discovers some metallic insects, which he initially believes to be alive. These reveal themselves to be data stor-

6. All translations of the novel into English are the authors' own.

7. While the name carries an obvious allusion to the cosmos, it is a Greek term that translates as 'world builder/ruler', suggesting the import of the narrative and the astronauts' mission.

age units carrying information about the planet's former inhabitants. Through studying their data the crew learns the tragic story of the demise of the Venusians. The book concludes with the astronauts' return to Earth and ends with a clear polemic statement that Venusian capitalism had been the cause of the civil war and the planet's devastation.

The profile of *Astronauti* and Lem's subsequent work rose in parallel with the development of Soviet rocketry and the nature of the USSR's competition with the US in what has come to be known as the 'space race'. In mid-1956 the US and USSR announced plans to launch satellites into orbit. In a considerable publicity coup, the Soviets succeeded in launching the first manufactured object (*Sputnik 1*) into Earth orbit in October 1957. In 1959 the Soviet programme landed the first projectile on the moon (*Luna 2*) and secured international attention in 1961 with the first manned orbit of Earth, by Yuri Gagarin in *Vostok 1*. These successes led to Soviet space exploration being a major factor in the promotion of Communist technological superiority from the mid-1950s onwards. This aspect was also reflected in a new body of Russian sf material.

Russian sf cinema began in the pre-synch sound era with notable productions such as Yakov Protazanov's inter-planetary fantasy *Aelita (Queen of Mars; 1924)*. The genre subsided during World War II but re-emerged in the 1950s with Aleksandr Kozyr and Mikhail Kariukov's *Nebo Zovyot (Battle Beyond the Sun; 1959)*, a (relatively) sober tale of the USSR and the US competing to be the first power to land on Mars; and Pavel Klushantsev's somewhat more fantastic *Planeta Bur (1962)*, depicting a expedition to Venus that encounters a wide range of exotic and hostile flora and fauna.⁸ The decision by the East German and Polish state film bodies DEFA and Film Polski to collaborate on a feature film adaptation of Lem's *Astronauti* can be seen as part of a broader wave of Eastern European space-focused sf production during this period⁹ but, as subsequent sections elaborate, the film's sonic imagination and realisation,

8. Interestingly – given the Cold War climate of the period – rights for Western distribution for both films were subsequently acquired by American International Pictures, which used their special effects sequences as the bases for short sensationalist B-movies such as *Battle Beyond the Sun* (Corman and Coppola 1964) and *Voyage to the Planet of Prehistoric Women* (Bogdanovich 1966).

9. This also included Czechoslovakian director Jindrich Polák's *Ikarie XB1 (Icarus XB1 1962)* – an adaptation of Lem's 1955 novel *Oblók Magellana* featuring a spaceship's intergalactic travels in the twenty-fifth century. Along with ingenious set designs, the film score was also notable for its combination of sombre, atmospheric orchestration and futuristic electronic music sequences, provided by composer Zdeněk Liška. Like *Der Schweigende Stern/Milcząca Gwiazda*, the film was later acquired by an American distributor (American International) and released in a re-edited and overdubbed form (*Voyage to the End of the Universe*) in 1964. Sequences from the film also appeared in the director's 1963 children's feature *Klaun Ferdinand A Raketa (Clown Ferdinand and the Rocket)*.

cued by Lem's source novel, render it a significant *audio*-visual contribution to both that corpus and to sf film history in general.

DEFA, East German cinema and sf

Prior to the rise of the Nazis in the 1930s, Germany was a major international film producer of a number of strikingly ambitious and original films by directors such as Fritz Lang, Friedrich Murnau and Josef von Sternberg. Lang, in particular, was known for epic productions such as the futurist *Metropolis* (1927) and the space exploration feature *Die Frau im Mond* (*Woman in the Moon*; 1929). While the international distribution and success of German films declined markedly in the Nazi era, the national film studio Universum Film AG (UFA) continued to support a variety of genres, including a group of sf films directed by Harry Piel in 1933–34,¹⁰ which Florentine Strzelczyk has described as being located at 'the crossroads between the Weimar Republic and the Nazi era', applying 'the aesthetic inventory of the 1920s' while 'the narratives' economy and the solutions presented fold into the larger context of the futuristic promise of the Nazi cause' (3–4).

The Deutsche Film AG (DEFA) grew out of a film production group that coalesced in Soviet-occupied East Berlin in late 1945 and was formally constituted, with Soviet approval, in mid-1946.¹¹ During its first decade of operation, resources and opportunities for East German filmmakers were limited, but this situation improved following the death of long-serving Soviet leader Joseph Stalin in 1953 and the formal repudiation of many of his repressive policies by his successor Nikita Khrushchev in 1956. The mid- to late-1950s saw several popular neo-realist films made by directors such as Gerhard Klein and Wolfgang Kohlhaase, but this series was curtailed by strident ideological critiques of the directors' approaches in 1958. A number of filmmakers also explored other genres in the period 1959–63, including the sf film this article addresses. *Der Schweigende Stern*'s director, Kurt Maetzig, began his career working in film animation in the 1920s and completed a PhD on the film industry at the Technische Universität München in 1935. In 1946 he co-founded the cinema newsreel *Der Augenzeuge* in East Berlin and in the following year he directed one of East Germany's first box office hits, a wartime anti-fascist drama entitled *Ehe im Schatten*, and also received acclaim for directing an ambitious two-part

10. *Ein Unsichtbarer geht durch die Stadt* (1933), *Der Herr der Welt* (*Master of the World*; 1934) and *Die Welt ohne Maske* (*The World without a Mask*; 1934).

11. For more detailed discussions of DEFA see Allan and Sanford.

feature film on the life of pre-War German Communist Party leader Ernst Thälmann (*Sohn seiner Klasse* (1955) and *Führer seiner Klasse* (1956)).

DEFA's foray into sf film production and, in particular, its decision to approve the production of a 70 mm cinemascope-style feature¹² that was (by far) the most expensive project in its brief history was due, in no small part, to Maetzig's profile and his successful delivery of a popular hagiographical film on a revered Communist pioneer. But, as Stefan Soldovieri's detailed (1998) production study makes apparent, while Maetzig succeeded in delivering the final film in late 1959, its production was complex and fraught, with intense official scrutiny of the script and an estimated twelve rewrites by different teams of writers before the East German authorities finally approved its blend of sf themes and explicit ideological messages (many of which focused the more general cautionary tale presented in Lem's book into a more specific anti-American stance).

As Soldovieri documents, the Polish film production group Illuzjon drafted a screen adaptation of the novel in 1956. While this was shelved, it subsequently provided a basis for two screenwriters associated with DEFA, Joachim Barckhausen and Alexander Stenbock-Fermar, who reworked this in the following year into a project that bore the title of the German translation of Lem's original novel (*Der Planet des Todes*). Maetzig intervened in the project at this stage by requesting that the writers follow a more realist sf aesthetic, writing a formal response to the first DEFA treatment that argued 'The film's genre is that of the realist-technological-utopia. All of the technology shown in the film should correspond to the real potential of the various sciences, but political and social elements must also be probable' (qtd in Soldovieri 386).

Firming up the project as an East German–Polish co-production, two new writers were assigned for a major revision, Iluzjon's veteran screenwriter Jan Fehke and East German writer-director Günther Reisch. Despite some disagreements over inflection, their revised treatment was accepted as the basis for a joint DEFA/Iluzjon co-production agreement signed in late 1957. One of the more surprising aspects of the project at this stage is that DEFA pursued a number of Western production partners in order to spread production costs, to ensure distribution in Western markets and to attract Western stars who could boost the film's international profile. But despite lengthy negotiations a projected collaboration with French company Pathé fell through and the film resumed as a bi-national co-production. This arrangement experienced a further crisis when Iluzjon rejected a third major rewrite commissioned by DEFA and

12. Cinemascope was an anamorphic lens-based widescreen format that became popular in the mid-1950s, being used in Herbert Wilcox's pioneering sf feature *Forbidden Planet* (US 1956), for instance. Totalvision was an East German version of the American technology.

insisted on further revisions, which were completed in late 1958. Production finally began in early 1959 and the separate language versions opened in East Germany and Poland in early 1960.¹³ While information on the film's financial co-production arrangements is scant, Film Polski's commitment appears to have involved a minor degree of financing and the collaboration of Polish film technicians, composers and sound personnel with a predominantly East German film crew. As the following section details, the involvement of Polish sound personnel reflects the development of modernist musical composition, sound recording and experimentation in Poland in the post-War period.

Electro-acoustic sound and Eastern European cinema

The late 1940s and early 1950s saw the rise of a new form of electro-acoustic sound composition in Europe that primarily utilised manipulated and/or collaged audio tape. This was an *avant garde* practice related to – but distinctly different from – modernist music. The pioneers of this style were Pierre Schaffer, who developed an approach known as *musique concrète* in Paris, and members of the Köln Elektronische Musik Studio in West Germany. Polish work in this field began in 1957 when Józef Patkowski and Krzysztof Szlifirski established a small facility at Polskie Radio (known as the Studio Eksperymentalne) during the period of (relative) liberalisation that occurred after Stalin's death. During the late 1950s and 1960s the Studio involved itself in a variety of activities including musical composition, recorded audio works, live theatrical performance and the production of radio material and soundtrack elements for film and television.¹⁴ The pioneers of the latter approach were Włodzimierz Kotoński and Andrzej Markowski (Figure 1), who began experimenting with electro-acoustic composition for film scores soon after the studio's inception.

Kotoński worked with animation directors such as Jan Lenica on a number of short films in the late 1950s and early 1960s. One of the most notable of these was Lenica's *Nowy Janko Muzykant* (1961), a surrealistic narrative using cut-out animation that featured UFOs, mechanical cows and money falling from the skies. Kotoński's score includes musical collages, *musique concrète*, electronic tone sequences and excerpts of pre-recorded music. Markowski began working in film in the mid-1950s, collaborating with many of the key directors of the

13. See Ciesla for an analysis of the film and DEFA's institutional culture.

14. See Szlifirski for further discussion. One of the notable composers associated with the early phase of the studio was Krzysztof Penderecki, who went on to become a celebrated concert composer and who also wrote music for feature films such as *The Saragossa Manuscript* (Has Poland 1965).



Figure 1. Andrzej Markowski (standing) and technician (identity unknown) in the Studio Eksperymentalne utilising (respectively) sound filters and an oscillator (1959). Courtesy Krzysztof Szlifirski

Polish New Wave that emerged in the mid- to late-1950s, writing orchestral scores for Andrzej Wajda's debut feature *Pokolenie* (1954), Jan Rybkowski's Neo-Realist wartime thriller *Godziny Nadziei* (1955) and Jerzy Kawalerowicz's complex murder mystery *Cień* (1956), before going on to become conductor of the Cracow Philharmonic Orchestra from 1958 to 1964. For his music for *Der Schweigende Stern/Milcząca Gwiazda*, Markowski combined opening and concluding orchestral sequences with a development of the type of experimental audio work he had previously explored at the Studio Eksperymentalne in collaboration with composer and sound engineer Krzysztof Szlifirski. The two had first worked together on the score for Hubert Drapella's feature *Historia jednego myśliwca* (1958), a film about the heroic exploits of a Polish fighter pilot participating in the aerial 'Battle of Britain'. The film's soundtrack is notably complex and combines orchestral and solo instrumental passages with prominently mixed mechanical noises, sequences impressionistically representing the sounds of many aeroplanes in flight and combat, vocal collages and synthesised electronic bleeps and rumbles (the latter representing the signals processed by Fighter Command's control room).

Sound production for *Der Schweigende Stern/Milcząca Gwiazda* was split between Berlin and Warsaw, with the opening and closing orchestral sequences and dialogue tracks recorded in Berlin by German sound engineer Gunter Witt and the electronic sounds/music produced by Markowski and Szlifirski in Warsaw. The electronic sound sequences were produced after the final cut of the film was viewed by Markowski, and the various elements were later integrated into a four-track mix at DEFA's sound studios in Berlin-Babelsberg.

Interviewed in 2009 by the authors, Szlifirski recalled that his collaboration with Markowski was undertaken with minimal oversight from the film's director and was perceived as an opportunity to try to create an innovative score without following models from previous sound practice and, specifically, with no inspiration from Louis and Bebe Barron's score for *Forbidden Planet*, the film's most significant sonic predecessor. While the Barrons' score for *Forbidden Planet* almost exclusively utilised sounds produced by oscillators that were subject to further processing (Leydon; Wierzbicki), Szlifirski has described the production of the soundtrack for *Der Schweigende Stern/Milcząca Gwiazda* as using both electronic sounds and 'natural sounds recorded with microphone

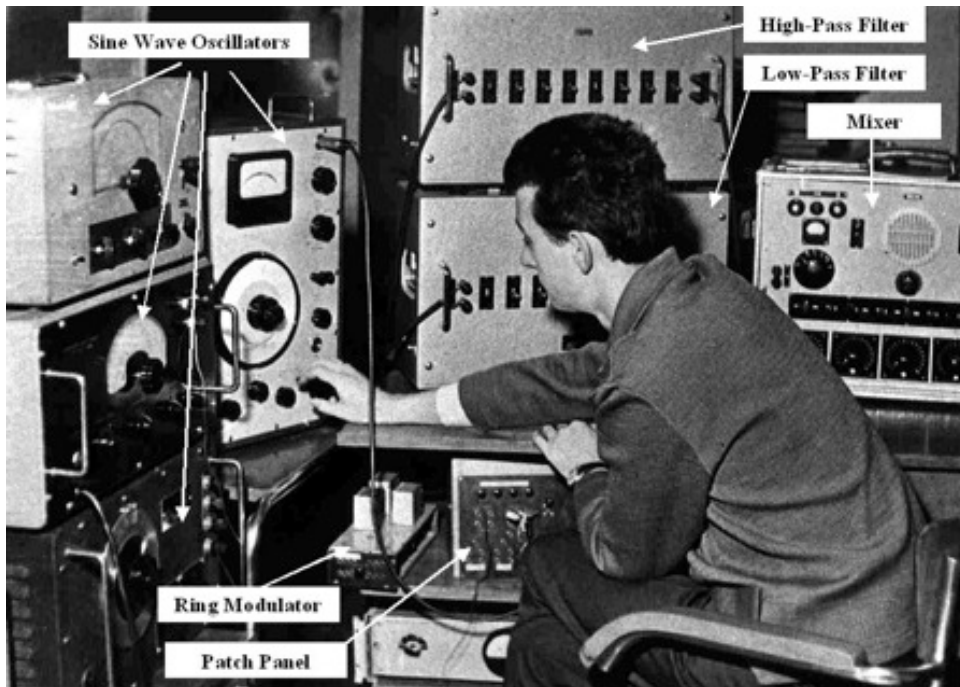


Figure 2. Krzysztof Szlifirski in Studio Eksperymentalne, with equipment labelled (1959).
Courtesy Krzysztof Szlifirski

and then transformed with electro-acoustical devices with the recorded sounds being transposed down in pitch and time by variable magnetic tape speed' (personal interview, 2009). Figure 2 provides an illustration of the sound-generating and processing set-up utilised for the score's production, comprising sine wave oscillators, a ring modulator, filters, patch panels and a four-track mixer. Sine wave oscillators were used to create the electronic tonalities heard as mechanical ambiances on board the *Cosmokrator*, the ring modulator was used to process speech patterns to produce various mechanised voices and the filters were used to produce what Szlifirski has described as 'various coloured noises' (interview).

The film's opening orchestral sequence stresses the dramatic nature of the film's narrative through its dramatic dynamics and orchestration. The title sequence opens with a string-dominated orchestral passage. Descending strings in a minor scale increase in volume and are joined by brass and staccato percussion as the film's title appears on-screen (with staccato woodblock patterns suggesting the urgency of a tapped Morse code message). Brass and woodblock elements create a rhythmic and dynamic contrast to the violins throughout, building in dominance and then fading. Anxiety and otherworldliness are reflected in the dramatic transitions between soft strings and the 'all-in' crescendos of instruments that deliver uncomfortable blasts of sound. Building tension in a manner common to Hollywood thriller scores of the period, these elements intensify to a crescendo as the screen reveals an alien communication device unearthed in the Gobi desert. A discordant rhythm is tapped out on what sounds like open piano strings, leading to all instruments playing rhythms at an escalating pace until we hear the first electronic sound at the end of the credits – a short synthesiser chord sequence.

After this introduction, the main body of the film proceeds without orchestral score. The soundtrack combines dialogue, ambience (background environmental sound), sound effects and electronic music in a congruent, heavily technologised soundscape. Component sounds are mixed so as to provide a sonic continuum without, for example, the abrupt sonic 'stingers' used to create drama in action films or orchestral emphases. Orchestral score is only featured on two other occasions within the film. The first is in the scene when it is decided that an attempt will be made to contact Venus. The sequence used to dramatise this decision is short (approximately 23 seconds) and sonically similar to the film's opening music, with strings and brass dominating. Strings build into a sweeping crescendo with a rhythmic emphasis provided by the brass section highlighting the magnitude of the scientist's decision. The orchestral scoring is blended with the dialogue and the electronic sounds emanating from equipment being used by actors on screen. The scoring is reduced back down to softer

strings when the moon station is shown before fading out completely. Following this sequence, orchestral score only returns to accompany the end credits where its solemn intensity serves to underline the film's cautionary message.

Despite the absence of sustained passages of conventional orchestral music, the blending of soundtrack elements in the film often operates in a similar manner to musical scoring through techniques such as building up narrative tension by introducing sound effects and ambience gradually. One example of this occurs while the crew is preparing to launch the *Cosmokrator*. The activity of engineers and ground support staff provides a constant aural backdrop that is overlaid by the crew's conversations and various mechanical noises, creating a crowded mix whose volume and intensity is further heightened – and then calmed and released – as the rocket blasts off. Indeed, such high-tension scenes embody a *synchrenis* (a blending and 'reconciliation') between sound effects, dialogue, electronic effects and ambience. A further example occurs when the *Cosmokrator*'s crew is faced with an impending meteor storm. Oscillating sounds emanating from the spaceship's computer are blended with the stressed dialogue of the crew, with the oscillations building in pitch and tempo as the ship struggles against the storm (and with the sound rapidly calming as control is regained).

The aural representation of advanced technologies provides a significant aspect of the film's impact. The 'world's largest computer', for instance, employed by the Translation Commission to decipher the message on the Venusian spool, appears as a metallic wall with various buttons and a screen showing sound wave patterns. As such it is monolithic but hardly dramatic. The nature, complexity and urgency of its task are primarily conveyed by constant busy bleeps and oscillations. Similarly – as in later sf films such as *Barbarella* (Vadim France/Italy 1968) – the *Cosmokrator*'s onboard computer is auralised (and its sophistication signified) by a synthetic human voice (with effects such as reverb and delay giving it the necessary artificiality to indicate its cybernetic origins).

Following its opening, music-dominated title sequence, the film establishes four distinct sound environments:

- Earth;
- the *Cosmokrator*;
- the Luna 3 station (briefly); and
- Venus.

Each of these environments is provided with separate sonic signifiers to distinguish it and to provide a distinct sonic character. To deliver these, the soundtrack deploys what were (at the moment of the film's production, at least) *avant*

Table 1. Sonic schema of *Der Schweigende Stern/Milcząca Gwiazda*

<i>Realm</i>	Earth	Cosmokrator	Luna 3	Venus
Domain	Planet Earth in the year 1970.	Spaceship with eight astronauts onboard, an enclosed space.	Communications station on the moon run by humans.	Isolated, desolate landscape with no visible signs of life.
Ambience	Mechanical noises, the hum of machinery and laboratory activity. Launch pad noises – jet engines, air pressure, aircraft landing and taking off, transport vehicles.	Beeps of computer, tapping of keys, conversation of astronauts, the oscillations of the spool. Constant humming and buzzing interspersed with moments of silence.	Silence, screeching electronic pulses, background Morse code-like beeps.	Wind, electronic humming, oscillator sounds, Theremin-like tones, ^a electronic metallic whipping sounds.
Contact	Conversation, loudspeaker calls, orders to ground staff, the crowd cheering.	Radio transmissions between Earth and Alpha 3, loudspeaker calls.	Radio transmissions, discussion between workers.	Radio-like transmissions, face-to-face conversations between astronauts.
Mobility	Walking, cars, aeroplane, spacecraft.	Walking.	n/a	Walking, transport in spaceship modules.
Voice	Reporter-style, conversational, scientific lectures, arguments between scientific leaders.	Scientific jargon, commands, conversation between astronauts, Brinkmann's oral log.	Radio-like transmissions, professional, succinct.	Oscillating beeps and hums.

^a Produced by an adapted oscillator controlled by Markowski in a similar manner to the Theremin.

garde and/or 'experimental' sound techniques that have now become part of a standard sonic palette for sf cinema.¹⁵

Drawing on Philip Brophy's framework of environmental sound analysis, the schema shown in Table 1 can be identified in *Der Schweigende Stern/Milcząca Gwiazda*. The film follows a standard pattern for twentieth-century sf cinema by combining the representation of an earthly near-future and an alien world visited by humans using advanced technology. As a result, the overarching sonic scope of the film draws on an established repertoire of recognisable sonic signifiers of mechanical, communicative and/or computer technologies (enhanced to suggest a general high-*techness*) and, on the alien world, a further palette of musical and sonic elements deployed to signify the innate otherworldliness of the planet and/or its inhabitants.

15. See Hayward for discussion of these and their development.

The futuristic soundworld of Earth's language laboratories, launch site, the moon station and the *Cosmokrator* is notably functional. Machines hum and whirr, computers beep: all is busy, suggesting a technological efficiency and purpose reflective of the vision of post-war Communist technocracy. For much of the narrative, the drama occurs at a meta-level, reflecting the inter-planetary issue rather than the actions and interactions of the core group of astronauts engaged on the mission to Venus. Indeed, for contemporary Western audiences, there is a cool stiltedness to almost all of the crew's interactions on Earth and much of their interaction onboard the *Cosmokrator*, resulting from two interrelated elements: the film's extensive use of documentary-style narration to communicate the plot and scenario, and the use of socialist realist scripting, acting and camera styles.

Narration is used to inform the audience about plot developments and relevant aspects of characters' backgrounds. In terms of the establishment of sound environments, the narrator/reporter changes depending on the images on-screen. In the opening scenes of the film an anonymous narrator is used to introduce the plot. This voice is authoritative and speaks without mediation to the audience. Next, a female reporter embedded in the diegesis acts as the narrator while the astronauts are on Earth. Once the astronauts are on the *Cosmokrator*, the oral log of Professor Brinkmann (Günther Simon) takes on the role of narration. By using a reporter and one of the astronauts as narrators, the dialogue is internalised via the visual images that appear to represent their viewpoint, and is more subtly integrated into the plot than if the initial narrator were used throughout the entire film. This can be perceived as a synchronisation that recognises and accommodates Doane's assertion that synchronous dialogue remains the dominant form of sonic representation in cinema. All the main characters are introduced to the audience by the narrator and an appropriate accompanying image. The announcement 'this is Doctor Chen Yu', for example, is accompanied by an image of a man of Asian appearance (Tang Hua-Ta) in a professional suit holding a notepad. Each character is further updated by Brinkmann's narration through his oral log and the screen shows the crew attending to their onboard duties, as described by the log. These activities suggest and document the passage of time as the crew move closer to their destination, with the log also foreshadowing what is to follow with direct statements such as 'soon we will be in Venus's orbit'.

Socialist realism was the dominant aesthetic of Eastern Bloc drama between the early 1930s and the mid- to late 1950s. It stressed the nobility and stolidity of the worker and represented human feelings and interactions within overarching determinants of the class struggle and national political purpose

(marginalising frivolity, constraining passion and emphasising sobriety). Dramatic scripting often sacrificed character 'realism' for didacticism, resulting in sustained declamatory passages, and any emotional exchanges were attenuated and overtly connected to issues of political struggle and judgment. As Cornwall and Christian characterise it, the language used in socialist realist texts was circumscribed:

There were to be no sub-standard locutions, no dialecticisms, no scatology, and no abstruse or long-winded expressions – let alone the neologisms and trans-sense language that had been favoured by the Russian *avant garde*. In consequence, most socialist realist writers used only a somewhat *comme il faut* version [of standard language] resulting often in stilted dialogue. (55)

One result of such scripting is that vocal acting styles eschewed the intimate and the dramatic extremes of Western cinema in the same period. Despite stylistic diversification elsewhere in the Eastern Bloc in the late 1950s and 1960s, East German cinema largely retained the socialist realist aesthetic manifest in *Der Schweigende Stern/Milcząca Gwiazda*. But despite the film's retention of socialist realist acting and scripting styles, the otherworldliness of the film's Venusian sequences allowed for a relaxing of dominant Soviet-style aesthetics.

Freely interpreting and embellishing the scenario and action of Lem's source novel, the film represents the Venusian surface as a bleak, shadowy and stormy environment overlaid by mysterious wisps of gas. The surface is first visited by Brinkmann in a small landing capsule that touches down in an eerie, crystalised forest. Brinkmann is immediately isolated by his inability to communicate with the *Cosmoskrator*. As the ship's crew quickly realise, their communications are unable to penetrate an atmosphere that has been ionised by radiation. Brinkmann and the crew soon encounter another problem, when they interpret an explosion on the planet as an attack by hostile aliens. Fleeing the explosion, Brinkmann falls into a small cavern where he encounters metallic 'insects', one of which he pockets before climbing out and returning to the surface where he meets other crew members who have come to his aid. Upon analysis, these 'insects' reveal themselves to be mobile storage devices that have recorded Venusian speech on memory chips. Puzzled by the Venusians' reluctance to show themselves, the crew work to decode the devices, eventually deducing that the planet was destroyed by a technical malfunction that occurred as it was about to launch a massive nuclear attack on Earth. After accidentally triggering the residual mechanism, they manage to reverse its energy flows, allowing the *Cosmoskrator* to leave but at the cost of several fatalities amongst the crew.

The astronauts' very first footfall on the planet, as Brinkmann exits his landing capsule, signals the planet's otherness. Brinkmann's steps rattle in what sounds like fragments of broken glass with harsh, extended electronic sounds filling the background. Throughout the Venusian sequence, Markowski and Szlifirski represent the environment and active components of the planet using electronic music and sound effects that eschew conventional ambiances, mechanical noises and/or musical formulae to produce an integrated alien acoustic realm. This results in a highly impressionist representation of the planet. Instead of a soundscape that comprises discrete (pseudo-)ambient sounds, sonic signifiers of alien technologies and/or musical accompaniments in a combined sound mix, a range of electronic tonalities fulfil these various functions. Even the environmental activities of the planet are rendered with (and accentuated by) electronic signifiers (such as lightning being accompanied by electronic 'whipcrack' noises). This leads to an uncertainty. The surface of the planet is sonically introduced through a mixture of oscillating tones into which, during subsequent explorations, electronic beats and pulses recur as background noise. Are they the ambient sounds of the planet? Of hidden technologies and/or aliens? Or simply the sounds that accompany the explorer's passage?

The residual sounds of (what are soon realised to be) the extinct aliens are also both ambiguous and resolutely other. The metallic insectoids emit electronic pulses and roboticised chipmunk-like noises as they apparently 'come to life'. When the astronauts find what they believe to be the Venusian civilisation's 'nerve centre', it (literally) signals its presence through a strong electronic hum, generated by the structure itself as it emits power and sound waves, lingering on long after its designers' demise. The Venusian soundworld is rich, complex and open to interpretation. Comprised of synthesised sounds and sound effects it is – in earthly terms, at least – unnatural. It can be interpreted, variously, as an 'organic' alien world where electronic and electronic-sounding elements comprise the sonic palette, as the diegesis of a depopulated world or, more apocalyptically, as a post-nuclear holocaust environment where the remnant natural sound world has been supplanted by an electronic pollution of all sound functions. All of these are forbidding, unsettling locales, as alien and unknowable as the pool of black sludge that emits intense oscillating sounds as it activates itself and menaces the astronauts. The soundscapes are resolutely dystopic and – amidst their intensity – the single remnant of the aliens' actual form, a nuclear blast shadow on a wall, is eloquently silent.

Conclusion

Der Schweigende Stern/Milcząca Gwiazda closes its dystopic alien fantasia with a return to Earth. The *Cosmokrator* touches down safely at its base, where the astronauts are greeted by an eager throng who hang on their every word. Their speech, alternated between surviving crew members to emphasise the collectivity of their mission and vision, first acknowledges those members who died and then gravely announces that 'a lethal threat from above has imperilled our Earth. We witnessed what was intended for us and how this attack would have ended'. This is straightforward and consistent with the film's overt message, but the speech then opens a wider scenario as the astronauts declare that 'Two things must be done for everyone. We must make sure our Earth continues to blossom. And then we should try and discover life on other planets. And we should do it soon. As soon as possible, friends'. This sequence triggers a brief reprise of the film's opening score, simultaneously stirring and unsettling through its dissonance, as the astronauts and welcoming party unite, linking arms to provide the final image of the film.

This is not the tidy ending that the film's narrative seemed to foreshadow. The fate of the Venusians weighs heavily on the minds of the astronauts and reminds them of the comforting fertility of Earth, with the fragile and optimistic image of blossoms so starkly different from the harsh, lifeless barrens of Venus. But it does not trigger a *retreat* to Earth; the speech specifically targets interplanetary exploration as a priority. The nuclear holocaust precipitated by Venusians is implicitly conveyed as something that could have been avoided if more efficient and dedicated socialist endeavour had been present. The mission of Earth is grave and obvious: to proselytise to other worlds and bring the universe under a safe and sane socialist order.

The ending of the film emphasises the importance of maintaining an internationally co-operative Earth united under Communism. The sound realms associated with it are busy and functional. They offer a version of an efficient, mechanised future. The Venusian realm, rendered in dark, unsettling and often dissonant tones, represents both itself (as an alien world devastated by nuclear conflict) and a model of what Earth might be like if the nuclear weapons race and (in the film's Eastern Bloc vision) Western capitalist aggression proceed unchecked. But as with any text, multiple readings and multiple possibilities for engagement are present. While the film is overtly didactic and stresses its specific ideologies and interpretations throughout the narrative, it is also open to interpretation as *escapist*. Its genre context allows the film, in its Venusian

sequences at least, to revisit some of the very *avant gardism* of early Communist art that precipitated the socialist realist aesthetic as an attempt to restrict and channel all artistic expression to functional purposes. The film's otherworldly scenes allow it to transfer the germ of sonic experimentation that had quietly established itself in Polskie Radio's Studio Eksperymentalne into DEFA and, more broadly, sow the seeds of a more general post-Stalin liberalisation of artistic expression into the rigidly dogmatic East German cultural environment. In this manner, the sounds of planet Venus in the film are also, paradoxically, fertile, open-ended and optimistic, suggesting new possibilities for sonic experimentation and expression even within the heart of an intensely regulated cultural sector.

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