

RESEARCH ARTICLE

Between science and science fiction – the case of the Manhattan project: H. G. Wells, L. Szilard, and the nuclear narratives of World War II from U.S.A. to U.S.S.R.

62

Sebastian Korenić Tratnik^{*1} 

Abstract • The article examines the relationship between the technical science behind the Manhattan Project and its depictions in the literary genre of science fiction. It analyzes the complex connection between science and science fiction using the example of the invention of the atomic bomb and its positioning between the pre- and post-atomic eras. Drawing on the works of writers and scientists such as H. G. Wells and Leo Szilard, the article explores how ideas about nuclear technology were articulated, interpreted, and contested in science fiction in relation to scientific facts. The central research question is to what extent science fiction functioned as a mediating space where emerging nuclear technologies were reflected upon with regard to issues such as deterrence doctrine, political responsibility, and the ethical implications of technological power.

Zwischen Wissenschaft und Science-Fiction – der Fall des Manhattan-Projekts: H. G. Wells, L. Szilard und die atomaren Visionen im Zweiten Weltkrieg von den USA bis zur UdSSR

Zusammenfassung • Dieser Artikel befasst sich mit dem Verhältnis zwischen der technischen Wissenschaft hinter dem Manhattan-Projekt und ihrer Darstellung im literarischen Genre der Science-Fiction. Er analysiert die komplexe Verbindung zwischen Science-Fiction und Wissenschaft am Beispiel der Erfindung der Atombombe und ihrer Verortung zwischen der prä- und postatomaren Ära. Anhand der Arbeiten von Schriftstellern und Wissenschaftlern wie H. G. Wells und Leo Szilard un-

tersucht der Artikel, wie Vorstellungen über Nukleartechnologie in der Science-Fiction bezüglich wissenschaftlicher Fakten artikuliert, interpretiert und infrage gestellt wurden. Die zentrale Forschungsfrage ist dabei, inwieweit Science-Fiction als ein Medium fungierte, in dem aufkommende Nukleartechnologien im Hinblick auf Themen wie Abschreckungsdoktrin, politische Verantwortung und die ethischen Implikationen technologischer Macht reflektiert wurden.

Keywords • science, fiction, atomic, bomb, Manhattan

This article is part of the Special topic “Science fiction and technology assessment: Fiction, speculation, and the future of emerging technologies,” edited by W. Mehnert, I. Hermann, A. Belsunces Gonçalves, L. Schmeink, S. Ishak. <https://doi.org/10.14512/tatup.7324>

“I must die. So I will be *atomic*.”
Albert Einstein in Igor Kroitich’s
Grenzen der Vernunft (2023)

Introduction

The Trinity Test, conducted on July 16, 1945 at Alamogordo, New Mexico, was a moment of historical rupture. The first detonation of the atomic bomb opened the horizon for contemplating the end of the world and imagining a new atomic era. The visions later articulated by science fiction writers were already literary and quasi-mythical in the eyes of the scientists themselves. The most famous example, J. R. Oppenheimer’s quoting of the Bhagavad Gita (*Now I am become Death, the destroyer of worlds* (chapter 11, verse 32)) (Plenilune Pictures 2011, quoted from Arthur William Ryders translation (The Bhagavad Gita 1929)) contains this – even the project’s own architects perceived their work through a mythic, almost fictional lens.

^{*} Corresponding author: sebastian.korenici-tratnik@guest.arnes.si

¹ Jožef Stefan International Postgraduate School, Jožef Stefan Institute, Ljubljana, SI



© 2026 by the author(s); licensee oekom. This Open Access article is published under a Creative Commons Attribution 4.0 International Licence (CC BY).
<https://doi.org/10.14512/tatup.7273>
Received: 22. 10. 2025; revised version accepted: 13. 03. 2026; published online: 06. 07. 2026 (peer review)

The Manhattan Project (1942–1946) and the invention of atomic weapons not only transformed history and the history of science, but also left a lasting legacy in the history of literature. An exceptional case among these authors is Leo Szilard (1898–1964), a Hungarian-American physicist of Jewish origin, who was central to the birth of the atomic age, albeit in a paradoxical way. This article will use his case to briefly examine how the relationship between science and science fiction mediates between fiction and fact, assesses technology, and analyzes systems through artistic means, while giving people “our basic sense of what is real and what isn’t” (Disch 2000, pp. 12–13).

The atomic bomb

The atomic bomb predates its own invention. Before scientists, supported by the American government, created it, the concept originated in fiction literature. The term itself was coined by arguably the most famous British sci-fi writer H. G. Wells, who presented it as a weapon of nuclear warfare in connection to a future world government in one of his main stories, *The World Set Free* (1914), already before World War I. The book imagined a future where a new type of “continuing explosive” weapon harnessed atomic energy. The author described these bombs as “lumps of pure Carolinum” causing “a blazing continuing explosion,” which was “never entirely exhausted,” leaving the battlefield “sprinkled with radiant matter, and so centers of inconvenient rays,” with a “half period of seventeen days” (that is, its power halving every seventeen days, constantly diminishing toward a limit, never completely annihilated) (Wells 2018, p. 836). The term itself is introduced in the second chapter, titled *The Last War*, and plays a pivotal role in building up the narrative: “The gaunt face hardened to grimness, and with both hands



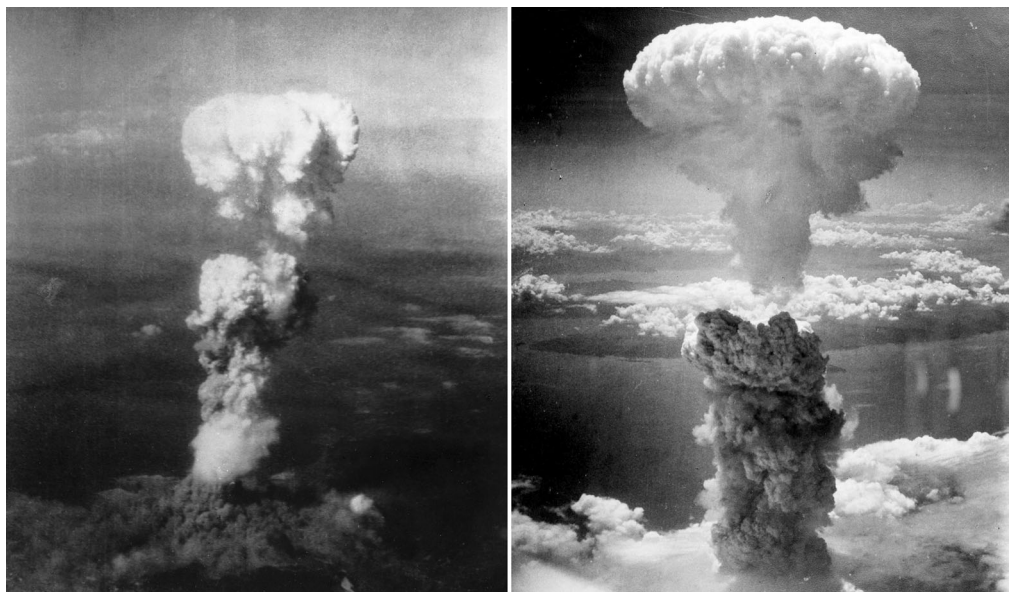
Fig. 1 Trinity Site explosion, 0.016 second after explosion (16th of July, 1945) presents the image of the first detonation of a nuclear weapon in history, which fueled the atomic imaginary of post-war science fiction. Source: Wikimedia commons

the bomb-thrower lifted the big atomic bomb from the box and steadied it against the side” (Wells 2018, p. 835).

Although Wells’ “atomic bombs” differ from the actual nuclear weapons developed decades later, his foresight in *The World Set Free* marked a special moment in science fiction, constituting what he called “a happy hit, on which the writer may congratulate himself” (Wells 2018, p. 787) in predating and predicting the use of atomic energy as a weapon, a concept not yet realized in his time. Furthermore, the book’s narrative was analytically prophetic, blending speculative technology with the sociopolitical implications of its use.

The vision of the book is radical: A global armed conflict with “the whole world flaring into a monstrous phase of destruction”; a total catastrophe with explosions spreading like wildfire,

Fig. 2 Mushroom clouds after detonation of uranium bomb Little Boy in Hiroshima (6th of August, 1945) and the plutonium bomb Fat Man on Nagasaki (9th of August, 1945). This completed the endeavours of the Manhattan project and ending World War II with a subsequent surrender of Japan. Source: Wikimedia commons



“Power after Power” going to war “in a delirium of panic, in order to use their bombs first,” with the “simple apparatus” eventually becoming universally accessible as “the only power left in the world,” making states or other institutions powerless to control it. All this is also fittingly placed in time, happening “by the spring of 1959” (Wells 2018, pp. 854–855).

This narrative is, in fact, a fictional extrapolation of actual scientific ideas taken from a real scientist. Wells dedicated the book itself to a physicist, Frederick Soddy, who was explicitly named in the dedication at the beginning of the book and acknowledged as the source of its core idea. Specifically, Soddy wrote about the concept of a chain reaction in his book *Interpretation of Radium* (1909), where he discussed “induced radioactivity”, i.e. the core idea of a chain reaction. Moreover, Wells was not the only fiction writer to explore an idea akin to atomic bombs. A similar exposition appears in George Griffith’s *The Lord of Labour* (1911), which describes stupendously powerful “explosives of radium and helium” (Griffith 1911, p. 216). What Wells and his contemporaries lacked in principle was the singular concept of the instantaneous, devastating explosion. The image of ‘atomic fire’ prevailed until the first mushroom cloud.

Similarly, but in the other direction, one can directly trace the influence Wells’ work had on some of the physicists of the Manhattan Project itself, foremost among them Leo Szilard.

Leo Szilard

Leo Szilard was primarily an applied physicist who worked on technologies such as electron microscopes, electromagnetic pumps, thermal and breeder reactors, and ultimately atomic bombs. He patented the nuclear chain reaction in 1934, co-designed the world’s first nuclear reactor in 1939 (realized in 1942), and became involved in the Einstein-Szilard letters to President Roosevelt (Reed 2014, pp. 126–127). Although long overshadowed by prominent figures and colleagues such as Albert Einstein, Robert Oppenheimer and Enrico Fermi, Szilard was also called “the man who could most plausibly be called the ‘Initiator of the Manhattan Project’” (Wigner 1992, p. 285).

Szilard was part of the so-called ‘Martians of Budapest,’ a cohort of (mostly Jewish-) Hungarian physicists and mathematicians who emigrated to the United States to escape fascism in the 1930s. Other prominent members of the group included Eugene Wigner, Edward Teller, John von Neumann, Paul Erdős, and others (Horvath 1997, p. 123). The term, which itself is inspired by the imagination of science fiction, refers to their apparent superhuman intellects, incomprehensible foreign languages, and exotic accents, which seemed to suggest an extraterrestrial origin (Rhodes 2012, p. 106).

Szilard’s connection with Wells was profound and began with reading his works in his youth. He later met Wells in person, traveling to London in 1929 and discussing the possibility of acquiring publishing rights for Wells’s books for the Central Eu-

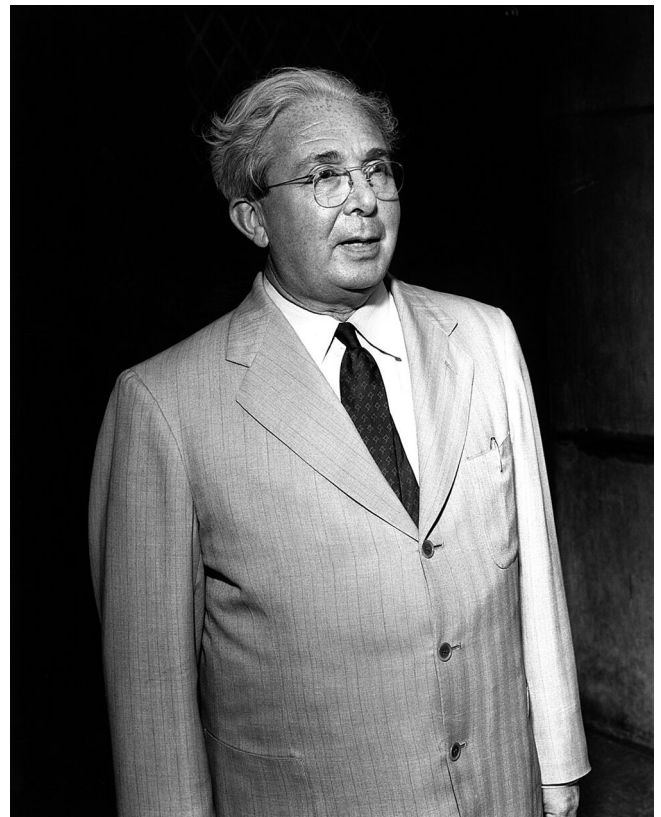


Fig. 3 Leo Szilard (1898–1964), physicist and key figure in the Manhattan Project, known for his nuclear chain reaction patent, co-design of the world’s first nuclear reactor, and the Einstein-Szilard letters to President Roosevelt. Szilard was also a writer of science fiction. Source: Wikimedia commons

ropean market. Although this connection did not bear fruit, the meeting had a deep impact on Szilard, who increasingly saw atomic power as essential for human survival and as a potential means for interstellar travel and the colonization of other solar systems (Weiss Szilard and Weart 1978, pp. 16–17). The seemingly prophetic quality of Wells’s speculative work had a lasting impact on Szilard’s understanding of the productive relationship between science fiction and science.

Szilard read Wells’s *The World Set Free* in 1932 and later recalled that it had a fundamental impact on his scientific outlook. In fact, Szilard explicitly stated that it was H. G. Wells who showed him “what the liberation of atomic energy on a large scale would mean” (Weiss Szilard and Weart 1978, p. 16), and he noted that he had “reason to believe that, insofar as the industrial application of the present discoveries in physics is concerned, the forecast of the writers may prove to be more accurate than the forecast of the scientists” (Weiss Szilard and Weart 1978, p. 38). For Szilard, it was Wells who made the possibility of atomic energy and artificial radioactivity real, contrary to the scientific consensus at the time. Yet, the influence was limited for a certain period: “This book made a very great impression on me, but I didn’t regard it as anything but fiction. It didn’t start me thinking of whether or not such things could in fact happen. I had not

been working in nuclear physics up to that time” (Rhodes 2012, p. 25).

It was not until a specific moment that he returned to the book from the serious scientific perspective of a physicist, leading to a breakthrough that gave it entirely new meaning. He himself did not think about the book again until a year later, when, in September 1933 in London (at the time of the annual assembly of the British Association for the Advancement of Science), an epiphany-like inspiration struck him that has since become mythical.

Science fiction typically serves as a repository of technological ideas and assessments of their hypothetical societal consequences.

After leaving the Imperial Hotel on London’s Southampton Row, where he was living at the time, Szilard was reflecting on a recent comment by Lord Rutherford that he had read in *The Times* on September 12, 1933. In the article, Rutherford criticized the idea of atomic energy, stating, “[. . .] anyone who says that with the means at present at our disposal and with our present knowledge we can utilize atomic energy is talking moonshine” (Kaempffert 1933, p. 1). Standing at a traffic light and pondering the article, Szilard was struck by the idea that “in certain circumstances it might be possible to set up a nuclear chain reaction, liberate energy on an industrial scale, and construct atomic bombs” (Weiss Szilard and Weart 1978, p. 17), thus arriving at the core possibility of realizing the atomic bomb and moving it from fiction to potential fact.

Becoming aware of the implications, he immediately decided to apply for a British patent on nuclear fission, describing the general principles of a chain reaction that could release energy on an industrial scale and enable the construction of atomic bombs. He also advocated secrecy among scientists on the topic, to prevent the knowledge from spreading, especially to Germany. These concerns intensified after he learned of Otto Hahn’s and Lise Meitner’s discovery of uranium fission through Niels Bohr in early 1939. Bohr’s report proved decisive: Reflecting on it later, Szilard recalled that the realization of neutron emission from the fission fragments made the possibility of a sustained chain reaction immediately apparent – “all the things which H. G. Wells predicted appeared suddenly real to me” (Weiss Szilard and Weart 1978, p. 53). What had long occupied his imagination through science fiction now seemed on the verge of scientific realization.

These developments culminated in the letter he co-signed with Albert Einstein on August 2, 1939, urging President Franklin D. Roosevelt to initiate a nuclear research program in response to the potential German effort (Hill 2018, p. 100). The warning proved effective, setting in motion the chain of events that would eventually lead to the Manhattan Project.

The post-World War II world

The years following the Manhattan Project left Szilard in deep reflection. Having played a role in developing a weapon of mass destruction, he faced not only probable feelings of guilt but also moral dilemmas about the future. In the aftermath of the detonations, he became increasingly interested in arms control and began to engage as a writer. After his *Franck Report* before the Trinity test in June 1945 and *A Petition to the President of the United States* in July – both pleas for the president’s moral con-

sideration of atomic weapons – were ignored, he continued to articulate his views on the issue after the war.

While he wrote popular science articles on the topic, he also used fiction to communicate the ideas that preoccupied him. All his fiction consists of short stories, reflecting the concise format of his factual writings on the same subjects published in scientific journals. Science fiction provided him with additional ways to express his views, going beyond straightforward analysis to include stories and images that resonated with audiences whose imaginations were stirred by the recent war catastrophes. The enjoyment of storytelling likely influenced him as well, allowing him to construct worlds in which he could immerse himself – not only escaping the reality of the postwar world, but also confronting the dramatic possibilities of the future.

One of his earliest stories, *My Trial as a War Criminal* (1949), addresses this culpability in a scenario where scientists are held accountable for creating weapons of mass destruction. He similarly tackles an active problem in a realistic way in *Security Risk* (1954), where he addresses the ongoing anti-Communist paranoia and McCarthy’s witch hunt, which reached its climax in the Oppenheimer hearings.

Some of Szilard’s texts reveal his lifelong preoccupation with institutions and their funding. An exploration of institutional deadlock in connection with science and scientific progress is present in *The Mark Gable Foundation* (1948), which tells the story of a nameless scientist in dialogue with foundation director Mark Gable, a man convinced that “scientific progress is too fast as it is” (Szilard 1992, p. 128) and who tries to slow it down by engaging the best scientists in fashionable nonsense.

Moving away from realism, in *Report on Grand Central Terminal* (1952), he presents a satire in which aliens analyze the ruins of post-nuclear war New York City, trying to understand the vanished society, reflecting on his own status as one of the Martians. Similarly, in his short text *Calling All Stars* (1949), a message broadcast is received from a planet where a society

of pure minds has detected Earth and the potential of humans, pondering the possibilities of biological evolution and their own existence being owed to and threatened by possible human co-operation.

As the arms race continued and both the U.S.A. and U.S.S.R. developed ever larger weapons, Szilard wrote more fiction about the nuclear arms race. In 1960, he wrote three articles for the 'Bulletin of the Atomic Scientists,' developing deterrence doctrine and his theses on minimal deterrence for a broader, non-

that initiating hostilities would result in devastating retaliation from these buried bombs. Concretely, "if America were to demolish two cities in Russia, for each city that Russia demolished in America, and if Russia were to demolish two cities in America, for each city that America demolished in Russia, then the destruction of even one city would trigger a chain of events which would, step by step, lead to the destruction of all American as well as all Russian cities" (Szilard 1961, pp. 410–411).

Scientific discourse informs narrative construction.

specialist audience (Szilard 1960a, b, c). Deterrence doctrine is about strategic dissuasion of the enemy by the possibility of retributory annihilation. His theoretical reflections in these scientific journal articles fueled his science fiction imagination. Subsequently, he wrote two of his main stories, synthesizing these articles in fictional form.

The first of these stories, *The Voice of the Dolphins* (Szilard 1961), is his best-known work. It is a complex tale, considered his magnum opus, in which he describes an institute established in Vienna that mobilizes the hidden cognitive superpowers of dolphins to solve humanity's global problems.

After the human researchers learn the language of the dolphins and began to teach and communicate with them, the dolphins' experimental suggestions lead to a series of Nobel Prize successes. They solve world hunger and population problems by developing an algae-derived food product named Amruss (i.e., America and Russia), which makes the institute rich. With this money, the institute establishes a chain of television stations featuring a global non-commercial program designed to analyze world problems objectively and rationally, free from political and other biases. This program is called *The Voice of the Dolphins*. The task of *The Voice* is to move beyond the ambiguity of politicians, "to clarify rather than to persuade" the field of politics, and to make it "possible for an intellectual leadership to arise in this field" (Szilard 1992, p. 54).

The book was timely, suggesting solutions to the political impasse between the two Cold War superpowers in the 1960s. In fact, Szilard himself traveled to the U.S.S.R. and met President Khrushchev, with whom he had a two-hour conversation and to whom he presented a translation of an excerpt from *The Voice of the Dolphins* (Lanouette 2013, p. 421).

In the second story, *The Mined Cities* (Szilard 1961), he presents an image of destruction that closely mirrors Wells. The vision is one of peace – but an unsettling, ominous peace, with the ever-present potential for catastrophe objectified in the bomb. The protagonist of *The Mined Cities* wakes up in a future world where all nuclear missiles have been dismantled, except for a fixed number buried beneath an equal number of American and Soviet cities. These hidden weapons serve as mutual deterrents: The superpowers in conflict understand

At the story's conclusion, the narrator notes that this entire sequence of events had been "predicted by Szilard in *The Voice of the Dolphins*", humorously adding the ironic remark that this was surely done by "pure coincidence." (Szilard 1961, p. 412). This intertextual link suggests that both stories articulate the same underlying concerns. While *The Voice of the Dolphins* is more widely known – Szilard even attempted, unsuccessfully, to adapt it for cinema – *The Mined Cities* represents his clearest literary realization of the deterrence doctrine he formulated as a scientist.

By addressing issues of nuclear deterrence and arms control, the story takes on the character of a thought experiment. It concludes with a hypothetical object: A three-volume encyclopedic publication eponymously titled *The Mined Cities*, providing a detailed factual account of the historical events leading to the mining of the cities. This future history remains open-ended and unpredictable – "for nobody can correctly foretell the events of the future; few people can even correctly tell the events of the past" (Szilard 1961, p. 412). Yet it can still be critiqued in advance. The critical aspect of Szilard's work resides precisely in this tension: It enables reflection on the consequences of technological power while ensuring that such a history remains fictional.

The quote also reveals the stylistic tendencies of Szilard's science fiction prose – prose shaped primarily by the mind of a scientist. This is illustrated in an anecdote involving Szilard and microbiologist Melvin Cohn. After reading Szilard's work, Cohn praised it, saying he enjoyed it, but Szilard seemed dissatisfied with the manner of his praise. He asked: "Why are you not saying it is great literature?", to which Cohn replied bluntly: "Because it is not great literature" (Lanouette 2013, p. 471); contrasting it with the works of literary giants like Kafka or Sartre, whose writing possesses "complexity and overtone" and demands an emotional response. Szilard's response was dry and sharp: "I am emotionally moved by extraordinary reasoning" (Lanouette 2013, p. 471). There is a strong rational orientation in his writing, which, to a literary connoisseur, might seem distracting or suggest a lack of conventional literary quality. His storytelling style reflects the mental processes of a scientist more than those of a typical science fiction writer.

Between science fiction and science

In contrast to the general inclusion of fictional elements with scientific components throughout literary history, the term ‘science fiction’ as a specific genre was introduced by Gernsback (1926) and definitionally explored by Roberts (2016). In relation to the development and assessment of technologies, science fiction is examined in various fields and researched for its potential to inspire the imagination of technological and other innovations. Technologies introduced in science fiction rarely influence technological development through the direct adoption of technical solutions; rather, science fiction typically serves as a repository of technological ideas and assessments of their hypothetical societal consequences (Bassett et al. 2013, p. 3). Mapping fiction-related methods onto the innovation and assessment process is complex and reveals that their application is diverse, including idea generation, technology inventorization, and invention development across industry and research organizations (Schimpf et al. 2026).

The fact that scientists read science fiction and also occasionally write it themselves, often incorporating references to their own scientific work, carries several implications. On one level, this phenomenon may indicate an explicit act of imaginative engagement with technical problems; on another, it could illustrate how scientific ideas are filtered through social, political, or ethical considerations. In this sense, it is practical to distinguish between a scientist’s sociopolitical convictions and their purely scientific or technical work.

Leo Szilard, who read H. G. Wells and later produced science fiction texts, provides an instructive example of the value of such categorization. Although some commentators have suggested that Szilard’s reading of Wells influenced his development of nuclear chain reactions, a closer reading indicates that the influence was more subtle: It appears to have shaped his perception of the political and social consequences of such scientific progress rather than the technical specifics themselves.

Szilard’s stories exhibit this process of reflection. They assess technological and scientific development through narratives, offering critiques of their sociopolitical consequences. The texts are less about transmitting scientific models (such as chain reactions, etc.) and more about raising awareness of the political and ethical stakes of nuclear science, as well as the broader societal implications of these scientific developments. Much of the transmission of the writer’s ideas is accomplished through dramatization and satire. The satirical element is omnipresent in Szilard’s writing, magnifying its critical and analytical content and serving as the narrative vehicle for reflection on technology assessment and system analysis.

Von Weizsäcker, a renowned German physicist who wrote the introduction to the German edition of Szilard’s science fiction, described his stories as “a spiritual gymnastics to be read as a rehearsal in the problems of coming decades” (Szilard 1963, p. 9), highlighting the historical significance of the truth content in his writings. Szilard’s texts create imaginary worlds of the

future, marked by dystopian scenarios related to atomic weapons, and seek to extract useful reflections from these future worlds for the present. The fictional worlds he creates offer hypothetical scenarios marked by satirical criticism, intended to imaginatively expose the political, social, and moral dilemmas implied by the scientific and technological developments of his own time for the future.

Conclusion

Recently, the idea of a ‘science fiction science’ has been proposed as a scientific extension of science fiction, in which the thought experiments of sci-fi stories are used as ‘sci-fi-sci’ behavioral experiments by applying the scientific method to simulate future technologies and their societal impact (Rahwan et al. 2025). The method consists of immersing participants in controlled experimental simulations of possible futures, obtaining quantitative measures of their attitudes and behaviors in response to speculative technologies that do not yet exist. The essential constraint it faces is one of prospective validity: Because the target technology does not exist, findings cannot be verified against a present reality, only against a future one.

In contrast, as science fiction, Szilard’s texts remain artistic works, integrating scientific ideas into their content to be able to offer through artistic means what scientific publications could not do for him as an author. The validity it pursues is not prospective but reflective: Not whether its scenarios will come true, but whether they make their readers think and act differently now. As an artistic methodology, adapting the sci-fi ideas in Szilard’s texts for future science can mirror his own adaptation of Wells’s tactics – by dramatizing technological possibilities and societal consequences, they allow both scientists and the general public to explore possible futures, confront dilemmas, and practice decision-making in hypothetical contexts.

In this way, Szilard’s work serves as an example of science fiction as an instrument for anticipatory and socially critical thought, rather than as a model for innovation. Imagination and knowledge interact through a feedback mechanism: Scientific discourse informs narrative construction, and narrative exploration feeds back into ethical and political discussions about technological development. The importance of these writings, historically and contemporarily, lies less in predicting what will happen than in developing critical thought in scientific and technological contexts, promoting reflective thinking, sustaining reflexive engagement and forming a vision of the future.

Funding • This article received no external funding.

Competing interests • The author declares no competing interests.

Ethical oversight • The author confirms that all procedures were performed in compliance with relevant laws and institutional guidelines.

Acknowledgements • I thank Igor Kroitzsch who shared his unpublished play *Grenzen der Vernunft* (2023) with me and who drew my attention to the writings of Leo Szilard.

References

- Bassett, Caroline; Steinmueller, William; Voss, Georgina (2013): Better made up. The mutual influence of science fiction and innovation. NESTA Working Paper 13 (7), pp. 1–94. Available online at https://media.nesta.org.uk/documents/better_made_up_the_mutual_influence_of_science_fiction_and_innovation.pdf, last accessed on 24.03.2026.
- Disch, Thomas (2000): *The dreams our stuff is made of. How science fiction conquered the world*. New York, NY: Simon and Schuster.
- Gernsback, Hugo (1926): A new sort of magazine. In: *Amazing Stories* 1 (1), p. 3. Available online at <https://manifold.umn.edu/read/the-perversity-of-things-hugo-gernsback-on-media-tinkering-and-scientifiction/section/33eb407d-e039-4269-81df-6480de7fbfd3>, last accessed on 26.03.2026.
- Griffith, George (1911): *The lord of labour*. London: F. V. White.
- Hill, Ian (2018): *Advocating weapons, war, and terrorism. Technological and rhetorical paradox*. University Park, PA: Pennsylvania State University Press. <https://doi.org/10.1515/9780271082783>
- Horvath, Tibor (1997): Theodore Karman, Paul Wigner, John Neumann, Leo Szilard, Edward Teller and their ideas of ultimate reality and meaning. In: *Ultimate Reality and Meaning* 20 (2–3), pp. 123–146. <https://doi.org/10.3138/uram.20.2-3.123>
- Kaempffert, Waldemar (1933): Rutherford cools atom energy hope; sees 'moon-shine' in the talk at present of releasing power in matter. In: *New York Times*, 12.09.1933.
- Janouette, William (2013): *Genius in the shadows. A biography of Leo Szilard, the man behind the bomb*. New York, NY: Skyhorse.
- Plenilune Pictures (2011): J. Robert Oppenheimer: „Ich bin der Tod geworden, der Zerstörer der Welten.“ Available online at <https://www.youtube.com/watch?v=lb13ynu3lac>, last accessed on 09.04.2026.
- Rahwan, Iyad; Shariff, Azim; Bonnefon, Jean-François (2025): The science fiction science method. In: *Nature* 644 (8075), pp. 51–58. <https://doi.org/10.1038/s41586-025-09194-6>
- Reed, Bruce (2014): *The history and science of the Manhattan Project*. Heidelberg: Springer. <https://doi.org/10.1007/978-3-642-40297-5>
- Rhodes, Richard (2012): *The making of the atomic bomb*. New York, NY: Simon and Schuster.
- Roberts, Adam (2016): *The history of science fiction*. London: Palgrave Macmillan. <https://doi.org/10.1007/978-3-642-40297-5>
- Schimpf, Sven; Lauster, Michael; Schwarz, Jan; John, Marcus (2026): Science fiction and innovation. A literature analysis on science fiction-related methods mapped into the innovation process. In: *Futures* 177, p. 103770. <https://doi.org/10.1016/j.futures.2026.103770>
- Soddy, Frederick (1909): *The interpretation of radium. Being the substance of six free popular experimental lectures delivered at the University of Glasgow*. London: John Murray.
- Szilard, Leo (1960a): How to live with the bomb and survive. The possibility of a Pax Russo-Americana in the long-range rocket stage of the so-called atomic stalemate. In: *Bulletin of the Atomic Scientists* 16 (2), pp. 58–73. <https://doi.org/10.1080/00963402.1960.11454052>
- Szilard, Leo (1960b): To stop or not to stop. In: *Bulletin of the Atomic Scientists* 16 (3), pp. 82–108. <https://doi.org/10.1080/00963402.1960.11454057>
- Szilard, Leo (1960c): Letters to the editor. In: *Bulletin of the Atomic Scientists* 16 (5), pp. i–ii. <https://doi.org/10.1080/00963402.1960.11454080>
- Szilard, Leo (1961): The mined cities. In: *Bulletin of the Atomic Scientists* 17 (10), pp. 407–412. <https://doi.org/10.1080/00963402.1961.11454283>
- Szilard, Leo (1963): *Die Stimme der Delphine. Utopische Erzählungen*. Reinbek bei Hamburg: Rowohlt.
- Szilard, Leo (1992): *The voice of the dolphins and other stories*. Stanford, CA: Stanford University Press.
- The Bhagavad-Gita (1929): Translated by Arthur William Ryder. Chicago, IL: University of Chicago Press.
- Weiss Szilard, Gertrud; Weart, Spencer (eds.) (1978): *Leo Szilard. His version of the facts. Selected recollections and correspondence*. Cambridge, MA: MIT Press.
- Wells, H. G. (2018): *The H. G. Wells collection*. London: Arcturus.
- Wigner, Eugene; Szanton, Andrew (1992): *The recollections of Eugene P. Wigner*. New York, NY: Springer.



SEBASTIAN KORENIČ TRATNIK

is a PhD candidate at the Jožef Stefan International Postgraduate School in Ljubljana, Slovenia. He has an interdisciplinary academic background: a BA in Philosophy and Art History, as well as MA degrees in Film Directing and New Media. His research focuses on philosophical aesthetics and information technologies.