The 1969 film, *The Structure of Crystal* (*Struktura kryształu*) marked the cinematic debut of Polish filmmaker Krzysztof Zanussi in the wake of the March 1968 sociocultural unrest and political turmoil in Poland. The film introduced into Polish cinema a new aesthetic—improvised dialogue filmed on location with a minimal narrative development—and a new protagonist: the intellectual. Zanussi’s film revolves around two scientists with opposing world-views. Marek, a career-driven physicist and past fellow at Harvard University and an institute in the Soviet Union, visits a former classmate Jan and his wife Anna in the countryside, where Jan retreated after a mountain climbing accident five years earlier. In the two well-known scenes from the film, the friends converse about their work—Marek about a specialized problem in crystal physics and Jan about the philosophical concept of imaginary numbers—only to realize that their intellectual pursuits both fail to engage the other and also reveal fundamentally different ethical positions in the two men.

Marek enjoys reaping a myriad of benefits from his ambition (such as publications, property, and international travel), while Jan finds meaning in contemplation, nature, and acts of altruism. The men find the other’s internal marker of success inconsequential and neither budges from his position during their several days spent together. Yet this dynamic is tipped ever so slightly one way or another in the film, creating the perception of ambivalence on the part of the filmmaker Zanussi. This complicated relationship, as I will show, is conveyed largely by the underscore.

The film composer Wojciech Kilar’s music is a powerful cinematic device in the symmetrical construction of Zanussi’s film. The composer uses a handful of
bare themes, built of short, repeated motifs scored for the vibraphone and the flute or the piano, sparingly throughout the film. A distinction is drawn musically among three basic types of scenes: the scenes of failed connection in the monologues, the scenes of enjoyable interaction, and the scenes of reflection. Kilar’s underscoring continuously reshapes the grounds of understanding between the men’s antagonistic worldviews at the film’s core, and ultimately delivers a powerful critique of the social reality of post-1968 Poland. I will trace this dialectical process of the music by building on Gilles Deleuze’s idea of the crystal-image and explore its potential for a cultural reading of film music.

**THE CRYSTAL-IMAGE**

Deleuze attributes the inherent ambivalence of Zanussi’s cinema to the filmmaker’s ability to move indiscernibly between antithetical concepts. In his two *Cinema* books, Deleuze distinguishes between the movement-image (*Cinema 1*) and the time-image (*Cinema 2*). His theory of the cinematic time-image is based on Henri Bergson’s notion of memory as a virtual totality of recollections that coalesce in a sensation experienced in the present moment (194). The idea that time simultaneously splits itself into “the present that passes” and “the past which is preserved” is fundamental to Deleuze’s understanding of cinema as an art form—one that is less concerned with language or narrative than with becoming a virtual reflection of reality. Deleuze’s examples of this operation on screen encompass the mirror-image, the recollection-image, and the dream-image. In such images, ever different and vaster circuits develop into “corresponding to deeper and deeper layers of reality and higher and higher levels of memory or thought” (69). By contrast, the most elementary image—one in which the distinction between the actual and the virtual is indiscernible—is the crystal-image. Therein we can see “time in the pure state, the very distinction between the two images which keeps on reconstituting itself” (82). This process of perpetual reconstitution creates different formations of the crystal-image.

One crystalline state that Deleuze identifies in *The Structure of Crystal* is the relationship of “the limpid and the opaque” in the two monologue scenes in which the men discuss the research from which they derive meaning in their lives. Between the two scientists, one “shines and already possesses all the light of official science, whilst the other has withdrawn into an opaque life and obscure tasks” (71). However, the reverse interpretation is also true, as
Deleuze shows. When Jan philosophizes about the theory of complex numbers, it is he who shines, “even if this light is no longer that of science, even if it becomes more like faith as in an Augustinian ‘illumination’” (71). In that instance, Marek, the representative of pure science, becomes opaque in his specialized knowledge. The film thus continuously reconfigures who or what comes into actual prominence or sinks into virtual obscurity. According to Deleuze, Zanussi achieves these simultaneously dual perspectives by moving seamlessly between abstract concepts—“religious, metaphysical, or scientific content”—and concrete actions—“the most every day and trivial determination” (71). These crystal-image reconfigurations perpetually throw into doubt which worldview the film supports.

Deleuze characterizes another manifestation of the crystal-image as “the internal disposition of a seed in relation to the environment” (71). He relates this crystalline formation to the prevalence of weather and nature themes in Zanussi’s films and the symbiotic linking of the protagonists’ internal positions to these external conditions. “What will be the seed with which we can sow the environment, this desert-like and snowy expanse which is opened out in Zanussi’s films? Or else, despite men’s efforts, will the environment remain amorphous (...)?” (Deleuze 71). The word “environment” in this quote can be taken to mean the natural surroundings as well as the social circumstances of the protagonists. Zanussi shows the environment both in his long takes of the vastness of wintery landscapes as well as in close-up shots of farmers at a tavern. Since Jan and Marek’s positions are constantly being reconfigured as either the limpid or the opaque, the question about which worldview (the seed) will be more impactful on their surroundings (the environment) is left open-ended in the film. Kilar’s music for the film may offer interpretative pointers to these questions.

ANALYSIS OF MUSIC INSIDE THE CRYSTAL-IMAGE

Music is arguably the key cinematic component of the crystal-image in Zanussi’s film. The highly ordered structure of the titular prism—the crystal—serves as a metaphor for all aspects of the film’s conception including the granular details of the music. From the “microscopic” arrangements of music and image, like the lattices of a crystal, emerge larger constructs and symmetrical connections within the film. I analyse these crystalline music-images in what I call the reflective scenes, the monologues, and the active scenes.
a) The reflective scenes

The musical opening of *The Structure of Crystal* highlights the Deleuzian relationship of the seed to the environment. The underscored long takes of frozen rural landscapes are intercut with medium shots (without music) of Jan and Anna waiting by the road for their guest (Fig.1a-b). Visually, the husband and wife form two diminutive figures set against the vastness of snow-covered fields. In these long shots, a horse-drawn wagon can be seen travelling to an unknown destination and returning, and two children heading home from school pass by the couple. In the medium shots, Jan and Anna comment about the cold, an outdated flyer for a movie screening at the school, and that the schoolchildren are growing up fast. This minimal dialogue is intercut with the three long shots. Other than the dialogue and the music, the ambient sounds of dog barks and the footsteps on the frozen snow are sonically present throughout the opening. Other environmental sounds blend with the underscoring. The sound of the sleigh bell morphs into the pitch E on the vibraphone and the E-flat in the flute is the pitch of the car horn that marks Marek’s arrival.

Fig. 1 (a-b). Stills from the opening sequence
During these narratively sparse scenes while the couple awaits their tardy friend in a wintery rural location—the tripartite motivic score comes into focus. The parts written for the vibraphone and the flute grow out of minimal melodic gestures on each instrument (Example 1). The melodic motif in the flute is based on two-note cells above the note E-flat: the ascending major second and the ascending minor third. Kilar varies the order, the pace, and the repetition of these two primal cells, effectively expanding or contracting each time the melodic line by adding or subtracting measures of rest up until the pattern reverts to its seed pitch of E-flat. The vibraphone starkly contrasts the additive structure heard in the flute by building a different chord on the starting pitch of E in each of the three sections: a succession of perfect fourths in section 1, tritones in section 2, and perfect fifths in section 3. The longest perfect cycle is juxtaposed with the shortest, with the tritone as the symmetrical division of the octave. This juxtaposition also creates a relationship of dissonance and consonance with the flute. The first sound is starkly dissonant (the melodic E-flat clashes with the root pitch of E). This dissonance persists into the second section but is tempered as the tritone, the A-sharp, enharmonically creates a consonant triad with the E-flat and the G-flat in the melodic line. The final cadence, too, is consonant, where the F-sharp and C-sharp blend with the E-flat in the flute in a minor seventh chord. Two independent, converse “seed” processes coexist within the overall structure of this opening theme: the forward-moving impulse of the harmonic progression and the halting circular energy of the additive melodic cells in the three sections.
The opening sequence establishes the foundational audiovisual experience of the film. Using stripped-down instrumentation, sparse motives, jarring clusters, and irregular pacing, Kilar approaches the score from a position opposite to the conventional “unheard melodies” in classical cinema (Gorbman). The composer’s economical approach calls attention to the inexpressive, non-tellectual underscoring in the images of bare wintery environment in which seemingly nothing of note happens. This awareness of the presence of music in the film upends the traditional “suturing” relationship of spectator to screen through music. Rather, the music in *The Structure of Crystal* prompts a con-

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1 I transcribed the opening theme as it appears in the original folio. In the film, we hear the three distinct sections of the theme with the dialogue between the two characters interspersed between them. Also, we hear a G-flat in bar 21, instead of the notated F.
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scious engagement with the images being seen. Kilar’s stated intention for the music was indeed to provide an “intellectual commentary” in Zanussi’s films (Podobińska and Polony 48). What this establishing scene cultivates via the music is a mode of disinterested observation and direct description. The Brechtian distancing effect established in the opening persists to a degree in the other reflective images.

The less direct reflective music-images in The Structure of Crystal are more symbolic representations of the complex ways of understanding life. These images are prompted by antithetical exchanges between the characters. In the scene at the country tavern, Marek surveys the room and distills the feeling of collective hopelessness in the farmers’ faces; whereas Jan, who knows some of these farmers personally, responds saying “Zależy jak się patrzy”, by which he means that the perception of hopelessness is dependent on how one sees the farmers (00:26:05-00:27:39). A more abstract illustration of the same idea are the close-ups of honeycomb hexagons moving in and out of focus to form a visual metaphor for the swiftly shifting perspectives (00:21:16) (Fig. 2a-b). Similarly, the counterpoint of the photographs the two men share—Marek’s photographs of American skyscrapers and Jan’s photographs of mountain climbing (00:29:28; 00:41:26)—reflect the many dualities represented in the film: city versus nature, action versus contemplation, diegetic sounds of jazz versus classical music, and so on. Regardless of the dialectic narrative framing of these symbolic images, the underscoring remains, like that of the opening sequence, stripped-down to a few essential motives. Ascending open fifths in the vibraphone underscore the shots of the photographs. Oscillating chords in the piano are heard when the honeycomb image is shown. A rhythmically varied fragment taken from the opening theme is present in the tavern scene. While these symbolic images can be interpreted as individual point-of-view shots of the characters, the minimal underscoring linking the crystal-images together opens up a fuller representation of reality.

The same theme in the piano underscores the two monologues in the exact same way. Both time, the music fades in as each scientist’s animated explanations of his research fade out and, in turn, the music dies out as the ending of each speech is heard. No ambient sounds can be heard on the soundtrack. The theme alternates between two familiar melodic cells on E-flat: the ascending minor second and the ascending minor third (Example 2). Written in 3/4 meter, the alternating eight-note couplings of E-flat/F and E-flat/G form larger two-measure patterns. The left-hand repeats one chord per measure in an overarching harmonic progression from the A-flat major triad to the E-flat major triad. The E-flat can be heard as the dominant upon the reprise (with the melody transposed at an octave higher), though the sense of A-flat as a tonic is fleeting. The cycle repeats but is abandoned mid-way, inconclusively, a second time. The same incomplete fragment is heard, albeit slightly faster, during the second (Jan’s) monologue (00:14:12; 00:34:44) (Fig. 3a-b).
Example 2: Transcription from Wojciech Kilar, Struktura kryształu, manuscript, 1966, Sheet Music Collection, Filmoteka Narodowa, Warsaw

Fig. 3 a-b: Stills from each monologue
The two scenes function as one diametrically opposed crystal-image: one scientist shares the intellectual process of his pursuit with another who lacks the tools to grasp this scholarly endeavour. Each speaker’s vivid gestures convey unguarded excitement about this own topic; while each listener’s faltering responses communicate disinterest in it. Music represents both perspectives in this dual image of the animated speaker and the passive listener. We can possibly hear the harmonic movement beneath the repetitious melodic line convey a sense of drive and determination that both men share about the process of discovery, despite their diverging interests. But we may also hear the music as underscoring the refusal of the listener to engage with another point of view, effectively “silencing” the content of the spoken explanations. This way of hearing the scene shifts the narration’s focus from the “external focalization” of the speakers’ spirited demonstrations to the “internal focalization” of the listeners’ internal doubts that engulf the scene (Heldt 124-127). Either way, the music helps articulate the deep-seated divisions—the opaque qualities of the crystal-image—between the two men.

Marek and Jan are unable to communicate with each other due to the opposing value systems that sustain their individual intellectual pursuits. Marek pursues research into crystal physics out of a desire to specialize in his field and succeed in his profession. When confronted by Jan, who uncovers that Marek appropriated findings of a smaller research lab, Marek shows no regrets over giving his team a competitive edge through theft. In turn, Marek despises seeing his friend wasting his productive years on philosophical musings and routine meteorological observations in which Marek sees a dead end—if not, literally death. Even upon learning that Jan barely survived a mountain climbing accident, Marek cannot understand how Jan could find contentment with living a contemplative life in the country.

c) The active scenes

The piano theme underscoring the monologues also accompanies scenes of domestic life in the country that show the friends enjoying each other’s company. The two main action scenes are filmed with the uncharacteristically erratic movement of a hand-held camera moving around Marek, Jan, and Anna. The first such scene shows the domestic chores of rural living: collecting well water, baking bread, removing honeycombs from a hive (00:20:20). The second action scene involves an exhilarating horse drawn sleigh ride (00:41:58). Both scenes convey a sense of enjoyment as the men are shown laughing but the sleigh ride scene is the only one in which laughter is actually heard over
the music on the soundtrack. Both images are offset by a probing comment from Marek about how Jan fills his days and about his recovery after the climbing accident. The two scenes are also linked to a reflective crystal-image containing the motivic material found in the piano theme or the fragment on the vibraphone. The first action scene culminates in an image of the hexagons within a honeycomb, while the second is preceded by a series of still photographs of mountain climbing. It is significant that the active scenes and the reflective scenes are linked in this way, as it helps to present the progression from adversity to acceptance reflexively as a hard-fought process. A similar progression takes place over the course of another set of active scenes.

Three scenes of friends walking also reflect the symmetry that permeates the film, with two scenes approximately 7 minutes from both the beginning and the end and the third exactly halfway through the film. The middle scene of the three shows Marek and Jan alone, whereas the other two also include Anna (Fig. 4 a-b-c). During the first walk, the camera follows their movement from left to right of the screen in one long take—the characters walk slightly off pace from each in evolving moving formations. The last scene reverses the movement of the first, in that the camera moves alongside the characters from right to left of the screen in a continuous medium shot. In the middle scene, Marek and Jan take a walk through a cemetery and come across a tomb bearing the weighty inscription, “I was who you are. I am who you will become. Remember me, so that someone else may remember you” [Byłem kim jesteś, Jestem kim będziesz, Pamiętaj o mnie, By ktoś o Tobie pamiętał] (00:36:44). The underscoring of these three scenes pivots off this central crystal-image about life and death and the passing of time to offer a musical synthesis of the film. The first two walks are underscored by the brief motive of ascending perfect fifths in the piano but the third features the full piano theme. In the final iteration of the now familiar scene of the two friends strolling, the piano theme—associated with the divisive monologues and the scenes of enjoyment—opens the possibility of a shared discursive space that is inclusive and inherently pluralistic.
Fig. 4 (a-b-c): Stills from the walks
Film historian Tadeusz Lubelski linked *The Structure of Crystal* to the outset of an intellectual revolution that took place in Polish society after March 1968. Zanussi’s work marked the first time a film gave expression to the unresolved conflict between conformism and integrity that young professionals living under state socialism attempted to reconcile in their daily lives (Lubelski 345). This generation, born within years of the start of the Second World War, came of age in the aftermath of October 1956 when the society experienced a short-lived democratization of public life. Within a few years, the economic hardships increased, Soviet pressures deepened, and the promises of a political reform stalled. In March 1968, both students and the intellectuals protested against the communist regime, only to be met with even harsher repression and prosecutions. The unrest of these students and intellectuals was welling up from within the left-wing activist groups who denounced lawlessness, material poverty, housing shortages, and censorship of the press (Eisler; Bikont and Szczęsna 340-351; Pelczynski 326-327). A foundation was laid out for the widespread opposition in the 1970s.

Lubelski interprets the thesis of *The Structure of Crystal* to be about the conflict resulting from two irreconcilable positions. Marek’s professional achievements hinge on the compromise of his once held ethical principles, while Jan’s ethical integrity left him without the possibility of professional advancement. While the initial film reviews and interviews with the director in the magazine *Kino* held these positions as being presented in the film as “even” (Lubelski 346, f. 15), Lubelski instead proposed a reading of the film as endorsing Jan’s integrity over Marek’s pragmatism, contextualizing the film as the first important manifestation of the Young Culture / Młoda Kultura of the 1970s. This cultural formation spanning the liberal and creative arts postulated a need for a description of reality encompassing its total complexity as a means of collective self-understanding and truthful representation (Zagajewski 44-45).

Lubelski cites Jan’s response to Marek’s hasty judgement of the farmers at the tavern—“zależy jak się patrzy” [Depends how you look]—as an example of the Młoda Kultura manifesto incarnated in the honest work Jan and Anna are pursuing from their rural location (346). Their refusal to compromise in any way gives them a moral upper hand over Marek’s deceitful tactics.

My reading of the crystal-image applied to the Młoda Kultura framework yields yet another interpretation. Adam Zagajewski in his literary manifesto for the movement wanted the cultural prescription for Polish society to resemble...
a collage encompassing the fullness of its day-to-day reality, which was not
truthfully represented by the regime—the limpid and the opaque, the actual
and the virtual, the seed and the environment that Deleuze theorizes in relation
to the crystal-image. “It is the reality in its completeness that now only lacks
the culture to be interested in it (…) In a properly functioning culture there
are different types of expression, and the tension between specificity and
abstraction, between realistic and creationist forms is creative and dynamic”
(Zagajewski 44-45; my translation). The flexible structure of Zanussi’s film
enables conflicting notions to develop and play themselves out without
privileging one (or the interpretation of one) over another. From the perspec-
tive of Młoda Kultura, whether the film sides with any one position is of lesser
importance than the antithetical processes set into motion to represent the
challenges for the intellectuals.

Kilar’s score helped shape Zanussi’s cultural diagnosis of the times in
which the film was made. The conflict of Jan/Marek seems to be based in
Zanussi’s own biography. Between 1959 and 1962, after switching majors
from physics (Marek) to philosophy (Jan) and before pursuing training in
filmmaking, Zanussi studied with the philosopher Roman Ingarden. Ingarden
had just published Studia z estetyki [Studies in Aesthetics], which included
a discussion about film music (1958). From his mentor, Zanussi would have
learned that music was integral to the construction of a film world beyond
what images and words could express because, as an art based on the
organization of sounds over time, music can potentially realize more fully or
complement what is presented visually on screen. Music composed for a film,
depends on the content of that film, and this content, in turn, depends on the
music that significantly enriches it (Stróżewski 26; Ingarden 216).

Since the beginning of his career, the auteur filmmaker clearly recognized the
added value (Chion) that the audio scoring provided to his art form. Kilar’s “seed”
pitches E and E-flat are organically grained in the symmetrical structure of The
Structure of Crystal. Musically, the film culminates with Jan, Marek, and Anna
taking a walk—it is the last time that music is heard in the underscoring. The
scene lasts the exact time that it takes the characters to walk a certain distance
and the time it takes the piano theme to loop three and a half times, which is longer
than any previous statement of this theme. This extra repetition, with the doubling
of the octave, ends on a dominant chord that finds resolution in the sound of the

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3 “Jest to rzeczywistość kompletna, której do pełni brakuje kultury interesującej się nią (…) W prawidłowo funkcjonującej kulturze miesząc się różne typy wypowiedzi, a napięcie między konkretem i abstrakcją, między formami realistycznymi i kreacjiomistycznymi jest twórcze i dy-
namiczne.” (Zagajewski 44-45)
phone ringing at the beginning of the next scene—the phone call that summons Marek back to his work obligations. Kilar’s reconfiguration of the piano theme for the walk scene and the expansion of that theme through repetition, aligned with the rhythms of the characters’ movements through space, allows for the dissipation of residual tensions between them and paves the way for Marek’s farewell promise to visit over the summer.

CONCLUSION

The Structure of Crystal combined a new wave aesthetic with an avant-garde score in the service of both documentary realism and a cultural critique of the post-1968 crisis of the repression of Polish intellectuals under state socialism. Krzysztof Zanussi dramatizes this crisis on screen in the unequivocal positions of ethical integrity and dishonest conformism held by each of the two male protagonists. As the men remain locked in their stances, the ending of the film offers no clear resolution of their conflict. Gilles Deleuze’s notion of the crystal-image is a compelling analytical tool to explore the many oppositional images presented over the course of Marek’s visit to the country where Jan withdrew. Wojciech Kilar composed a sparse score that epitomizes the overall symmetry of the film. An askew dissonant motivic writing characterizes the establishing shots and the symbolic images as a Brechtian alienation device. The composer also links the two antagonistic worldviews in one lyrical piano theme, which conversely bridge the common activities in which the characters partake. The music thus opens an inquiry into and an effort to shape the “unrepresented world” within Polish culture in the 1970s.

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MUZYKA FILMOWA I OBRAZ-KRYSZTAŁ W STRUKTURZE KRYSZTAŁU KRZYSZTOFA ZANUSSIEGO

Streszczenie

Tematyka debiutanckiego filmu fabularnego Krzysztofa Zanussiego *Struktura kryształu* (1969) koncentruje się wokół dwóch naukowców o przeciwwstawnych poglądach: jeden z nich charakteryzuje się integralnością etyczną, podczas gdy drugi kieruje się konformizmem. Polaryzacje te znajdują odzwierciedlenie w koncepcji *obrazu-kryształu* Gilles’a Deleuze’a, którą wykorzystano w prezentowanym artykule w odniesieniu do ścieżki dźwiękowej Wojciecha Kilara. Autorka uzasadnia tezę o skomponowaniu muzyki tła w sposób umożliwiający przekształcanie płaszczyzny porozumienia między leżącymi u podstaw filmu antagonistycznymi światopoglądami, co ostatecznie prowadzi do ukazania ostrej krytyki społecznej rzeczywistości Polski po 1968 roku.

Słowa kluczowe: Krzysztof Zanussi; Wojciech Kilar; Gilles Deleuze; obraz-kryształ; muzyka filmowa; *Struktura kryształu*.

FILM MUSIC AND THE CRYSTAL-IMAGE IN THE STRUCTURE OF CRYSTAL

Summary

Krzysztof Zanussi’s 1969 debut feature film, *The Structure of Crystal* (*Struktura kryształu*), revolves around two scientists with opposing worldviews—one rooted in ethical integrity and the other driven by conformism. These polarities are reflected in Gilles Deleuze’s notion of the crystal-image, which I apply to Wojciech Kilar’s music for the film. I argue that Kilar’s underscoring continuously reshapes the grounds of understanding between the antagonistic worldviews at the film’s core, ultimately to deliver a powerful critique of the social reality of post-1968 Poland.

Key words: Krzysztof Zanussi; Wojciech Kilar; Gilles Deleuze; crystal-image; film music; *The Structure of Crystal*. 