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THE CHORNOBYL DISASTER THROUGH THE PRISM OF POSTMODERNIST LITERATURE AND CINEMA

The Chornobyl Power Complex, located north of Kyiv, had four RBMK-1000 reactors. The reactor design had a positive void coefficient, contributing to the accident. The Chornobyl accident in 1986 resulted from a flawed reactor design and inadequate operator training, disabling shutdown mechanisms, causing a power surge, and leading to a series of explosions. A steam explosion and fires released over 5% of the radioactive reactor core into the environment, leading to widespread deposition of radioactive materials in Europe.

The Chornobyl accident resulted in the largest uncontrolled release of radioactive materials ever recorded in civilian operations, lasting about 10 days. This event had severe social and economic consequences for populations in Ukraine and the USSR at the time. While most of the released materials settled nearby as dust and debris, lighter particles were carried by the wind across Ukraine, belarus, russia, Scandinavia, and parts of Europe. Casualties included firefighters who responded to the initial fires on the turbine building roof. Although the fires were extinguished within a few hours, radiation doses on the first day led to 28 deaths, including six firefighters, by the end of July 1986.

After the Chornobyl accident, the priority was to clean up the site for the potential restart of the remaining three reactors and to provide more permanent shielding for the damaged reactor. Around 200,000 individuals, known as “liquidators,” from across the Soviet Union participated in the recovery and cleanup efforts in 1986 and 1987. The number of liquidators later increased to over 600,000, but most received lower radiation doses. Approximately 220,000 people were resettled into less contaminated areas, and the initial 30 km radius exclusion zone was expanded to cover 4300 square kilometres. The resettlement criteria were based on a projected lifetime radiation dose of 350 mSv, but actual radiation levels quickly fell, resulting in average doses less than 50% above normal background. The Soviet authorities initially concealed information about the accident, organized public demonstrations despite rising radiation levels, and only acknowledged the disaster 36 hours later.

The aftermath of the disaster involved extensive cleanup efforts by over 600,000 individuals, including firefighters and military personnel who faced health risks. The New Safe Confinement, completed in 2019, aimed to contain the remains of the reactor unit and prevent the release of radioactive contaminants. The Chornobyl Radiation-Ecological Biosphere Reserve, established in 2016, restored local flora and fauna and served as a sanctuary for rare Ukrainian species.

Pripyat, initially built for nuclear workers and their families, housed around 50,000 people who had to evacuate rapidly after the explosion of reactor number four. The evacuation, completed within hours, was delayed in informing citizens of the explosion’s severity. Some residents, including firefighters, perished trying to control the radioactive fire, while others

suffered radiation effects, leading to illnesses such as thyroid cancer. Since the explosion, Pripyat has remained uninhabitable, with deteriorating buildings reflecting the aftermath. A few individuals have returned, but it's rare. Recently opened to tourists, the town has seen wildlife thrive in the absence of human inhabitants over the past four decades.

The Chornobyl accident played a role in the downfall of the Soviet Union by amplifying public distrust in government authorities. It underscored that the Soviet culture of secrecy was not only backward but also potentially disastrous. Additionally, the substantial economic burden of addressing the accident's aftermath further weakened the Soviet regime.

Due to Chornobyl, some governments opted to discontinue existing nuclear energy programs, while others abandoned plans for new ones. This decision was made even though the Chornobyl incident involved a distinctive reactor design and a comparable accident was deemed physically implausible with light water reactors.

After the Chornobyl disaster, the United States, along with other nations and international organizations, assisted in constructing a protective concrete shelter, known as the sarcophagus, to contain the damaged reactor and prevent further contamination. To address safety concerns, the U.S. and its partners provided aid, including equipment and training for nuclear reactor operators and regulators, to enhance the safety of these facilities and ensure preparedness for potential emergencies. Some members of the International Atomic Energy Agency (IAEA) advocated for an increased role in nuclear safety, leading to the development and adoption of the Convention on Nuclear Safety – a treaty aimed at promoting global nuclear power reactor safety.

Despite the ongoing impact of the Chornobyl tragedy for hundreds of years, efforts have been made to mitigate its consequences. However, recent events, including Russia's invasion of Ukraine in 2022, have posed new threats. Russian forces temporarily occupied the Chornobyl Nuclear Power Plant, causing an increase in radiation levels, destroying laboratories, and sparking fires. Ukrainian counter-offensive efforts in March 2022 expelled the Russian forces, but ongoing dangers persist, with Russia still occupying the Zaporizhzhia Nuclear Power Plant, posing a threat to global safety through indiscriminate artillery fire. The international community faces ongoing challenges to prevent nuclear disasters and ensure the safety of nuclear power plants worldwide.

The Fukushima incident intensified the unfavourable view of nuclear energy, leading to more decisions against nuclear programs. It's important to note that the Fukushima reactors' situation was unique, and they do not represent modern reactor designs. Contrarily, the Three Mile Island accident highlighted that a well-designed containment building can effectively safeguard public health and safety even in the event of a severe accident.

About 25 years after Chornobyl, the Fukushima Daiichi nuclear accident in Japan prompted a global reassessment by safety regulators. They considered enhancements such as mandating backup generators, as seen in Fukushima, and preparing for unforeseen accident scenarios. Like Chornobyl, Fukushima emphasized the vital role of safety culture, acknowledging that while new nuclear technologies may be inherently safer, human involvement remains crucial for nuclear safety.

Global postmodernist artists responded to the Chornobyl disaster by channelling their creativity into a range of diverse themes and approaches. Many explored pressing environmental concerns, considering the impact of human activities on the planet, and raising

awareness of nuclear hazards and ecosystem fragility in the aftermath of the environmental catastrophe that was the Chornobyl disaster.

In typical postmodernist fashion, narratives of trauma and historical events became central to the work of artists inspired by the immediate and long-term effects of the Chornobyl disaster. Seeking to understand and portray the far-reaching repercussions of human actions on communities and the environment, these artists created thought-provoking pieces that continue to resonate with audiences today.

Critical engagement with technology was another avenue through which postmodernist artists expressed their response to the Chornobyl disaster. Stemming from technological failure, the disaster prompted reflections on the ethical dimensions of scientific advancements and the potential risks associated with unchecked technological progress.

The disaster at Chornobyl acted as a powerful catalyst for postmodernist artists to challenge and undermine traditional power structures, while also exploring the dire consequences of authoritarian regimes and truth manipulation. Their interdisciplinary approaches, which involved a combination of visual arts, literature, music, and performance, were able to effectively convey the complexity of the tragedy. By experimenting with various mediums, these artists were able to raise global awareness and promote activism, creating works aimed at engaging audiences in discussions about nuclear safety, environmental responsibility, and individual roles in shaping the world. Their efforts resulted in a profound response to the Chornobyl disaster, which became a symbol for artists to contemplate and express their perspectives with utmost clarity and conviction. While there is no singular postmodernist response to the Chornobyl disaster, artists worldwide have actively engaged with its themes, contributing to a broader conversation on the intersection of human activities, technology, and the environment. The disaster remains a historical and cultural touchpoint, continuing to exert influence on artistic expression and critical discourse.

Let us further explore the examples of pieces of literature and cinematography that showcase either the event itself and its aftermath, or the world which now has to learn the harsh lessons.

“Midnight in Chernobyl: The Untold Story of the World’s Greatest Nuclear Disaster” (2019) by Adam Higginbotham is a history of the Chornobyl nuclear disaster that occurred in Soviet Ukraine in 1986. It surely is one of the most popular recently written books about Chornobyl. Its author is a British journalist Adam Higginbotham, and the book is based on previously unpublished and classified facts about the disaster, as well as the memories and interviews of witnesses. Higginbotham explores the global consequences of the Chornobyl disaster, encompassing its environmental ramifications and geopolitical aftermath. The narrative evaluates how the incident shaped worldwide attitudes towards nuclear energy and safety. Offering a holistic perspective, the book not only addresses the immediate repercussions but also delves into the enduring environmental and health effects. This comprehensive approach enhances the reader’s understanding of the lasting impact of the Chornobyl disaster. In 2019, the book was recognized as a bestseller by The New York Times and Times, and not by chance: Higginbotham created a documentary thriller, effectively reconstructing the events of the night from April 25 to April 26 when the reactor exploded. Thanks to this, the book is a gripping read. This year, Higginbotham received the Carnegie Medal for “Midnight in Chernobyl” for achievements in literature and journalism.

"Chernobyl 01:23:40: The Incredible True Story of the World's Worst Nuclear Disaster" by Andrew Leatherbarrow who is a specialist in the history of nuclear energy. One of his most renowned books is dedicated to the Fukushima disaster. "Chernobyl 01:23:40," published in 2014, is a blend of travelogue, chronicle, and historical investigation. The author spent several months on expeditions to Pripyat and the Chornobyl Zone, reconstructing bit by bit what happened on April 26, 1986. "Chernobyl 01:23:40: The Incredible True Story of the World's Worst Nuclear Disaster" delves into the true and remarkable story of the Chornobyl nuclear disaster, considered the worst in history. The author provides detailed insights into the events leading up to the catastrophe, the immediate aftermath, and the long-term consequences. The title refers to the exact moment of the explosion at the Chornobyl nuclear power plant on April 26, 1986, at 01:23:40 a.m. The book is praised for its thorough research and its gripping narrative that unfolds the tragic events surrounding the disaster. Leatherbarrow intricately reconstructs the sequence of events related to the Chornobyl disaster, providing a detailed and all-encompassing narrative. The author delves into the technical intricacies of the disaster, elucidating the workings of the RBMK reactor and detailing the specific failures that culminated in the catastrophe. The book also includes 45 photographs depicting the modern-day Pripyat and the current appearance and functioning of the power station.

"Chernobyl: The History of a Nuclear Disaster" by Serhii Plokhy provides a nuanced and detailed exploration of the events leading up to and following the Chornobyl nuclear disaster. Plokhy begins by examining the Soviet Union's political climate and the decision-making processes that led to the construction of the Chornobyl nuclear power plant. He delves into the technical flaws in the RBMK reactor design, emphasizing how these design flaws played a crucial role in the disaster.

Plokhy skillfully combines technical explanations with personal stories of the individuals involved, including the plant workers, firefighters, and local residents. The writer also examines the immediate response to the disaster, including the evacuation of the nearby town of Pripyat and the initial attempts to contain the radioactive release. The book goes on to explore the broader consequences of Chornobyl on global perceptions of nuclear energy, the environmental impact, and the geopolitical repercussions during the final years of the Cold War. The author's background as a historian allows him to contextualise the Chornobyl disaster within the broader historical and political landscape of the Soviet Union. Plokhy draws on a wide range of sources, including declassified documents and eyewitness accounts, to provide readers with a comprehensive and well-researched narrative.

As for the films that delve into the topic of nuclear danger imposed on the world, we may recall the following ones.

"Chernobyl" is a television miniseries that premiered in 2019. It is a historical drama created by Craig Mazin and directed by Johan Renck. The series consists of five episodes and is a co-production between HBO and Sky UK. It received widespread critical acclaim for its accurate portrayal of the Chornobyl nuclear disaster in 1986 and its aftermath.

The series begins with the explosion at the Chornobyl Nuclear Power Plant in Pripyat, Ukraine, and follows the immediate aftermath of the disaster. It focuses on the efforts to contain the radioactive fallout, the impact on the local population, and the investigation that followed. The narrative unfolds through the perspectives of key figures involved, including

Valery Legasov (played by Jared Harris), a Soviet nuclear physicist; Boris Shcherbina (played by Stellan Skarsgård), a Soviet government official; and Ulana Khomyuk (played by Emily Watson), a Belarusian nuclear physicist.

The series delves into the systemic flaws of the Soviet Union's nuclear industry, the suppression of information, and the heroism of individuals who risked their lives to prevent further catastrophe. "Chernobyl" stands out as a compelling and sobering portrayal of one of the most significant nuclear disasters in history, offering a poignant reflection on the consequences of both human error and the bureaucratic shortcomings of the Soviet system.

"Land of Oblivion" (original title: "La Terre Outragée") is a French-language drama film directed by Michale Boganim. The film was released in 2011. It is not a documentary but a narrative feature that deals with the aftermath of the Chornobyl disaster.

"Land of Oblivion" is set in Pripyat, a city near the Chornobyl nuclear power plant, during and after the catastrophic events of April 1986. The story follows the lives of two young lovers, Alex (Nadezhda Markina) and Anya (Olga Kurylenko), as they navigate the immediate consequences of the nuclear disaster and its long-term impact on their lives.

The film explores themes of love, loss, and resilience as it depicts the physical and emotional devastation caused by the Chornobyl incident. It provides a personal and intimate perspective on the lives of those affected, offering a human portrayal of the disaster's aftermath. It takes a dramatic approach to storytelling rather than being a documentary, and it uses the Chornobyl disaster as a backdrop to explore human experiences during and after the event.

Although various consequences of the Chornobyl catastrophe can be vividly seen, let's not forget about russia's ongoing aggression against Ukraine. In February 2022, during the russian invasion of Ukraine, Russian forces reportedly moved vehicles through the Red Forest, using it as a route for their convoys, which kicked up clouds of radioactive dust from the forest. The name "Red Forest" comes from the ginger-brown colour of the pine trees after they died following the absorption of high levels of ionizing radiation as a consequence of the Chornobyl nuclear disaster on 26 April 1986. The site remains one of the most contaminated areas in the world today. Local workers reported the Russian troops moving through the Red Forest were not using protective suits and could have potentially endangered themselves. On 31 March 2022, it was reported that most of the Russian troops occupying Chornobyl were forced to pull back after suffering from radiation sickness caused by digging trenches in the heavily contaminated Red Forest. Ukrainian officials have provided access to the site which shows considerable trenches and digging in the Red Forest. On 1 April 2022, The Daily Telegraph reported that one Russian soldier died from acute radiation sickness after being camped in the Red Forest for a prolonged time. In October, CNN reported that injured Russian soldiers who operated in Chornobyl had been treated at the Republican Research Center for Radiation Medicine and Human Ecology in Belarus, including some who showed signs of radiation poisoning.

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