

PROUNENFILM & PICASSO^{film}

presents

THE STORY OF THE ATOMIC BOMB

GLORY AND FATE OF THEIR CREATORS

Science in the service of war - in the midst of a moral dilemma that is more relevant today than ever

The race for the atomic bomb has been told many times. The story behind it has largely gone unnoticed: it is the story of those brilliant scientists without whom this bomb would never have come into being. The American J. Robert Oppenheimer is the most prominent of them, he is well known. **But four other scientists** have so far stood in his shadow. They were from Hungary, later fled fascism and went to the United States. There they dedicated their lives to the fight for freedom and entered into a Faustian pact: they wanted to prevent Hitler's victory at all costs, for this they fought with the means of mathematics and physics - and created the most devastating weapon of all time.

3 x 45 (52) min

WHY NOW?

Nuclear threat: The topic of the atomic bomb is becoming topical again in a frightening way. The threat of nuclear attacks has come back abruptly with Putin's aggression and nuclear armament in many authoritarian states. What seemed unthinkable for 30 years is back in reality: Worldwide, research into nuclear weapons is experiencing a frightening renaissance – the world's nuclear powers are investing billions in the development of nuclear explosive devices, which today are calculated much more accurately and can thus be used in a terribly more targeted ("tactical") way than the bombs of Hiroshima and Nagasaki.

Deterrence: In a multipolar world, the international community must once again face the urgent question of how to avert the danger of Armageddon; the doctrine of deterrence, based on John von Neumann's game theory, has returned.

Timeliness: Christopher Nolan's award-winning feature film 2023 impressively shows the inner turmoil of one of the most gifted physicists of his time in the development of a weapon of mass destruction that is unprecedented in history. Oppenheimer's justification lay in the fight against the Nazis, his later hope that the atomic bomb would make the Second World War the last war in history remains a naïve dream.

Beginnings: In the age of nuclear rearmament, the dilemma of a science that repeatedly crosses borders seems more urgent than ever. The current questions can only be answered if we go back to the beginning. That's what this documentary aims to achieve.

THE PROTAGONISTS

The creators of the bomb. They all have the same goal, the same mission, but one has different roots. And all of them will deal with the historical burden of their devastating invention in different ways.



J. ROBERT OPPENHEIMER, 1904-1967, the American equivalent of the Hungarian geniuses. Considered the greatest talent among U.S. physicists. Scientific director of the Manhattan Project and thus the "father of the atomic bomb". After Hiroshima and Nagasaki, he fought for arms control and against an arms race between the superpowers. Outlawed in the McCarthy era because of alleged communist activities in the USA.

JOHN VON NEUMANN (Janos Lajos Neumann margittai), 1904-1953, perhaps the most brilliant mathematician and scientific visionary of the 20th century. His calculations decisively accelerated the construction of the atomic bomb. Its mathematical architecture leads to the modern computer. He also invented game theory, on which the strategies of the military and business are still based today. And with his work, he is paving the way for today's generative AI.



LEO SZILARD (Leó Szilárd), 1898-1964, is the first physicist to recognize the possibility of a nuclear chain reaction and fears its horrific consequences. He convinces Einstein to write the famous letter to Roosevelt that leads to the Manhattan Project - the construction of the atomic bomb, in which he is instrumental.

EDWARD TELLER (Ede Teller), 1908-2003, He helped build the atomic bomb, then the hydrogen bomb, and later became one of the most controversial scientists of his time as the architect of US President Ronald Reagan's "Star Wars" program. Teller serves as the model for Kubrick's cult film "Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb".



EUGENE PAUL WIGNER (Wigner Jenő Pál), 1902-1995, a school friend of John von Neumann's, was involved in the construction of the first industrial nuclear reactor in Chicago in the 1940s, which was used to produce the raw material for the US atomic bomb. In 1963 he was awarded the Nobel Prize for his contributions to nuclear physics.

EXPOSITION: OPPENHEIMER

The documentary begins at the story's frightening peak – with J. Robert Oppenheimer and the test of the first atomic bomb at Trinity Site. The Holy Trinity - Oppenheimer himself had chosen the name. No one knew what would happen when the bomb was detonated – would it ignite the atmosphere or fizzle out like a fireball?

When it was all over, the researchers involved knew that a new age had dawned: henceforth, history would be divided into the time before and after the bomb.

The fate of Oppenheimer and the four Hungarian scientists was to be mysteriously linked in the years before and before. Without them, the atomic bomb would never have come into being. After Hiroshima and Nagasaki, three of them fought against nuclear armament – in vain. On the other hand, von Neumann and Teller proved to be apologists for an aggressive U.S. rearmament policy with A and H bombs.

The dramaturgy of the film picks up on the fateful connection between Oppenheimer, von Neumann, Szilard, Teller and Wigner and weaves it into an exciting chronology of events, in which the biographies converge like attractive forces and finally meet in the fight against Hitler in the Manhattan Project - for the construction of a weapon whose destructive power is also beyond their imagination.



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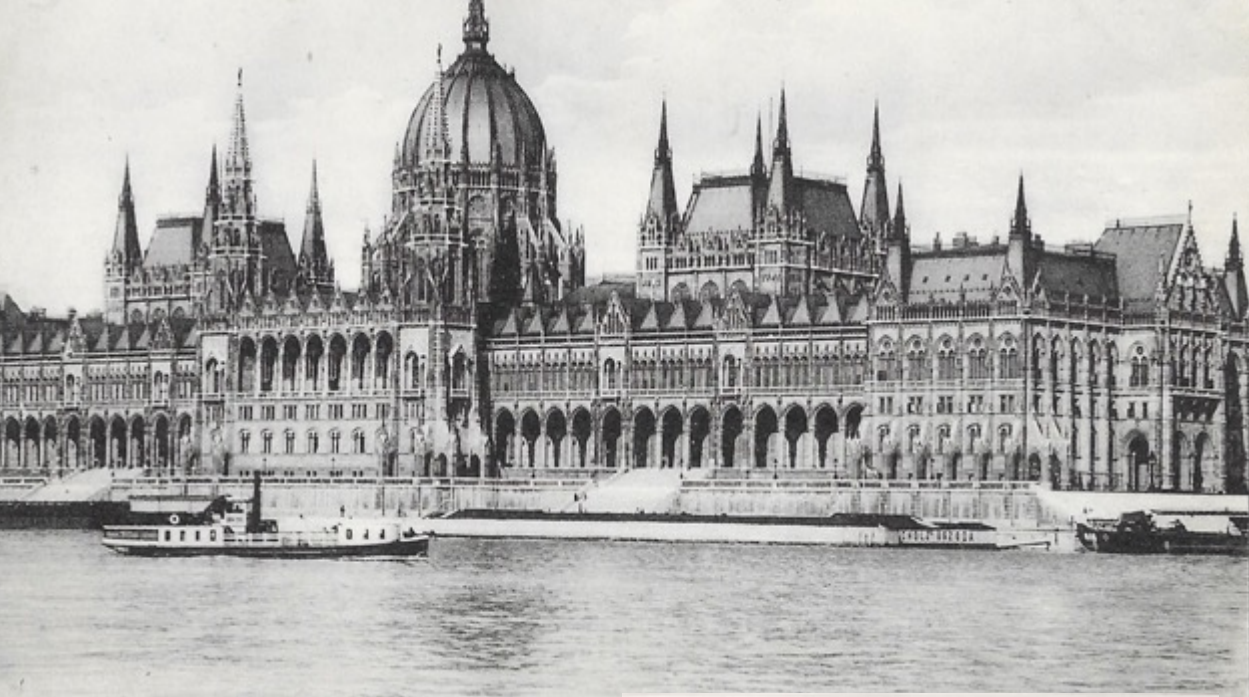
WHERE IT ALL BEGAN 1: NEW YORK CITY



Julius Robert Oppenheimer, the son of German immigrants from Hanau in the state of Hesse, grew up in New York. His father was an entrepreneur, his mother an art teacher who had studied in Paris and had a studio in New York.

Oppenheimer went to school at the New York Society for Ethical Culture in New York City. In February 1921, Oppenheimer graduated from the Ethical Cultural School with ten top marks. He later said, "My childhood had not prepared me in any way for the fact that there are cruel, bitter things in this world."

In 1922, Oppenheimer began his studies at Harvard University, graduating summa laude in 1925. His major was chemistry, but he also took subjects such as Greek, architecture, art, and literature. It wasn't until his third year of study that he became enthusiastic about physics. In 1926 he came to Göttingen to study. At that time, Göttingen was the center of quantum physics and, like many other physicists, Oppenheimer was drawn here to study at Max Born's Chair of Theoretical Physics. It was there that he met some of the Hungarian scientists for the first time.



WHERE IT ALL BEGAN 2: **BUDAPEST**

In the cradle of the 20th century, the metropolis of a golden age of civilization, a haven of humanism and freedom. Artists and intellectuals fill the famous cafes and talk day and night about mathematics, physics, literature, art, the emerging film and photography. It is a time when everything is new, adventures lurk in every discipline.

This rich breeding ground also fertilizes the minds of four extraordinary young men from the Jewish bourgeoisie. Their families are cosmopolitan, secularized and socially integrated. You yourself are fascinated by the perspectives of modern science – especially physics and mathematics.

When the first wave of anti-Semitism swept through Hungary in 1919 with the violent hordes of the Horthy regime, they were torn from their bourgeois security. Stigma and oppression drive them into exile – to Berlin, the world capital of an exciting new science, theoretical physics.

Soon, the four of them also have to flee Germany. However, they do not think of submitting to the barbarism that is spreading across Europe: each of them will change the world in the struggle for freedom and independence, for the beloved Europe of their youth, for their Budapest, which once opened up the perspective of a new world vision for them.



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EPISODE I

Exposition: Oppenheimer and the Bomb

The Beginnings in New York and Budapest

Oppenheimer's youth and the beginning of the age of natural science; the Hungarian Group of Geniuses, the Habsburgs and Liberalism

A spirit of optimism

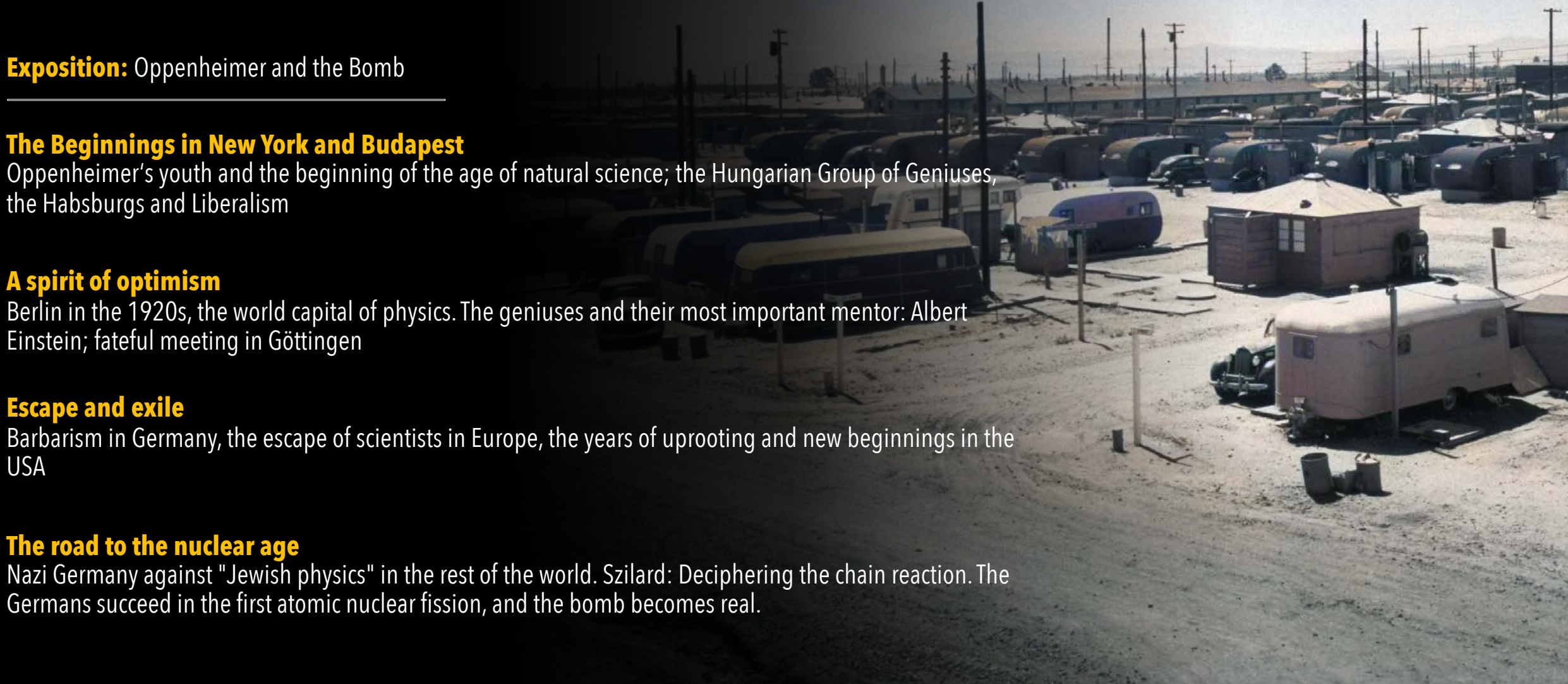
Berlin in the 1920s, the world capital of physics. The geniuses and their most important mentor: Albert Einstein; fateful meeting in Göttingen

Escape and exile

Barbarism in Germany, the escape of scientists in Europe, the years of uprooting and new beginnings in the USA

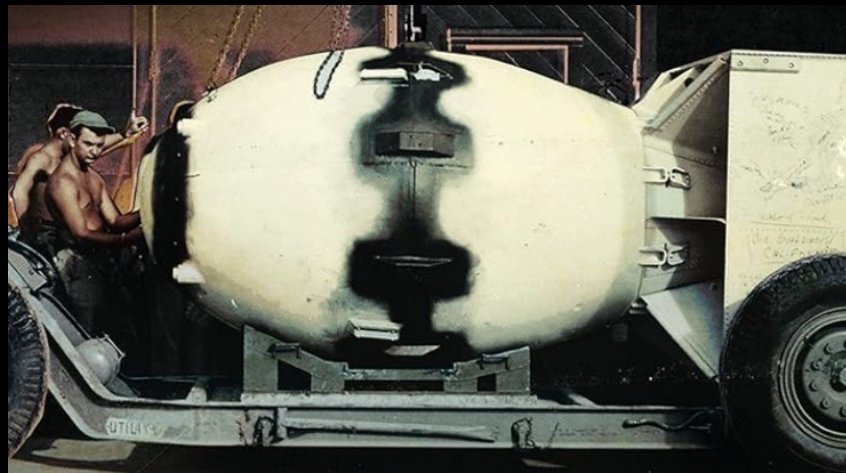
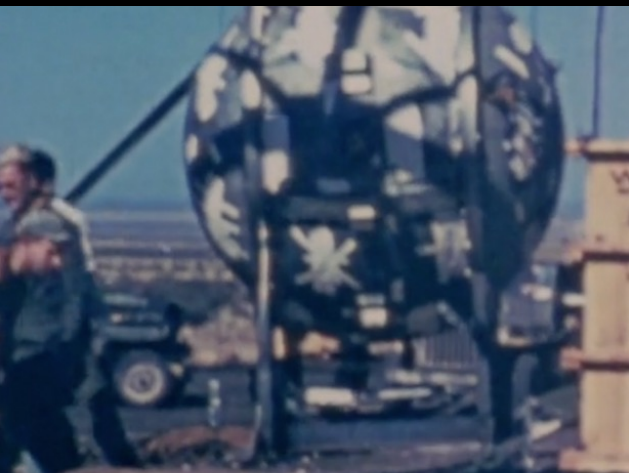
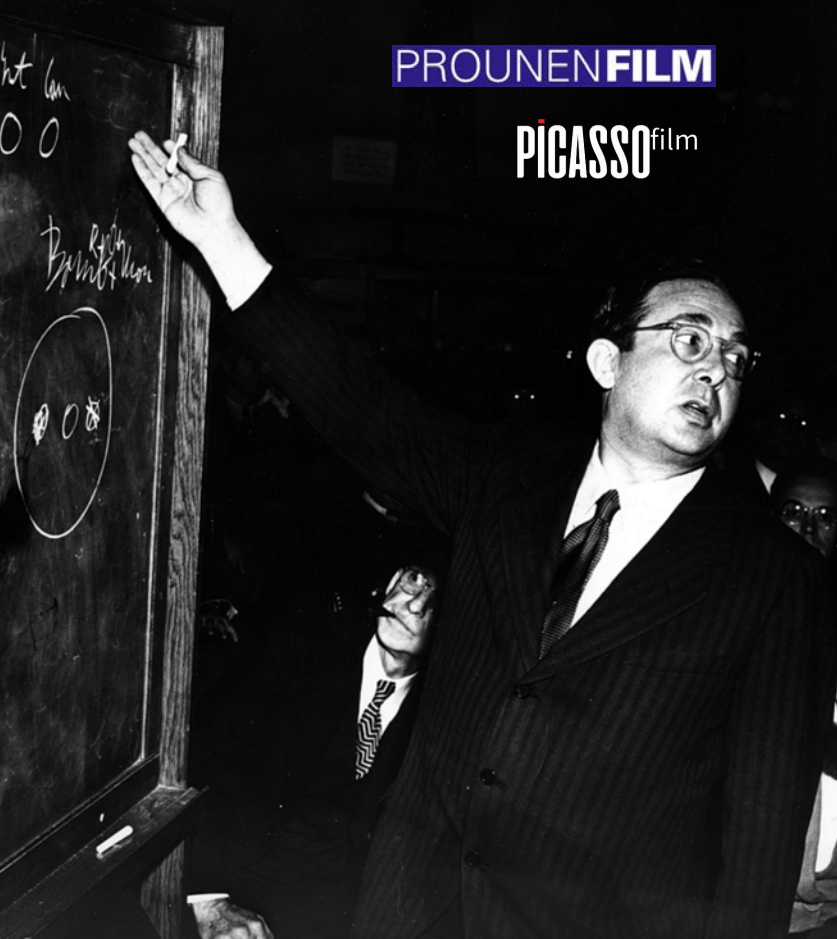
The road to the nuclear age

Nazi Germany against "Jewish physics" in the rest of the world. Szilard: Deciphering the chain reaction. The Germans succeed in the first atomic nuclear fission, and the bomb becomes real.



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EPISODE 2

Science in Times of War I Heisenberg and Nazi Nuclear Research; Alarm mood in the United States - the genesis of the largest scientific-military project in history

Science in Times of War II With the Manhattan Project, young scientists become soldiers on the scientific front. Cutting-edge research for the most terrifying weapon in human history. Leaders J. Robert Oppenheimer and General Leslie Groves as antagonists

The Nazi Capitulation Disenchantment of the "German nuclear program" and the beginning of the Cold War. Struggle of the superpowers for world domination and the powerlessness of scientists. Hiroshima and Nagasaki

EPISODE 3

The geniuses after the war. As the world grappled with the aftermath of nuclear war, these scientists faced a moral crossroads, torn between their scientific achievements and the ethical implications of their creations.

The episode delves into their personal struggles to reconcile with the moral dilemmas surrounding their work, offering a nuanced exploration of the complexities of scientific discovery, morality, and the lasting legacy of the atomic bomb through archival footage, interviews, expert analysis, and reenactments.

J. Robert Oppenheimer, known as the 'father of the atomic bomb', expressed remorse for his Manhattan Project involvement, enduring scrutiny and persecution during the McCarthy era.

John von Neumann, pivotal in hydrogen bomb development, faced moral dilemmas despite his contributions to game theory and computer science.

Leo Szilard, a Manhattan Project promoter, advocated nuclear disarmament post-war, dedicating himself to peaceful atomic energy promotion.

Edward Teller, often called the 'father of the hydrogen bomb', received criticism for aggressively pursuing nuclear weapons development, tarnishing his reputation despite scientific contributions.

Eugene Paul Wigner, grappling with the moral implications of his nuclear work, championed arms control and non-proliferation.



THE "SIDE KICKS"

Companions, enemies and spies



GEN. LESLIE R. GROVES, 1896-1970, military head of the Manhattan Project. He was considered an organizational genius, commanding the construction of the largest building in the world, the Pentagon, in record time. Always remained skeptical of the scientists at Los Alamos. "Only Oppenheimer has the leadership talent to swear the horde of unpredictable fools to a common goal," is his motto.



KLARA DAN VON NEUMANN, 1911-1963, computer scientist, one of the first women computer programmers in the world. In 1943, John von Neumann's wife took over as head of the Statistical Computing Group at Princeton University, which provided the essential basis for the calculations of the atomic bomb. After the Second World War, she programmed the MANIAC machine at Los Alamos, designed by John von Neumann and others.

WERNER HEISENBERG, 1901-1976, Founder of quantum mechanics, winner of the Nobel Prize in Physics in 1932 and the most dangerous German antagonist of Hungarian geniuses. Head of the "uranium project" of the Nazi Army Weapons Office for the production of a nuclear reactor and a possible bomb material. To this day, it is unclear whether he deliberately delayed the Nazi bombing project or simply failed due to a lack of resources.



KLAUS FUCHS, 1911-1988, nuclear physicist from Germany and Soviet spy. The convinced communist reveals the details of the Inner Circle of the Manhattan Project to the Soviets, thus creating the conditions for the construction of the Soviet bomb and the nuclear arms race of the superpowers in the Cold War. He was not unmasked until 1949 in England. After his release from prison, he worked as a nuclear physicist in the GDR.



FOOTAGE

THE STORY OF THE ATOMIC BOMB

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Original footage in colour – filmed between 1943 and 1945 and first published in the 1970s – show the research facilities at Los Alamos, the private lives of the researchers, their excursions into the surrounding mountains and their parties. "Many of them had the best time of their lives at Los Alamos," says physicist Freeman Dyson.

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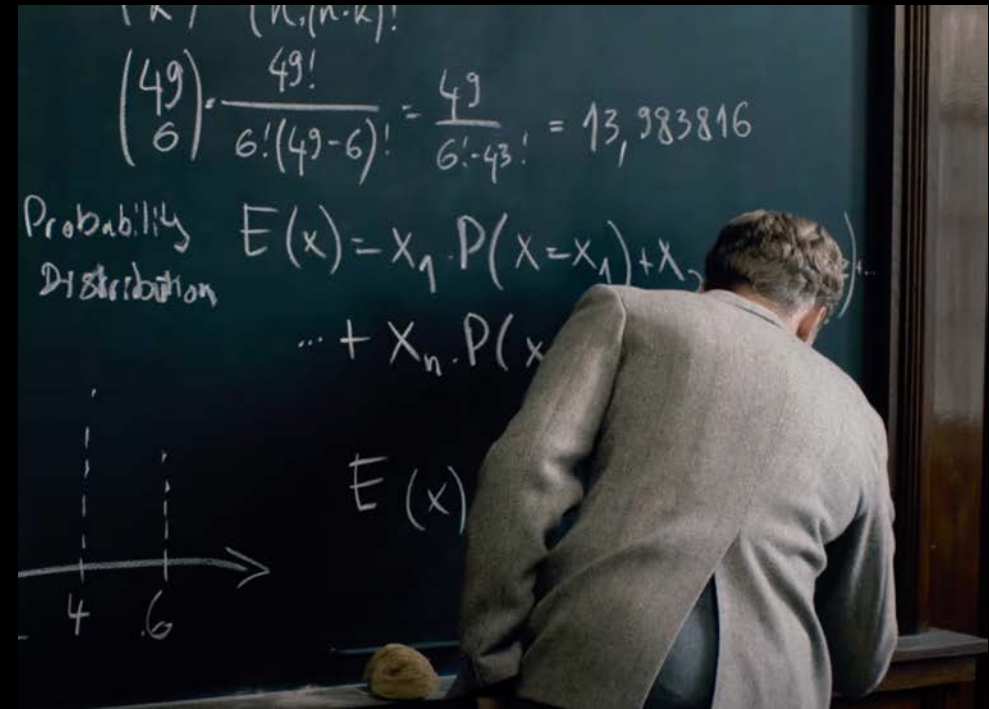
REENACTMENT

In our documentary series on the Manhattan Projects, we are committed to delivering an immersive and authentic viewing experience. To achieve this, we intend to produce reenactment scenes with the utmost attention to detail and historical accuracy.

The main important scene we plan to recreate is a pivotal moment in the development of the atomic bomb. This scene will depict the intense atmosphere and high-stakes environment of the History of the Atomic Bomb laboratories during the critical stages of scientific discovery.

Thorough Research, Script Development, Casting, Set Design and Costumes, Technical Expertise, Cinematic Techniques, Attention to Detail, Consultation with Historians

By adhering to these principles and methods, we aim to produce a reenactment that not only informs our viewers about the History of the Atomic Bomb but also transports them back in time to experience the historical significance and intensity of the events firsthand.





Kati Marton

Author „The Great Escape“ and („Nine Hungarian Jews who change the world“)



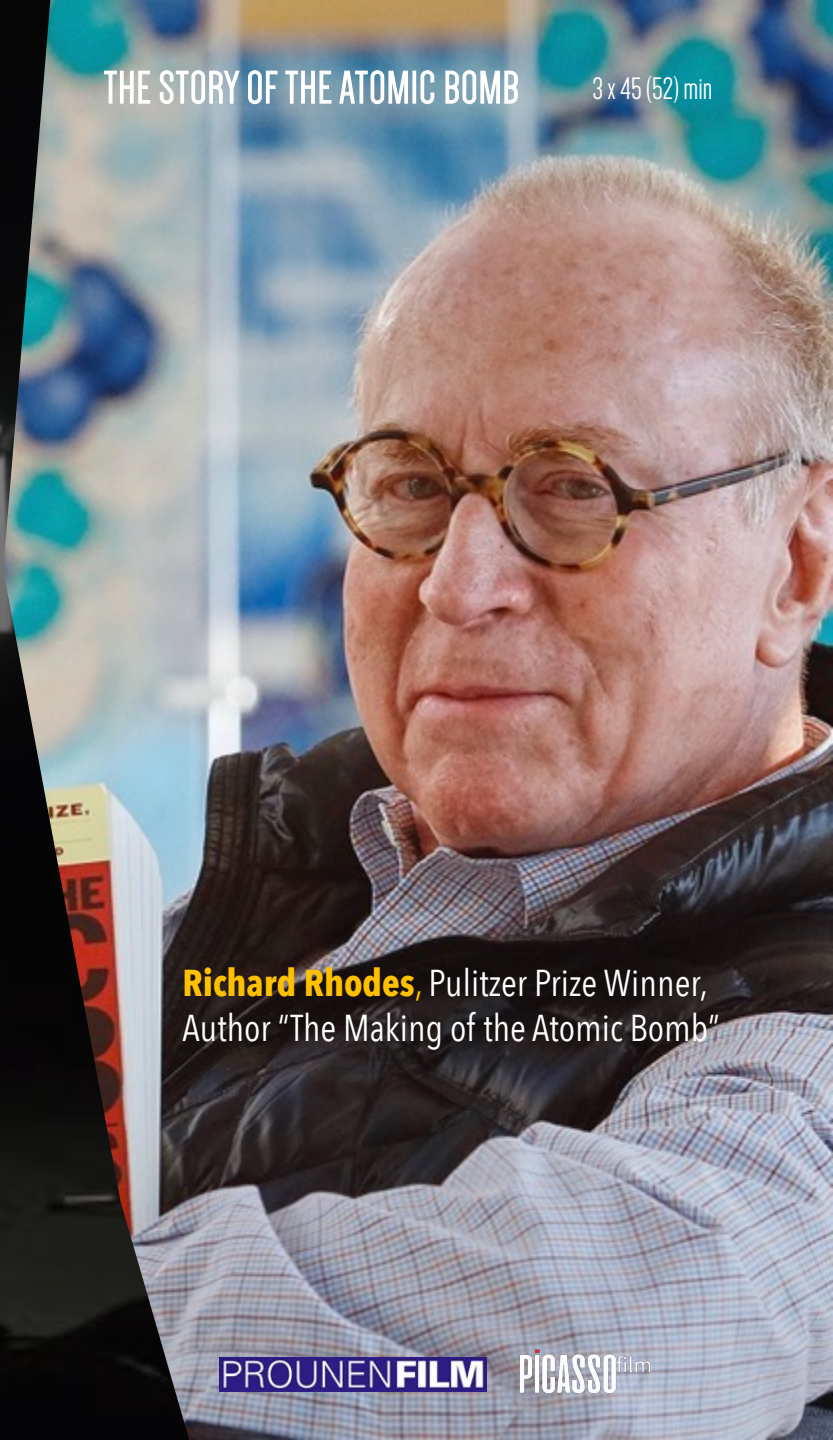
Silvia Nasar

Author „A Beautiful Mind“

OUR EXPERTS
(SELECTION)

THE STORY OF THE ATOMIC BOMB

3 x 45 (52) min



Richard Rhodes, Pulitzer Prize Winner,
Author "The Making of the Atomic Bomb"

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Madhumita Murgia, Journalist, AI-Expert Financial Times



Michael Schaaf, Historian of Science, Author of "Heisenberg, Hitler and the Bomb"



Mareena Robinson Snowden, Nuclear Safety Expert



Freeman Dyson (1923-2020), Physicist and mathematician, companion of Edward Teller

OUR EXPERTS (SELECTION)

THE STORY OF THE ATOMIC BOMB

3 x 45 (52) min

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OUR NARRATIVE

"What has once been thought can no longer be taken back." Friedrich Dürrenmatt, *The Physicists*

The history of the atomic bomb is not complete if it is not also described as the life story of exceptional personalities, each of whom experiences as a personal tragedy. Triggered by working on a weapon whose destructive power was beyond imagination.

John von Neumann after 1945, he feverishly pursued the vision of an autonomous machine, an intelligence that completely eluded human control. He dies an agonizing death of cancer under delusions

J. Robert Oppenheimer As the "father of the atomic bomb" after 1945, he suffered from feelings of guilt and psychological problems for the rest of his life. His fight for disarmament makes him an outsider

Leo Szilard fights fanatically for disarmament during the Cold War, turns away completely from physics and devotes himself to biology

Edward Teller Developed after 1945, driven by a fervent anti-communism, the H-bomb was a weapon with incomparably greater destructive power than the atomic bomb



OUR NARRATIVE

In the present, the continuation of this unique history must inevitably start with the development of new weapons - including nuclear weapons - which are inconceivable today without AI. Genetic engineering and AI can change life on this planet just as drastically as the atomic bomb once did. They lead us to the edge of human self-understanding. Man intervenes in creation, with incalculable consequences. At the heart of the matter is the question: Are scientists responsible for the results of their research?

And are we once again facing an "Oppenheimer moment" in world history?

A moment of massive responsibility that comes with an ethical dilemma. It has far-reaching consequences for the person making this decision and for all of humanity.

In the documentary, we ask the questions of social responsibility, transparency and control. The discovery of nuclear fission may have triggered the development of the atomic bomb. However, science alone does not cause harm, but the technological application and the way society deals with it.

QUOTES

**John von Neumann**

"We're creating a monster here, the consequences of which will change history - assuming there's still a history."

**Eugene Wigner**

"We believed that such a terrible weapon would force all powerful nations to unite."

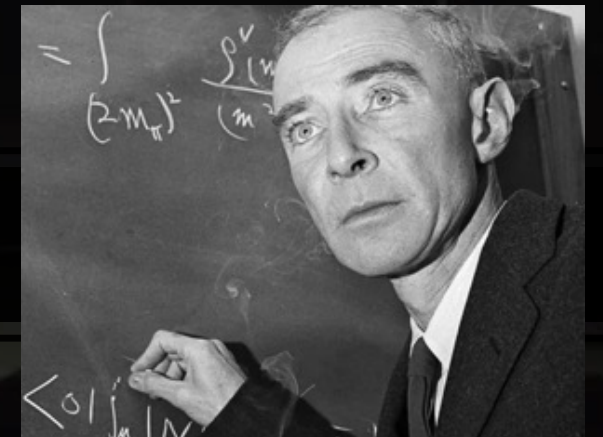
Edward Teller

"I have no hope of clearing my conscience. The things we are working on are so cruel that no protest can ever save our souls."

**J. Robert Oppenheimer**

"I remembered a line from a Hindu scripture, the Bhagavad Gita. In it, Vishnu says, 'I am now Death, the destroyer of the worlds.'"

In a way, that's what we all thought."



THE CREW



Thomas Ammann, journalist, author, producer. He studied visual communication with a focus on documentary film in Hamburg, worked for Spiegel TV from 1993 to 2008, where he produced dozens of TV magazine articles and reports as an author. From 2008 to 2014 he was the author/co-author of numerous TV documentaries, including "From Auschwitz to Entebbe - Israel's Fight against Terror" (Arte), "The Porsche Saga" (Vox/ N24) and "The Struggle for Freedom: Six Friends and Their Mission - From Budapest to Manhattan". Ammann was deputy editor-in-chief of stern magazine from October 2014 to the end of 2018 and is also the author/co-author of several non-fiction books.

PROUNENFILM



Michael Trabitza is an author, director and producer. He lives in Berlin, Germany. He established PROUNEN FILM in 2004 as a practice for documentary programs and the webContent agency prounenweb in 2016.

Among his previous/recently produced programs are:

- Charlotte Rampling – The Look, 90 min.
- The History of Death, 4 x 26 min.
- Max Beckmann – Departure, 90 min.
- The Noble Villas of Tuscany, 5 x 44 min.
- The City of Tomorrow, 4 x 26 min.
- The Angels Chronicle, 52 min. + 4 x 26 min.
- The Mission of the Geniuses, 2 x 52 min.
- The Proteome Code, 52 min.
- Stalin's James Bond, 52 min.
- Immigration Europe, 90 min.
- The Landscape of the first American Settlers, 3 x 44 min.
- David Hockney – Time Regained, 52 min.

PICASSO^{film}



Max Serio, a renowned TV and film producer, director, content creator, and the visionary behind the formation of Picasso Film. With a stellar track record, Max has made his mark as an executive producer, director, and creator on various esteemed platforms, including Netflix, National Geographic, Curiosity Stream, ZDF, Discovery Channel, RAI, France Télévision, RTL Germany, RMC, ITV, BBC, A&E, and History Channel. Over the past 14 years, in collaboration with www.bigmedia.tv Max has played a key role as an associate producer, contributing to the production of over 250 hours of documentary series that have been widely distributed and broadcasted worldwide

THANK YOU ALL FOR YOUR TIME AND ATTENTION DURING THE PRESENTATION.

YOUR ENGAGEMENT AND THOUGHTFUL QUESTIONS ARE GREATLY APPRECIATED.

IF YOU HAVE ANY FURTHER INQUIRIES OR REQUIRE ADDITIONAL INFORMATION, PLEASE DO NOT HESITATE TO REACH OUT.

YOUR FEEDBACK AND INTEREST ARE INSTRUMENTAL TO OUR SUCCESS.



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