Post-Soviet Filmic Depictions of the Semipalatinsk Nuclear Tests

Maria Hristova

"Chernobyl is a household word. Why have so few people heard of Hanford and Maiak? How could these sites of slow-motion disaster be considered by their residents to be so lovely and desirable?" (Brown 2013, 3). These are the driving questions in Kate Brown's book *Plutopia*, a comparative study of the centers of plutonium production in the United States and the Soviet Union in the post–World War II period. The author's query may be extended to include all nuclear-related industries and testing sites, especially in the former Soviet Union, such as the Semipalatinsk (Semei) region, where 456 nuclear bombs were tested between 1949 and 1989.[1] While a great deal of post-Stalinist fiction and non-fiction was devoted to natural resource management and preservation, Semipalatinsk was absent from the Soviet cultural landscape until the founding of the Nevada–Semipalatinsk Anti–Nuclear Movement in 1989.[2] As a result of the movement's efforts, the Sempalatinsk testing site was shut down in 1991 and the region quickly faded into international obscurity once again, even though radioactive waste will continue to

1 The term *nuclear* as well as *atomic* refers to the development of atomic fission and fusion in the post–World War II period. As Paul Williams explains, *atomic* was more widely used until the 1950s, after which *nuclear* became the preferred term, as nuclear weapons were being developed that were not atomic in nature; an example is the hydrogen bomb (Williams 2011, 20). For the purposes of this paper, however, I use the terms *atomic* and *nuclear* interchangeably, as the initial detonations between 1949 and 1953 in the Semipalatinsk region were atomic bomb tests.

2 When referring to sites such as Semipalatinsk and Chernobyl, I have chosen to use the Soviet/Russian names, as this chapter is devoted to an analysis of films set in the Soviet period and cites critical texts that use these names.

© Maria Hristova · 2023
Slavica Bergensia 14 · doi: https://doi.org/10.15845/slavberg.21.c132
This is an open access chapter distributed under the terms of the prevailing cc-by licence.

affect the area and its population for thousands of years.[3]

To better understand how post-Soviet cultures engage with environmental themes in general and nuclear pollution in particular, this chapter examines three post-2000 films that deal with the destructive impact of state-approved nuclear testing: Satybaldy Narymbetov's *Leila's Prayer* (*Kyz zhylagan*, 2002), Rustem Abdrashev's *A Gift for Stalin* (*Podarok Stalinu*, 2008), and Aleksandr Kott's *The Test* (*Ispytanie*, 2014). While all three works are set at roughly the same time—during the early testing at Semipalatinsk—their treatments of the nuclear theme differ significantly.

To gauge the extent to which these works can be seen as part of a global environmental turn in culture, I use Vladimir Kaganskii's (1999) work, which conceptualizes environmental art as discourse disruption. Based on this definition, I argue that the nuclear theme in post-Soviet film is gradually moving from the late Soviet environmental turn toward a more anthropocentric worldview. Narymbetov's *Leila's Prayer* engages the most explicitly with nuclear testing's devastating effect on the environment through extensive use of atomic bomb stock footage. The documentary shots are inserted throughout the film, disrupting both the narrative and visual continuity. Abdrashev's *A Gift for Stalin* moves away from the environmental implications of nuclear testing by placing the atomic bomb scene at the very end. While it is also a montage of stock footage, the scene's timing and larger scene sequence present the explosion as a symbol of state failure that impacts the human characters above all. Finally, Kott's *The Test* turns away from both the political and environmental implications of nuclear testing by using highly aestheticized special effects that render the atomic bomb a cataclysmic event beyond human understanding, akin to an exploding sun.

Framing Nuclear Power and Its Representation on Screen

Until the Chernobyl disaster, most Soviet citizens were unaware of the full extent of the dangers associated with working in the nuclear industry and of the insufficient safety measures at atomic and plutonium plants. Any such knowledge was limited to a small number of people, usually in top administrative positions, and most medical study results

3 The waning of anti-nuclear activism in the post-Soviet period is examined in detail by Dawson (1996).

on radiation exposure were skewed or never publicized.[4] Gorbachev's policy of glasnost, combined with the global impact of the Chernobyl explosion, opened up a discursive space where public figures, politicians, writers, and film directors could redefine their relationship to the surrounding world. The Nevada–Semipalatinsk Anti–Nuclear Movement, in particular, initiated in Kazakhstan by the poet Olzhas Suleimenov, inspired a number of environmentally themed works across the former Soviet Union by writers and poets such as Bakhtyzhan Kanapianov, Liubov' Sirota, and Nobel-prize winner Svetlana Aleksievich. However, after the successful closure of the so-called Polygon and the dissolution of the Soviet Union, attention to the long-term consequences of nuclear waste, including radiation, has virtually disappeared. The one exception is the Chernobyl disaster, which periodically reappears in both post-Soviet and Western popular culture, as evidenced by the recent eponymous HBO series and its Russian feature film equivalent produced by Danila Kozlovskii.

To better understand the significance and paradoxical invisibility of the nuclear theme in post-Soviet cultures, it is important to keep in mind the largely anthropocentric Soviet attitude towards nature, shaped in the 1920s and 1930s by such influential thinkers as Maksim Gor'kii.[5] For most of the Soviet period, the surrounding world was depicted as a beautiful, resource-rich, but often hostile environment, meant to be transformed into a paradise on Earth through human labor.[6] Such

4 As Brown demonstrates in *Plutopia*, most funds allocated to the production of plutonium were diverted to creating an elite closed community rather than to improving safety measures or limiting pollution. Moreover, doctors studied exposure effects only in those workers who were often the most protected from toxic substances (Brown 2013). Similarly, the inhabitants of the Semipalatinsk region were not informed about what exactly was taking place, becoming aware of long-term health consequences only during glasnost' in the late 1980s. Any studies of nuclear testing's effects on humans and livestock were highly classified and even now are almost impossible to obtain (Toptayeva 2018; Werner & Purvis-Roberts 2007).

5 Maksim Gor'kii had a deeply ambivalent attitude towards nature. He admired the beauty of the natural world; at the same time, however, he resented its power over human life and believed in the need to harness the natural elements for the benefit of humanity. Some of his most influential pronouncements about nature include such phrases as "praise of nature is praise of a despot" (Gor'kii 1953, 180).

6 The depiction of nature in the Soviet period extends and builds on existing nineteenth-century themes. The works of such writers as Mikhail Prishvin, Konstantin Paustovskii, Efim Dorosh, and Valentin Rasputin echo in many ways the poetic visions of Sergei Aksakov, Ivan Turgenev, and Leo Tolstoi. However, overall, Soviet authors did not often deviate from a fundamentally anthropocentric worldview in

thinking was also embodied in industrial and agricultural policies that encouraged human-driven transformation of the natural world with little regard for their long-term environmental impact.[7] While a heightened awareness of environmental problems developed gradually in the Khrushchev and Brezhnev eras, preservation efforts were still habitually framed in an anthropocentric way, emphasizing the industrial cost of such issues as deforestation and water pollution.[8]

This attitude towards the surrounding world as the passive background for social development extended to the nuclear program. It was further compounded by the government's disregard for people's health and livelihood in areas where nuclear pollution was likely to occur. Due to the nuclear industry's secret status, very little theoretical work has been done in assessing how atomic testing was represented in the cultural sphere. Iurii Kagramanov's (1988) monograph was one of the few Soviet works that touched on the subject. His analysis, however, was limited to what he perceived as Western eschatological culture driving contemporary nuclearism. More recently, Maksim Kaziuchitz (2020) has explored how Soviet scientists were represented onscreen in the 1960s and 1970s, including in several films that examine the difficult moral choices facing nuclear physicists.

In contrast, in Western scholarship, a plethora of works focus on nuclear bomb film representation. Specifically, a number of scholars examine the relationship between trauma, politics, colonialism, and the atomic bomb in Japanese film (Shibata 2018; Edwards 2015; Broderick 1991, 1996; Shapiro 2001). As regards American culture, scholars analyze the so-called A-bomb films for ideological messages, as well as through the lens of critical race theory (Biskind 1983; Lifton and Mitchell 1995; Williams 2011). To summarize, the majority of critical works by Japanese and American scholars focus on the bomb as a weapon of war or on post-apocalyptic scenarios.

---

which the human being's duty was to exploit natural resources, albeit responsibly.

7 Khrushchev's wide-ranging agricultural reforms, especially the 1954 Virgin Lands campaign, resulted in environmental disasters such as widespread soil erosion. For a more general and detailed overview of Soviet environmental policies and attitudes towards the natural world, see Brain (2010), Bolotova (2004), Ziegler (1987), and Pryde (1972).

8 One famous example of Soviet environmentalism couched in terms of industrial and human losses is the Lake Baikal campaign. For a detailed account, see Breyfogle (2015).

The representation of nuclear bombs in post-Soviet cultures, however, is distinct from its Western counterparts and calls for a different scholarly approach. It is more appropriate to talk about films and literature that focus on atomic testing rather than on the actual atomic bomb as a foreign weapon of destruction. This difference partially explains the dearth of both primary works and critical texts in the Soviet and post-Soviet contexts. There is a similar lack of Western cultural production dedicated to discussing nuclear testing conducted by the United States, France, and the United Kingdom in the post–World War II period.

The works examined in this article deal with Soviet domestic nuclear testing and its consequences rather than with foreign threats, industrial pollution, or other forms of radioactivity. Since the testing at Semipalatinsk was state mandated rather than the result of a foreign invasion or accident, this topic has emerged in the post-Soviet period as deeply contentious. Open acknowledgement of the devastating effects of radiation on the general population would require a form of recompense, presumably from Russia. In this context, Kazakhstan's position aligns to an extent with that of the Pacific Island nations unknowingly subjected to American, British, and French atomic testing. Conversly, Russia's role—inherited from the Soviet Union—is akin to that of the imperial powers that initiated such testing. Tellingly, a recent Russian television series, *The Bomb* (*Bomba*, 2020), drawing on the book *Russia's Atomic Heart* (*Atomnoe serdtse Rossii*), details the history of the Soviet atomic industry in an overwhelmingly positive light (Entiakov, Nosach & Noselov 2014). The series focuses on the initial stages of the Soviet nuclear program and the heroic self-sacrifice of the scientists who worked on developing the bomb. The need for nuclear military power is presented as the only defense against the horrors visited on Japan by the United States. The final scene shows the first atomic detonation in Semipalatinsk from the point of view of Russian scientists and political elites, who rejoice at their success. In contrast, a recent television series produced in Kazakhstan, *Polygon* (*Poligon* 2020), focuses on the last days of the nuclear testing program, highlighting ethnic Kazakhs' heroic efforts to fight against the soulless Russians in charge of the program. These competing views of the program highlight nuclear testing's politicized role. For the Russian Federation, the atomic bomb symbolizes national sovereignty for Russia, the Soviet Union's de facto heir. At present, nucle-

ar-related public discourse is overwhelmingly positive, focusing on the so-called peaceful atom and framing nuclear energy as environmentally cleaner than fossil fuel.[9] Nuclear power has also recently become a barganing chip in international conflicts.[10] In Kazakhstan, public discussions of nuclear power are more nuanced, often questioning the need for new nuclear plants, doubting Russia's motivations for offering to help with the development of nuclear technologies, and evoking negative memories of the Soviet period, particularly the long-lasting harm caused by atomic bomb testing.[11]

Environmental Crisis

Before I turn to the three case studies, let me clarify the terms and frameworks I use to analyze representations of nuclear bombs on screen. In this chapter, I use the terms *environmentalism*, *ecologism*, and their derivatives interchangeably. My interpretation of these words is based on Baxter (1999) and Smith (1998), who suggest these concepts decenter human viewpoints and focus on the nonhuman world. In other words, I differentiate among the films under discussion based on their degrees of anthropocentricity: the less attention a work dedicates to the environmental effects of nuclear power, the more anthropocentric it is.

When discussing the environmental nature of a film my analysis is informed by Vladimir Kaganskii's work. Echoing Felix Guattari's idea that "ecological crisis can be traced to a more general crisis of the social, political and existential" (Guattari 1995, 119), Kaganskii defines environmental crisis as a cultural phenomenon. In his essay "Ecological Crisis: Cultural Phenomenon and Myth," Kaganskii states that население реагирует не на общее состояние окружающей среды и его изменения, но на ситуацию несоответствия между некоторым представлением (образом) об особом, маркированном состоянии

9 In 2010, Vladimir Putin proclaimed nuclear energy as the only alternative to oil and gas ("Putin: iadernaia energetika" 2010). In 2021, he also approved an increase in financing the development of nuclear technologies ("Putin odobril ideiu" 2021).

10 Shortly before Russia's invasion of Ukraine, Vladimir Putin announced his intention to mobilize Russia's nuclear weapons (Aksenov 2022).

11 Forced to seek alternative energy sources, the Kazakhstani president, as well as a number of experts, echoed Vladimir Putin's idea that nuclear energy is the only source of predictably cheap electricity (Liapunov 2021; Turysbekova 2022). However, in Kazakhstan, the proposal to build a nuclear plant on Lake Balkash has met with some resistance, sparking public debates (Alkhabaev 2021; Turysbekova 2022).

окружающей среды и диссонирующей с ним реальностью (Kaganskii 1999).[12] In other words, according to Kaganskii, the idea of an ecological crisis is a culturally shaped perception, independent of the actual state of the sourrounding world. He emphasizes that the people most concerned with the environment are usually those in rich or relatively well-to-do societies, whereas those who suffer the most from pollution or the destruction of their environment, such as farmers in the former Soviet republics, are relatively indifferent to ecological concerns. What is more, the "ecological ideal," or the conception of what the environment should be like, is not homogeneous or universal. The very idea of environmental crisis is, in fact, a clash of cultural norms.

Building on Kaganskii's idea, I suggest that the depiction of ecological crisis is a means of opening up a discursive space to question the status quo. The importance of narrative for identifying, framing, and representing environmental crisis has already been recognized in such works as *Global Ecologies and the Environmental Humanities*, where Dipesh Chakrabarty claims that "success in developing a globally concerted response to the climate crisis [...] will depend on the degree to which we can tell stories that we can all agree on" (Chakrabarty 2015, xiv). Following this paradigm, I examine *Leila's Prayer*, *A Gift to Stalin*, and *The Test* based on their ability to create a narrative disruption showcasing environmental problems independently from human suffering.

Atomic Bombs as Narrative Disruptions: Leila's Prayer

One of the earliest post-Soviet depictions of nuclear testing is the 2002 Kazakh film *Leila's Prayer* by director Satybaldy Narymbetov. The film's beginning, its dedication to Oraz Rimzhanov, and use of stock footage highlight the connection between *Leila's Prayer* and the nuclear testing cinema of the transition period.[13] The script is based on Roza Mukanova's story and eponymous play, "Angel with a Devil's Face" ("Mangilik bala beine," 1997).[14] In *Leila's Prayer*, Narymbetov builds on the universal

12 "The population reacts not to the general environmental conditions and their changes, but to a certain dissonance between a marked image of the surrounding world and reality." (All English translations are mine.)

13 Oraz Rymzhanov (1946–2001) was a prominent director and public figure who shot several documentaries about Semipalatinsk in the late 1980s and early 1990s, often in collaboration with Sergei Shafir. Their best-known work of that period is *The Polygon* (*Poligon*, 1991), which received Kazakhstan's State Award in 1992.

14 Mukanova's short story is titled "Angel with a Devil's Face" and was inspired by a

message of the Nevada–Semipalatinsk Anti–Nuclear Movement, whose platform emphasized the global danger of nuclear pollution.[15] He blends local and Western cultural elements to emphasize how interconnected the world is. Moreover, Narymbetov creates narrative dissonance, both on the visual and plot levels, by inserting stock black-and-white explosion footage throughout the film.

Leila's Prayer takes place in a small village, located close to the testing site. In the early 1960s, the locals have no understanding of what is happening next door and how it impacts their lives. Despite the earthquakes, physical disabilities, sickness and death, the villagers continue living their lives, shaped by love, ambition, jealousy, and rage, not realizing how little time they have left. At the film's beginning, Leila, an orphan girl, is fourteen and lives with her aunt. Leila is very beautiful, but lame and known as a "holy fool." She is in love with a local young man, Kumar, who presumably takes advantage of her before going off to the army. A few months later, Leila finds out she is pregnant and attempts suicide. She is saved by a local handicapped man, who is in love with her, but in her grief and anger Leila calls him "an abomination," prompting his own failed attempt at drowning. Soon after, the girl's aunt, along with many other villagers, dies from a "mysterious" illness, so Leila ends up completely alone and a single mother at fifteen. The film ends with Leila holding her son and praying for all of humanity.

The village in this movie is very much ethnically Kazakh: the people speak mostly in Kazakh, an old woman prays all day long, a young girl practices traditional dancing, a local man plays traditional music. Modernity and Soviet power come in the shape of the military who are there to covertly examine the population or relocate it to a safer place during the actual testing, but without revealing what is really going on. In this way, the Russian-speaking Soviet authorities are implicated in

newspaper photograph of a fourteen-year-old girl who looked to be seven. In 1996, an eponymous play was first performed at the Kazakh Academic Theatre. The film significantly departs from the original work, in which Leila's beauty is destroyed by radiation, but she is still loved and respected by the male protagonist, Kumar. Additionally, in the story she dies, whereas in the film she becomes a mother. In an interview, Mukanova claims that Narymbetov prefers metaphors and sharper conflicts than she does, and that Leila's humiliation in the film is symbolic of the destruction wrought by the Polygon on the land. According to Mukanova, the film's parting message is one of hope for rebirth and resurrection ("Roza Mukanova" 2008).

15 For an overview of the movement and its message, see Toptayeva (2018) and Schatz (2011).

the gradual destruction of the Kazakh communities in Semipalatinsk.

There are two nuclear explosions shown in the film. They are visually distinct from the rest of the movie due to being stock documentary footage. These two scenes are juxtaposed to the poetic depiction of nature in the rest of the film. The first explosion (see Fig. 1) is followed by an idyllic scene by the river where Leila innocently plays, surrounded by pristine nature (see Fig. 2). This montage warns that the peaceful life taking place in the Semipalatinsk region will soon disappear. The use of this type of montage in the middle of the film also signifies the disruption and destruction created by the testing, both at the visual and narrative levels. The color scenes are interrupted by black and white footage, mirroring the way that the villagers' lives are disrupted and eventually ended by the atomic bombs.

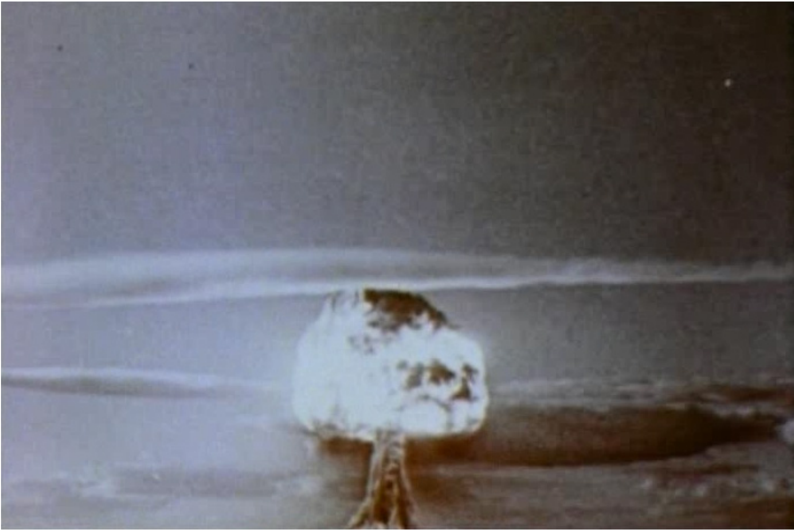

Figure 1: An atomic bomb explosion in *Leila's Prayer*

Figure 2: An idyllic scene in *Leila's Prayer*

A second explosion is shown in the last quarter of the film, also as low-quality black-and-white documentary footage. The "mushroom" is accompanied with shots of broken trees, ailing or dead animals, and burning fields. In the space of a few moments the beautiful steppe turns from Paradise into Hades. This technique creates a crisis of awareness, as hypothesized by Kaganskii. The documentary black-and-white shots remind the audience that these are real-life events, creating a sense of uneasiness and horror.

Sacrifice Areas

In her essay "Let Them Drown," about the historic social and economic inequity underpinning environmental pollution, Naomi Klein brings up the fact that in the post–World War II period American scientists openly referred to certain parts of the country damaged by large-scale human activity as "national sacrifice areas" (Klein 2016). In the 1970s, this term was applied both to nuclear testing fallout areas and to coal mines, as a way of indicating a perceived need to destroy certain zones in the name of advancing national interests. Klein, additionally, highlights the connection between such places and specific social classes or ethnic groups. Discussing the coal industry in the Appalachians, she

theorizes that "turning all that coal into electricity required another layer of othering too […]. In North America, these are overwhelmingly communities of colour […] forced to carry the toxic burden of our collective addiction to fossil fuels, with markedly higher rates of respiratory illnesses and cancers" (Klein 2016). Klein's idea of othering echoes such similar concepts as "disposable people" and "dispensable citizens," describing the experiences of underprivileged groups in India, France, and the United States, whose interests and voices are disregarded in favor of institutional or corporate interests.[16] In other words, regardless of their nationality, certain groups are deemed disposable based on their ethnicity, gender, or social status.

Similarly, race and ethnicity played a key role in the Soviet state's negative attitude towards certain groups, especially during World War II, such as the Volga Germans, the Crimean Tatars, and the Chechens. However, the way the Soviet population at large was (mis)managed did not always depend on their identity, but rather on their geographic location or economic status. The dekulakization and anti-religion campaigns largely disregarded race and focused on cultural and socioeconomic standing. Similarly, the areas around large industrial complexes or the sites of agricultural campaigns became de facto sacrificial areas meant to benefit the nation as a whole, albeit at the cost of the local people's quality of life.[17] Overall, the way Soviet authorities habitually disregarded the human cost of advancing the state's agenda, whether in purging "enemies" of the state or building factories and plants, parallels the idea of sacrificial groups.

At the beginning, *Leila's Prayer* depicts the Soviet countryside as an idyllic backdrop to the human-centered village life. This is in line with the nineteenth-century and socialist realist artistic traditions of using beautiful landscapes as a painting's setting. However, in the airplane shooting scene, Narymbetov decenters the anthropocentric worldview and raises the idea of a sacrifice. When Leila is being flown to the hospi-

---

16 Kevin Bales uses the term "disposable people" when discussing the victims of various contemporary systems of slavery around the world (1999). Annu Jalais examines how Indian villagers are perceived as disposable when their interests conflict with those of the protected Bengal tigers (2004).

17 In addition to Chernobyl and Semipalatinsk, most large industrial sites and plants eventually led to the creation of sacrificial zones around them. See, for example, the cities of Norilsk, Russia's largest nickel and copper producer, and Dzerzhinsk, the largest chemical production center.

tal by the local general, she witnesses the Russian soldiers shooting at a herd of animals from the airplane for no other reason than destructive pleasure. This is a pointless hunt, as the airplane will not land to collect the bodies. The meaningless sacrifice of the local wildlife symbolically represents the equally irresponsible and needless sacrifice of the local population ordered by the Moscow authorities. Eventually, the Russian general orders one of his soldiers, whose appearance marks him as non-Slavic, to also shoot at the animals (see Fig. 3). This scene highlights how disconnected those serving the state are from their environment, which explains their willingness to destroy it. The soldiers are both literally and metaphorically out of touch with the land.

Figure 3: Military men shooting at animals from an airplane in *Leila's Prayer*

Narymbetov further underlines the idea of sacrifice by documenting the slow decline of Leila's village. One by one, the villagers become sick and die. This idea is further overlaid with the Christian motifs of repentance, forgiveness, and resurrection. The film ends with the image of Leila holding her newborn baby, which alludes to the Western tradition of depicting the Madonna and child.[18] The image is superimposed over an atomic "mushroom," with Wolfgang Amadeus Mozart's famous

18 Some of the most famous examples include works by Leonardo Da Vinci, Sandro Botticelli, and Giulio Romano, as well as numerous Eastern Orthodox icons.

"Requiem in D minor" (1791) playing in the background (see Fig. 4). This collection of disparate cultural and visual elements is contextualized by Leila's prayer, which is сохрани жителей всей земли. Амин.[19] Through this final sequence, Narymbetov condemns nuclear testing, but frames it as an environmental concern, having global impact both on human lives and the surrounding world.

Figure 4: The closing scene from *Leila's Prayer*

A Gift to Stalin: The Atomic Bomb as State Failure

When discussing representations of atomic bomb testing in post-Soviet film, it is worth mentioning Rustem Abdrashev's *A Gift to Stalin,* the second film produced in Kazakhstan featuring a scene of atomic bomb testing. Despite being chosen to open the Pusan International Film Festival in South Korea in 2008, the film has received mixed reviews (Miller 2009). Abdrashev is better known for his later works, such as the film series about Nursultan Nazarbaev's life *The Leader's Way* (*Koshasshy zholy*, 2011–14) as well as the television series *The Kazakh Khanate* (*Kazak eli*, 2017–).

A number of elements in *A Gift to Stalin* echo *Leila's Prayer*, such as the montage of stock bomb footage, idyllic landscapes, and the allusion to the Mother of God iconography. Unlike *Leila's Prayer*, however,

19 "Save all people on earth. Amen."

Abdrashev's film minimizes the theme of environmental destruction caused by atomic testing, focusing almost exclusively on human suffering and death. Moreover, the film emphasizes national and ethnic identities, rather than atomic testing. The nuclear theme serves to frame the narrative and highlight state failure, rather than functioning as a central motif or driving the plot. This shift in focus marks a turn in Kazakh atomic bomb film representation away from transnational environmental consequences and closer towards an anthropocentric reading of nuclear testing as a denouncement of the foreign and destructive Soviet project.

The underrepresentation of environmental concerns in *A Gift to Stalin* can partially be explained with structural issues. In 2005, the Kazakhfilm studios underwent fundamental reorganization and became a joint-stock company with the government as the biggest shareholder. Scholars such as Rico Isaacs (2018) and Marlene Laruelle (2014, 2015) argue that the increased interest and investment in cinema and television on the part of the government comes, partially, as a response to a more aggressive Russian foreign policy and signals a clear distancing from the Soviet past and its legacies. According to Laruelle (2014), the post-Soviet Kazakh identity is partially based on the idea of being a globalized Eurasian culture that welcomes outsiders. *A Gift to Stalin* is one of the first films produced within the new studio structure and is an excellent illustration of this identity model. While the title alludes to the nuclear program's establishment in time for Stalin's seventieth anniversary, the film focuses primarily on the forced deportation of minorities to Kazakhstan, showcasing how hospitable and accepting local Kazakhs are to all newcomers. Nuclear bomb testing is alluded to several times, but appears directly only at the very end.

The film script is based on Israeli writer David Markish's reminiscences of his family's deportation to and life in Kazakhstan during the Stalinist period. Markish is also the narrator and plays the role of the adult Sabyr or Sasha, who is at the plot's center. In 1949, Sasha is deported with his grandfather to Kazakhstan. The old man dies on the way, while the boy is miraculously saved by Kasym, a local Kazakh railroad employee. Kasym informally adopts him and Sasha begins a new life in a small village, where deportees from all over the Soviet Union coexist peacefully together. Amidst the idyllic steppe, the boy witnesses institutional misuse of power, in the shape of the local Russian and Kazakh

military and militia, as well as the initial stages of the Semipalatinsk Polygon setup. Sasha is taken care of collectively by the villagers, including Vera, a Russian woman, and Ezhik, a Polish doctor. On the day of Vera and Ezhik's wedding, the local militia man kills the doctor. He, in turn, is murdered in revenge. Knowing reprisal is unavoidable, Kasym sends Sasha away to Odessa. Eventually, the boy finds his way to Israel where he grows up into an adult. At the film's end, he finds out that the villagers were killed by the atomic bomb tests.

Like in *Leila's Prayer*, the bomb detonation is taken from stock footage (see Fig. 5). It is different in color and resolution from the rest of the film, bringing attention to its documentary nature. Unlike in Narymbetov's film, however, the explosion is almost an afterthought. It serves as a final condemnation of the Stalinist regime, highlighting how it sacrificed the very people that helped build it.

Figure 5: The atomic bomb detonation at the end of *A Gift To Stalin*

The idea of sacrifice is central to the film both as a concept and as a practice. The local Muslim villagers practice ritual sacrifice of animals; Sasha sacrifices his beloved pet goat in the hopes of bringing back his parents; Vera sacrifices her body for others. And, ultimately, the state sacrifices the village itself. While observing the Polygon being gradually created through Sasha's eyes, the narrator remarks, какое невиданное и страшное жертвоприношение готовится здесь.[20] This phrase ech-

20 "What an unprecedented and terrible sacrifice is being prepared here."

oes Klein's concept of sacrifice groups or marginalized populations inhabiting sacrifice areas. Moreover, the selfless or ritual acts of individual sacrifice performed by the villagers in order to survive or protect others are juxtaposed to the state's disregard for human life.

Slow Violence

In addition to the idea of sacrifice, *A Gift to Stalin* also illustrates Rob Nixon's (2011) concept of slow violence. In *Slow Violence and the Environmentalism of the Poor*, Nixon argues that while invading a country without provocation with traditional weapons is considered a crime, "advocating invading […] with mass forms of slow-motion toxicity […] requires rethinking our accepted assumptions of violence to include slow violence" (Nixon 2011, 3). One of the book's driving questions is "how can we convert into image and narrative the disasters that are slow moving and long in the making, disasters that are anonymous and that star nobody, disasters that are attritional and of indifferent interest to the sensation-driven technologies of our image-world?" (Nixon 2011, 3). This question is central to *A Gift to Stalin*. The film's long chronological span, from the late Stalinist era to the present day, attempts to make visible the slow violence of sacrificing the area around Semipalatinsk to the Soviet goals of winning the nuclear arms race. The protagonist revisits the village several decades later to find all its inhabitants dead and buried, presumably because of the direct impact of the bomb and the slow-acting side effects of radiation. However, this central moment comes at the film's end and is overshadowed by the rest of the narrative. The atomic bomb in the film does not draw attention to its slow violence or environmental implications, but rather takes on a symbolic significance. The aftermath of nuclear testing is only hinted at by a shot of the village graveyard, where all the remaining inhabitants are interred. The environment in which the plot takes place is of little significance, except as an idyllic setting meant to highlight the contrast with the less-than-perfect human existence. The focus is on Stalin's betrayal of his people and the inherently corrupt and dehumanizing Soviet system.

The Bomb as Equalizer: The Test

Aleksandr Kott's *The Test* is the most recent Russian feature film about the nuclear testing at the Semipalatinsk site.[21] At the time of its release

21 *The Test* was originally a coproduction with Kazakhstan and was to be directed

in 2014, it offered a first, post-Soviet Russian look at the Semipalatinsk Polygon. Despite receiving several international awards, as well as the 2014 Kinotavr grand prize, *The Test* did not attain wide international fame, comparable to the films of other "festival" directors, such as Andrei Zviagintsev and Kantemir Balagov.[22] Kott himself is better known for such blockbusters as *The Brest Fortress* (*Brestskaia krepost'*, 2010) and several of the *Six Degrees of Celebration* (*Elki*, 2011–) films. However, Kott's film did not spark public debate in Russia, either because of or despite its sensitive topic, and only a few critics reviewed the feature in any depth.[23] Tellingly, most critics discuss the movie's poetic style and Kott's depiction of the steppe, rather than any potential political implications in relation to nuclear testing. In fact, one critic notes that the lack of political content detracts from the film (Stishova 2014). Moreover, only eighteen theaters contracted the film for public showings, as distribution companies apparently did not believe it a profitable investment (Dolin 2014).

The Test features a father and daughter living in a dilapidated homestead in the middle of the Kazakh steppe.[24] The man uses an old truck to go to work every day, while his adolescent daughter remains behind alone, taking care of the chores around the house. Little is known about the pair, but the father's ability to fly an airplane and his veneration of Soviet cultural symbols suggest that he is a World War II veteran, fully loyal to the state. One day, a bus of Russians, presumably scientists or photographers, breaks down not far from the homestead and the handsome, young, blond driver comes seeking water. The two young people meet, fall in love, and begin seeing each other secretly. One day,

---

by Pavel Chukhrai, but the project was stalled. When Kott agreed to pick it up, he changed the casting, as well as the script, and moved the shooting to Crimea (Maliukova 2014).

22 In 2014, the film was awarded the best contribution award at the International Film Festival in Tokyo, the best international feature award at the Golden Orange Film Festival in Turkey, and the special jury prize in Abu Dhabi. In 2015, it won the Nika best music award, as well as the Russian Guild of Cinematographers' best composer and best cinematography prizes, and the FIPRESCI award at the Transylvania International Film Festival.

23 The short list of significant reviews can be found on *https://kritikanstvo.ru/movies/ispyitanie/*.

24 As the film is non-verbal, it is possible to interpret the main protagonists' relationship as that of siblings. However, based on the initial screenplay, it appears they are meant to be father and daughter (Maliukova 2014).

the father falls sick and leaves, presumably for the hospital, while the young girl remains all alone. The film implies that he has been exposed to high levels of radiation. Eventually, he comes back, but only to die on his own land, as it turns out. Left all alone, the young woman faces an uncertain future. A local young man, whom she sometimes encounters in the steppe, sends his family to her to set up a wedding in the traditional Kazakh style. The woman, however, chooses the Russian, symbolically cutting off her hair and rejecting the traditional Kazakh ornaments. The lovers are reunited, but as they sit outside, an atomic explosion takes place nearby. The zone of destruction includes all three young people and everything around them.

The film is nonverbal (no dialogue), though not silent. The setting, camera work, and music fulfill the function of speech. In fact, the lack of dialogue highlights the film's poetic qualities. However, it can also be interpreted ambiguously. On the one hand, the Russian director does not impose his own words on a non-Slavic population, effectively avoiding one of the main problems of colonial art. Sattarova argues that this move towards silence is a "liberating gesture" (Sattarova 2020, 66). Moreover, as Stishova (2014) suggests, the fact that no one gets to use language, except official sources such as the radio and the newspaper, highlights the suppression of information and the silencing experienced by the majority of Soviet citizens regardless of their geographical location.

On the other hand, when paired with the lack of historical context, the absence of conversation in the film serves to hide the fundamental differences and inequalities in the young lovers' respective positions. It is true that a large number of ethnic Russians lived and continue to live in Kazakhstan. However, the majority of the Slavic community historically inhabits urban spaces, which were not as directly impacted by radiation, while the population surrounding the Polygon was largely rural and non-Slavic, subsisting on its own locally produced food. Consequently, there is a socio-ethnic disparity in who suffered the most from atomic testing. Additionally, the decisions on how, where, and when to conduct nuclear tests were taken in Moscow, even if there were local officials who embraced the Soviet project and workers and scientists who were employed at the testing site. Thus, the seemingly equal

footing of the main protagonists is fundamentally illusory.[25]

The other element serving as an equalizer in the film—the atomic bomb—is just as problematic. There are two explosion scenes, at the film's end, presented as a common problem affecting everyone equally. Paradoxically, the detonation does not necessarily disrupt the poetic mode of representation that characterizes the film. The action takes place in the summer and the colors are vivid and harmonious. The camera functions as a painting frame, depicting the steppe as a beautiful backdrop, devoid of its own agency or role, similar to a Romantic landscape. The explosion appears in the same spot where the sun would normally be visible. The explosion's shock wave and dark clouds are shot in slow motion and high resolution, highlighting small details, such as pieces of the roof coming apart or the dry soil being upturned. Combined with the sound effects of explosions and wind howling, paradoxically, this scene sequence makes the bomb detonation seem less real, in contrast to the one in *Leila's Prayer*, which is low-resolution and black-and-white. The detonation scene, and subsequent destruction, is as pleasurable to watch as that of a car crash or a building explosion in a high-budget Hollywood action movie. Furthermore, the atomic eruption is partially personified, cast in the role of a kind of monster. The young Kazakh man rides towards it shouting as if it were a human enemy army (see Fig. 6). Moreover, the couple is shown as tiny figures, dwarfed by the explosion chimney towering over them (see Fig. 7). The camera's perspective brings to mind scenes from monster films, such as *Godzilla* (*Gojira*, 1954) and *King Kong* (1933), where the human protagonists are dwarfed by the giant creatures they face. Such a technique creates further distance between the detonation and the human hand that presumably caused it.

25 Sattarova (2020) suggests that the choice of a non-verbal format is most likely artistically motivated by the director's well-documented interest in silent cinema, rather than by a conscious political stance. However, when making a film about such a controversial topic, even a purportedly non-political stand becomes politicized. Even without words, Kott creates a continuous narrative through careful scene sequence montage, framing the film's events in a particular way, understood by the director to be correct. Ultimately, it may be impossible to "give" a voice to the subaltern in a way that empowers the subject, at least in a traditional poetic mode of filmmaking.

Figure 6: The young Kazakh man facing off the explosion cloud in *The Test*

Figure 7: The two lovers dwarfed by the bomb's "mushroom" in *The Test*

Unlike in *Leila's Prayer* or *A Gift to Stalin*, the explosion scene in *The Test* does not read as a straightforward indictment of Soviet nuclear testing. It inspires regret for the loss of a potential happy ending, but even the lovers' death is not overly tragic, since the romantic conflict is already resolved without lingering sickness or physical disability. Furthermore, visually, the film's ending is just as beautiful, in a way, as the rest of the movie. For example, a second nuclear explosion at the very end is poetically depicted as a false sun rising, the only difference being that the light goes back down, instead of rising further up as a real sun would. The detonations do not disrupt the film's aesthetic, but are inscribed within it.

The lack of speech and the high-end special effects in *The Test* help depict the nuclear disaster as removed from social and political events. From the perspective of the steppe and its inhabitants, a nuclear explo-

sion is presented as similar to a tornado or some other natural disaster. The detonation simply happens and no one is implicated in its occurrence. Kott focuses on the individual human tragedy, aestheticizing a destructive occurrence to the degree that it calls to mind Lars von Trier's *Melancholia* (2011), as noted by a number of critics.[26] Additionally, the radiation impact is hinted at but not depicted: there is no physical suffering or disability shown on screen.

The scene where the interethnic couple faces the explosion together could be read as a critique of the indiscriminate effect of nuclear testing. This interpretation aligns with T.J. Demos's argument in *Against the Anthropocene* (2017) that the very concept of "Anthropocene" is too broad to be useful. It can obscure the social, geographical, and gender differences that separate various groups of people. Pollution is not produced equally by everyone; likewise, it is not experienced equally by everyone. Similarly, Kott's film obscures certain inequalities, such as who are the people in charge, who is informed vs. uninformed about the testing, who is there by choice and who—by necessity. None of these key questions are either voiced or answered in the film, resulting in a beautiful story of love and death, uncomplicated by narrative or aesthetic disruptions as in the case of *Leila's Prayer* and *The Gift to Stalin*.

Conclusion

Despite a long tradition of both nature and environmental writing and art, as well as ecological activism in Soviet culture, post-Soviet cinemas are becoming progressively more reluctant to engage with ecological concerns on their own merit, albeit for different reasons. The nuclear theme, in particular, is almost invisible on screen in the post-1990 period, even if Soviet censorship no longer precludes public discussions of nuclear bomb testing. One possible explanation for this is the inherently political and politicizing dimension of eco-narratives and their frequent linkage to such unspoken of and unpopular themes as social inequity, discrimination, and disability. Additionally, any discussion of problems connected to the Soviet past are fraught, as they would require acknowledging the ideological and economic reasons behind them.

26 In addition to von Trier's film, the other two movies cited most often as visual and aesthetic precursors to *The Test* are Mikhail Kalatozishvili's *Wild Field* (*Dikoe pole*, 2008) and Andrei Tarkovskii's *Sacrifice* (*Zhertvoprinoshenie*, 1986) (Maliukova 2014).

Thus, Russian public discourse on nuclear power remains unapologetically positive and atomic testing is traditionally framed as the only way to counteract the American threat during the Cold War. In contrast, for many post-Soviet republics, such as the Baltic states, Ukraine, and the Central Asian countries, the Soviet project is presented as foreign, imperialistic, and harmful to local interests.[27] In Kazakhstan, in particular, national independence and the Anti–Nuclear Movement are often framed as synonymous at present.[28] Consequently, post-Soviet filmic responses to environmental problems are diverse and complex by necessity. Satybaldy Narymbetov, for example, perceives nuclear pollution as an expression of a deeper, global problem—that of a mindset that does not value the environment, and by extension the human life dependent on it, as anything more than a source of labor and raw material. For Abdrashev, the bomb is both a devastating force and a symbol of sacrifice, but its political implications overshadow the environmental consequences. Finally, Aleksandr Kott, while depicting the atomic bomb as a suprahuman tragedy affecting everyone equally, does not visualize political implications of nuclear testing logistics. While three films from two different countries are not enough to serve as empirical evidence, they gesture towards the fact that post-Soviet film in general is moving away from a preoccupation with environmental concerns toward a more anthropocentric and politicized depiction of atomic bomb testing. With the addition of the recent television series, mentioned earlier, it seems this trend will continue to develop in the future, obscuring from popular discourse the very real, contemporary environmental problems that still impact human lives, regardless of ethnicity and nationality.

References

Abdrashev, Rustem 2008, *Podarok Stalinu*, Almaty.
Abdrashev, Rustem 2011–14, *Koshasshy zholy*, Almaty.
Abdrashev, Rustem 2017–, *Kazak eli*, Almaty.
Aksenov, Pavel 2022, "Putin perevel sily iadernogo sderzhivaniia v osobyi rezhim," BBC *Russian Service*, 28 February, *https://www.bbc.com/russian/features-60557013* (last accessed 17 September 2022).

27 For an overiview of how anti-Soviet sentiments overlapped with environmental activism in the late Soviet period, see Dawson (1996).

28 For example, the *Polygon* series mentioned earlier has garnered a wide media response. For the most part, both critics and academics seem willing to treat it as historical truth (Babish 2020).

Alkhabaev, Shokan 2021, "Eksperty eshche raz otsenili ideiu stroitel'stva AES v Kazakhstane," *Tengrinews*, 28 September, *https://tengrinews.kz/kazakhstan_news/ekspertyi-raz-otsenili-ideyu-stroitelstva-aes-kazahstane-448454/* (last accessed 30 August 2022).

Babish, Aigerim 2020, "Publichnye lishnosti dali otsenku serialu 'Poligon'," *24 Habar*, 22 December, *https://24.kz/ru/news/social/item/444145-publichnye-lichnosti-dali-otsenku-teleserialu-poligon* (last accessed 20 May 2021).

Bales, Kevin 1999, *Disposable People: New Slavery in the Global Economy*, Los Angeles.

Baxter, Brian 1999, *Ecologism: An Introduction*, Edinburgh.

Biskind, Peter 1983, *Seeing Is Believing*, New York.

Bolotova, Alla 2004, "Colonization of Nature in the Soviet Union," *Historical Social Research* 29 (3), 104–23.

Brain, Stephen 2010, "Stalin's Environmentalism," *Russian Review* 69 (1), 93–118.

Breyfogle, Nicholas B. 2015, "At the Watershed: 1958 and the Beginnings of Lake Baikal Environmentalism," *Slavonic and East European Journal* 93 (1), 147–80.

Broderick, Mick 1991, *Nuclear Movies: A Critical Analysis and Filmography of International*

Feature Length Films Dealing with Experimentation, Aliens, Terrorism, Holocaust, and Other Disaster Scenarios, 1914–1989, Jefferson, N.C.

Broderick, Mick 1996, *Hibakusha Cinema: Hiroshima, Nagasaki, and the Nuclear Image in Japanese Film*, New York.

Brown, Kate 2013, *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters*, Oxford.

Chakrabarty, Dipesh 2015, "Foreword," *Global Ecologies and the Environmental Humanities*, eds. Elizabeth DeLoughry, Jill Didur & Anthony Carrigan, New York, xiii–xvii.

Cooper, Merian C. & Ernest B. Schoedsack 1933, *King Kong*, New York.

Dawson, Jane 1996, *Eco-Nationalism: Anti-Nuclear Activism and National Identity in Russia,Lithuania, and Ukraine*, Durham, N.C.

Demos, T.J. 2017, *Against the Anthropocene*, Boston.

Dolin, Anton 2014, "'Ispytanie': iadernyi perimetr," *Afisha*, 18 September, *https://daily.afisha.ru/archive/vozduh/cinema/ispytanie-yadernyy-perimetr/* (last accessed 26 April 2022).

Edwards, Matthew 2015, *The Atomic Bomb in Japanese Cinema*, Jefferson, N.C.

Entiakov, Boris, Iurii Nosach and Vladimir Novoselov 2014, *Atomnoe serdtse Rossii*, *Cheliabinsk*, *http://elib.biblioatom.ru/text/novoselov_atomnoe-serdtse-rossii_2014/go,0/* (last accessed 10 December 2021).

Filippov, Aleksei 2014, "Krasnoe solntse apokalipsisa," *Kino-teatr.ru*, 18 September, *https://www.kino-teatr.ru/kino/art/artkino/3601/* (last accessed 26 April 2022).

Gor'kii, Maksim 1953, *Sobranie sochinenii*, vol. 23, Moscow.

Guattari, Felix 1995, *Chaosmosis*, trans. Paul Bains and Julian Pefanis, Bloomington, Ind.

Honda, Ishirō 1954, *Gojira*, Tokyo.

Ibraev, Akhat 2000, *Poligon*, Almaty.

Isaacs, Rico 2018, *Film and Identity in Kazakhstan: Soviet and Post-Soviet Culture in Central Asia*, New York.

Jalais, Annu 2004, "People and Tigers: An Anthropological Study of the Sundarbans of West Bengal, India," Ph.D. diss., London School of Economics.

Kaganskii, Vladimir 1999, "Ekologicheskii krizis: fenomen i mif kul'tury," *Neprikosnovennyi zapas* 4 (6), *https://magazines.gorky.media/nz/1999/4/ekologicheskij-krizis-fenomen-i-mif-kultury.html* (last accessed 30 August 2022).

Kagramanov, Iurii 1988, *Kto gotovit apokalipsis: problemy voiny i mira i khudozhestvennaia kul'tura Zapada*, Moscow.

Kalatozishvili, Mikhail 2008, *Dikoe pole*, St. Petersburg.

Kaziuchitz, Maksim 2022, "Reprezentatsiia nauchnoi sfery i nauchnogo rabotnika v sovetskom kino 1970-kh gg.: akterskie raboty S. Bandarchuka," *Telekinet* 3 (12), 17–20.

Klein, Naomi 2016, "Let Them Drown: The Violence of Othering in a Warming World," *London*

Review of Books 38 (11), 2 June, *https://www.lrb.co.uk/the-paper/v38/n11/naomi-klein/let-them-drown* (last accessed 3 June 2021).

Kopylov, Igor 2000, *Bomba*, Moscow.

Kott, Aleksandr 2010, *Brestskaia krepost'*, Minsk & Moscow.

Kott, Aleksandr 2011–2018, *Elki*, Moscow.

Kott, Aleksandr 2014, *Ispytanie*, Moscow & Almaty.

Laruelle, Marlene 2014, "The Three Discursive Paradigms of State Identity in Kazakhstan," *Nationalism and Identity Construction in Central Asia*, ed. Mariya Omelicheva, New York, 1–20.

Laruelle, Marlene 2015, "In Search of Kazakhness: The Televisual Land-

scape and Screening of Nation in Kazakhstan," *Demokratizatsiya: The Journal of Post-Soviet Democratization* 23 (3), 321–40.
Liapunov, Konstantin 2021, "Doshli do iadra," *Lenta.ru*, 1 December, *https://lenta.ru/articles/2021/12/01/atomkz/* (last accessed 19 September 2022).
Lifton, Robert & Greg Mitchell, 1995, *Hiroshima in America*, New York.
Maliukova, Larisa 2014, "Aleksandr Kott: Kazhdaia smert'—konets sveta," *Novaia gazeta* (102), 22.
Miller, Jamie 2009, "Rustem Abdrashev: *A Gift to Stalin* (*Podarok Stalinu*, 2008)," *http://www.kinokultura.com/2009/24r-podarok.shtml* (last accessed 31 July 2021).
Mukanova, Roza 1997, "Mengilik bala beine," *Dunie kezek: anggimeler*, Almaty, 177–90.
Narymbetov, Satybaldy 2002, *Kyz zhylagan*, Almaty.
Nixon, Rob 2011, *Slow Violence and the Environmentalism of the Poor*, Boston.
Pryde, Philip 1972, *Conservation in the Soviet Union*, Cambridge.
"Putin: iadernaia energetika—edinstvennaia al'ternativa nefti i gazu" 2010, *RIA novosti*, 6 September, *https://ria.ru/20100906/272967244.html* (last accessed 30 August 2022).
"Putin odobril ideiu ob uvelichenii finansirovaniia programmy novykh iadernykh tekhnologii" 2021, *Interfax*, 30 July, *https://www.interfax.ru/russia/781625* (last accessed 30 August 2022).
"Roza Mukanova: 'Pod zontom—ia'" 2008, *InformBuro*, 16 June, *https://informburo.kz/obshchestvo/roza-mukanova-pod-zontom-ya-1850.html* (last accessed 20 June 2021).
Rymzhanov, Oraz & Sergei Shafir 1990, *Poligon,* Almaty.
Sattarova, Ellina 2020, "Russia's Quiet Other: Dmitrii Mamuliia's *Another Sky* and Aleksandr Kott's *The Test*," *Cinemasaurus: Russian Film in Contemporary Context*, eds. Nancy Condee, Alexander Prokhorov & Elena Prokhorova, Boston, 65–79.
Schatz, Edward 2011, "Notes on the 'Dog That Didn't Bark': Eco-Internationalism in Late Soviet Kazakhstan," *Ethnic and Racial Studies* 22 (1), 136–61.
Shapiro, Jerome F. 2001, *Atomic Bomb Cinema*, London.
Shibata, Yuko 2018, *Producing Hiroshima and Nagasaki*, Honolulu.
Smith, Mark 1998, *Ecologism: Towards Ecological Citizenship*, Minneapolis, Minn.

Stishova, Elena 2014, "Melankholiia. Russkaia versiia," *Iskusstvo kino*, 8 August, *http://old.kinoart.ru/archive/2014/08/melankholiya-russkaya-versiya-ispytanie-rezhisser-aleksandr-kott* (last accessed 26 April 2022).

Tarkovskii, Andrei 1986, *Zhertvoprinoshenie*, Stockholm.

Toptayeva, Bakyt 2018, "Antinuclear Movements in the US and Kazakhstan: A Cross-Cultural Analysis of Mass Communcation Patterns," Ph.D. diss., Iowa State University.

Turysbekova, Aigul' 2022, "Atomnaia energetika v Kazakhstane: za i protiv," *Kazakhstanskaia pravda*, 30 May, *https://kazpravda.kz/n/atomnaya-energetika-v-kazahstane-za-i-protiv/* (last accessed 30 August 2022).

von Trier, Lars 2011, *Melancholia*, Strasbourg, Copenhagen & Stockholm.

Werner, Cynthia & Kathleen Purvis-Roberts 2007, "Unraveling the Secrets of the Past: Contested Versions of Nuclear Testing in the Soviet Republic of Kazakhstan," Half-Lives and Half-Truths: Confronting the Radioactive Legacies of the Cold War, ed. Barbara Johnson, Santa Fe, N.Mex., 277–98.

Williams, Paul 2011, *Race, Ethnicity and Nuclear War: Representations of Nuclear Weapons and Post-Apocalyptic Worlds*, London.

Ziegler, Charles 1987, *Environmental Policy in the USSR*, London.