

2022 GERMANY

INTERACTIVE INSTALLATION

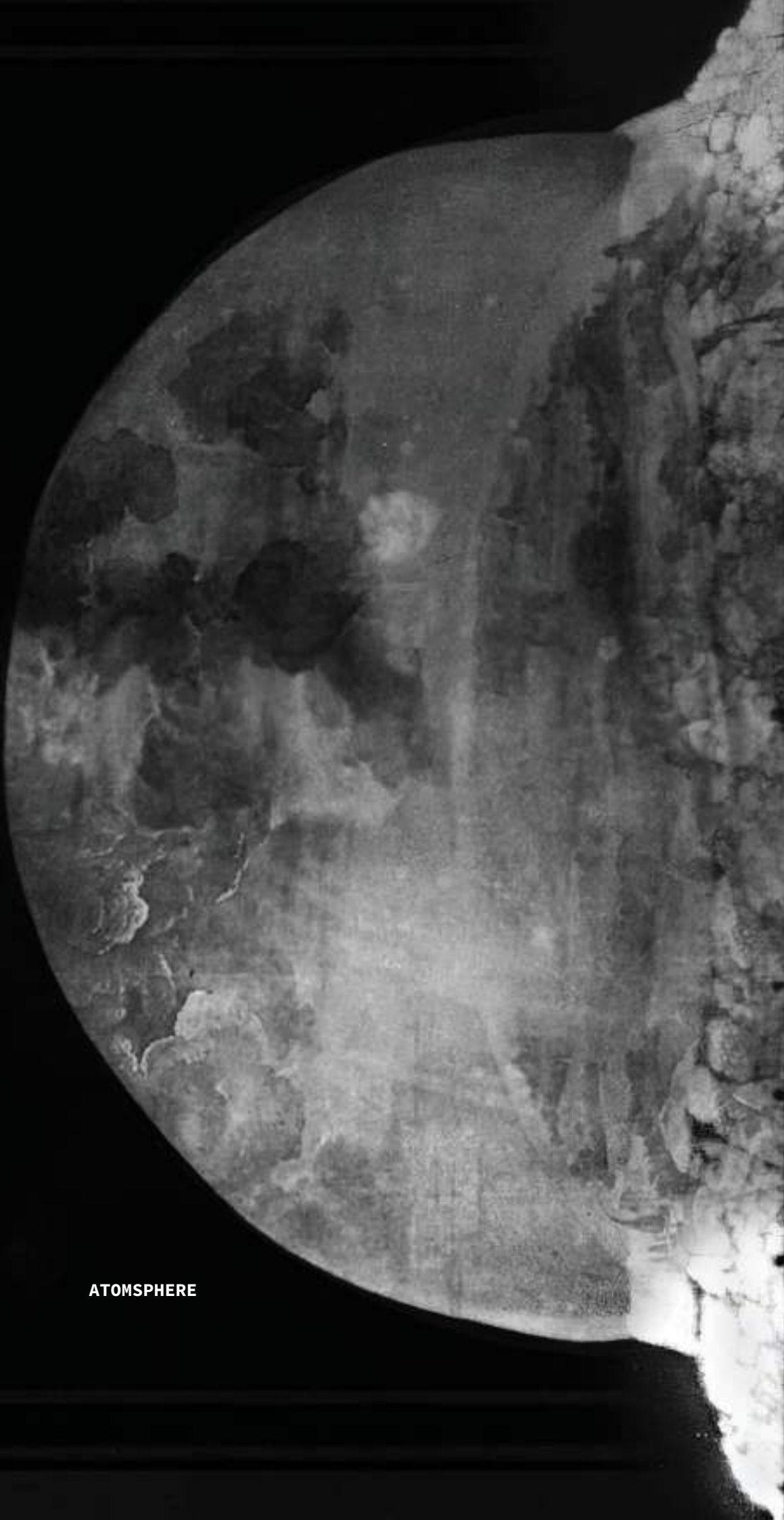
# TRINITY TWINS

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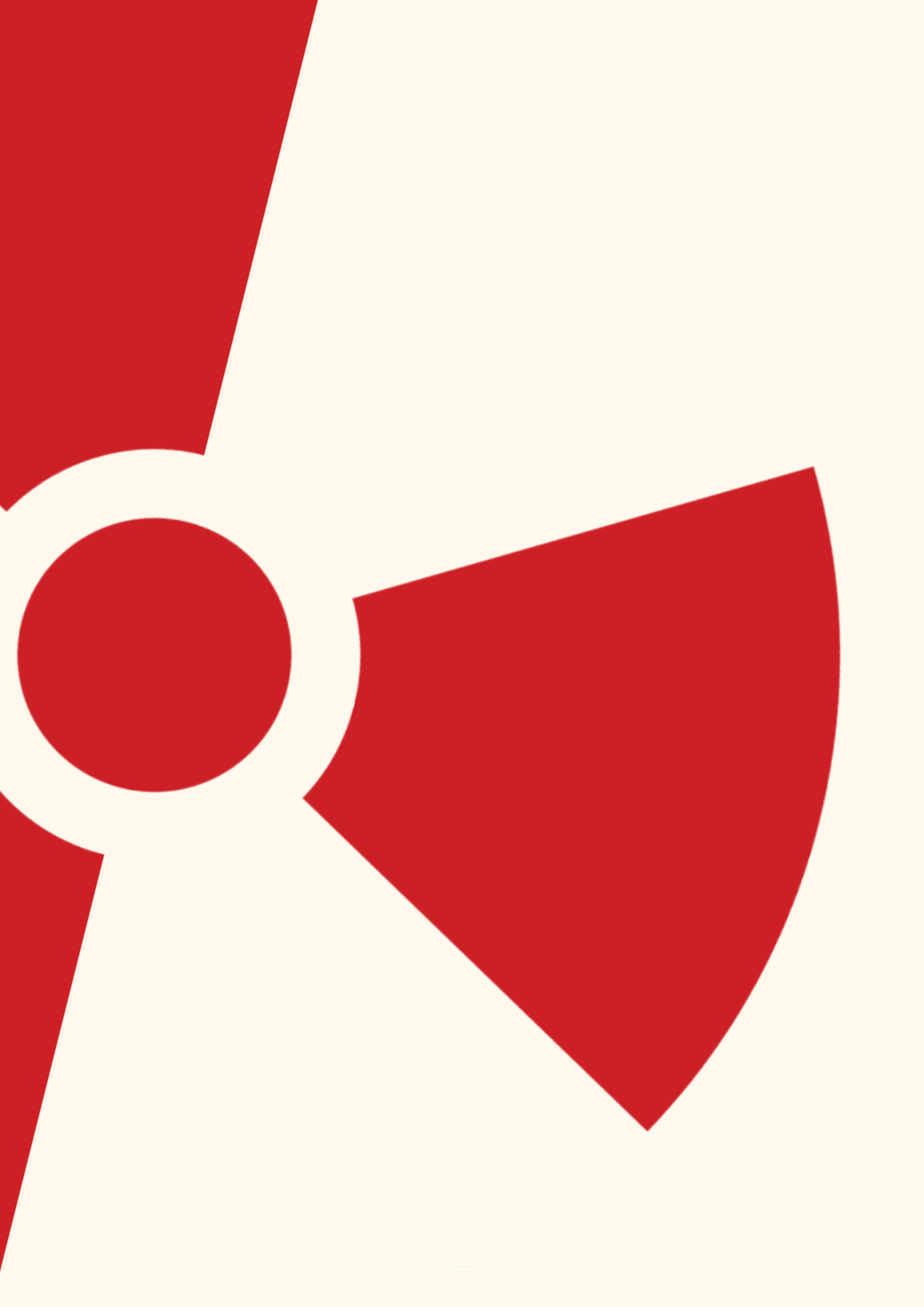
TRINITY & BOSCH



ATOMSPHERE

**TRINITY TWINS IS AN INTERAC-**  
**PHILOSOPHY**  
**TIVE FILM INSTALLATION ABOUT THE**  
**NUCLEAR AGE AND THE ATOMSPHERE.**  
**NATURAL BACKGROUND RADIATION**  
**TRANSFORMS DOCUMENTARY SCENES**  
**FROM PERSONAL NUCLEAR ENCOUN-**  
**TERS AND TRAVELS IN REAL-TIME.**  
**EACH ATOMIC INTERACTION IS RE-**  
**LEASING THE FILM FROM THE CON-**  
**STRAINTS OF LINEAR NARRATION**  
**INTRODUCING A QUANTUM CINEMA OF**  
**PERILOUS PROBABILITY.**

VISION



## ABOUT

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Trinity Twins is an interactive filmic installation in which radioactivity transforms documentary scenes from nuclear travels and encounters.

In 1999, I began to explore the cultural quality of radioactivity. This journey took me to Chernobyl, Geneva, Fukushima, Hiroshima, Vienna, Paranal, Karlsruhe, Haigerloch and finally Hechingen, my birthplace and headquarter of the German uranium club at the end of World War II.

My filmic installation “Trinity Twins” documents cinematic scenes of this fleeting acquaintance with the primordial nuclear force. The omnipresent cosmic radiation, measured with a Geiger-Müller counting tube, rearranges cinematic elements in real time and transforms them into **cinematic isotopes**. Each iteration is releasing the filmic documents from the constraints of linear narration introducing a **quantum cinema of pure probability**.

Thus, scenes of my work “Vor Sonnen-Aufgang / Before Sunrise” with the Slovenian avant-garde music group **Laibach** show the last days of the earth’s pristine **atmosphere**. In 1945, the German nuclear reactor experiment B8 in a cave in Haigerloch triggers a chain of unpredictable events: 664 uranium cubes on chains wait for criticality above a reactor pool filled with heavy water.

Directly above this reactor, on a rock, is a church. The name of this church is Trinity, just like the name

of the very first atomic bomb, which detonates shortly thereafter on July 16, 1945, in the desert Jornada del Muerto, the Dead Man’s Path, in New Mexico.

This first atmospheric nuclear explosion is the day zero of the **infossil** epoch, the beginning of the transformation of the atmosphere into the atmosphere, the context in which humanity, through the application and aspired mastery of atomic processes, begins to create a new planetary environment through the transmutation of **matter, machines, minds and money**. In the cave in Haigerloch humanity leaves her first radioactive cave painting, painted with radioisotopes on the canvas of time, the destroyer of worlds.

It is the beginning of the epoch, which has recently been assessed as sustainable. A foolish assessment, just consider the situation 2022 in Ukraine, where nuclear power plants are being held hostage at war without any accountability for radiation safety being addressed, a mere 3 weeks following the declaration of nuclear sustainability by the European Union.

It is time to take hold of our privilege to renounce.

Welcome to the **atmosphere!**

The premiere of Trinity Twins in Germany in 2022 took place while “unidentified” military units were invading the Chernobyl exclusion zone and the Zaporizhzhya nuclear power plant.

In each atom  
blazes forth the  
light of a thousand  
suns.

Mahmoūd  
Shabestarī  
(1288–1340)



# NUCLEO GENESIS

**VOR SONNEN-AUFGANG** PORTRAYS THE LAST DAYS OF EARTH'S UNTOUCHED ATMOSPHERE, JUST BEFORE THE BLUE FLASH IN THE JORNADA DEL **MUERTO** DESERT ON JULY 16, 1945.

IN EARLY 1945, WERNER HEISENBERG'S NUCLEAR REACTOR EXPERIMENT B8 IN THE ATOMIC CAVE OF HAIGERLOCH, GERMANY IGNITES A CHAIN OF ITERATIVE ERRATIC EVENTS: **664 URANIUM CUBES** ON CHAINS LONGING FOR CRITICALITY WHILE HOVERING OVER A REACTOR POOL FILLED WITH HEAVY WATER. RIGHT ABOVE THE REACTOR ON TOP OF THE CAVE'S ENCLOSING ROCK IS A BEAUTIFUL CHURCH, WHERE THE SON OF GOD ON THE CROSS IS HOVERING OVER THE **HEAVY WATERS** FROM THE REACTOR POOL RIGHT BELOW. A TRANSMUTATION OF THE BIBLE'S BOOK OF **GENESIS**, WHERE THE SPIRIT OF GOD IS HOVERING OVER THE WATERS OF THE ABYSS.

THE NAME OF THE CHURCH IS **TRINITY**, JUST LIKE THE NAME OF THE FIRST ATOMIC BOMB THAT DETONATED A FEW MONTHS LATER IRREVERSIBLY TRANSFORMING THE **ATMOSPHERE** INTO THE **ATOMSPHERE**. AN EFFORT TO SUPERSEDE THE GERMAN ATOMIC PROGRAM BELIEVING WHOEVER HAD THE BOMB FIRST WOULD WIN THE WAR.

FILMED ON THE "DAY OF THE SUN", A PUBLIC HOLIDAY IN NUCLEAR NORTH KOREA (WHERE LAIBACH BECAME THE FIRST-EVER WESTERN ROCK GROUP TO PERFORM), NIETZSCHE'S "ABYSS OF LIGHT" IS PUT INTO THIS ERRATIC ENIGMATIC CONTEXT, WHERE HUMANKIND, THROUGH THE APPLICATION AND "MASTERY" OF ATOMIC PROCESSES, BEGINS TO CREATE A NEW PLANETARY ENVIRONMENT THROUGH THE **TRANSMUTATION** OF ELEMENTS AND MINDS:

THE EPOCH OF THE **NUCLEAR ÜBERMENSCH** BRED IN THE PLUTONIC CAVE, WHERE WERNER **HEISENBERG** AND HIS COLLEAGUES CREATED MANKIND'S FIRST-EVER **NUCLEAR CAVE PAINTING** WITH RADIOISOTOPES ON THE CANVAS OF TIME. TIME, THE DESTROYER OF WORLDS (BHAGAVAD GITA, CHAPTER 11, VERSE 32), THAT FROZE IN JAPAN, THE LAND OF THE RISING SUN, ON AN EARLY SUMMER MORNING.

RADIATION

**A GEIGER**

**COUNTER POSITIONED ON A PED-  
ESTAL IN FRONT  
OF THE DOCUMEN-  
TARY PROJEC-  
TION ALTERS AND  
BREEDS THE FILM  
THROUGH NATURAL  
AND UNNATURAL  
ATOMIC INTERAC-  
TION.**

CINEMATIC ISOTOPES



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# INTER ACTIVITY

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## INTERACTIVITY

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The interactivity brought about by using a Geiger counter in the “Trinity Twins” installation enhances the audience’s engagement and participation in the artistic experience. The Geiger counter, as a radiation detection instrument, adds a dynamic and immersive element to the viewing process, creating a unique and thought-provoking interaction.

When the audience approaches the installation, they are drawn to the mysterious device placed under a glass hood on the pedestal. Upon closer inspection, they discover that it is a Geiger counter. As the audience observes the documentary footage projected on the screen, the Geiger counter periodically detects radiation in the environment.

The detection of radiation is visually represented by a red LED light that illuminates every time the Geiger counter registers radioactive particles. Simultaneously, the Geiger counter emits a distinct click sound, further immersing the audience in the experience.

This interactivity is multi-layered and impactful for several reasons:

**Heightened Awareness:** The presence of the Geiger counter raises awareness about the theme of nuclear radiation and its potential dangers. The clicks and LED indicators serve as reminders of the unseen and powerful force present in our environment.

**Real-Time Influence:** The detection of radiation in real-time creates a direct connection between the audience’s presence and the alteration of the film on the projection. The film is affected by the atomic interaction, making the viewers active participants in the unfolding narrative.

**Unpredictable Experience:** The randomness of radioactive particles detected by the Geiger counter adds an element of unpredictability to the installation. Each click and LED light trigger unique changes in the documentary scenes, making every viewer’s experience distinctive.

**Symbolism and Metaphor:** The Geiger counter, a fetish of fear, serves as a symbolic device, representing humanity’s relationship with nuclear energy and the precarious nature of nuclear technology. It can be seen as a metaphor for the potential consequences of human actions and the interconnectedness of our choices with the environment.

**Engagement and Reflection:** The interactivity encourages the audience to reflect on the implications of nuclear power and war, inviting them to contemplate the consequences of atomic processes and radiation on our world.

The Geiger counter adds an interactive and experiential dimension to the installation, fostering a deeper connection between the viewers and the themes explored in “Trinity Twins.” It encourages active contemplation and introspection, making the artistic experience more meaningful and thought-provoking for those who engage with it.

In each atom  
blazes forth the  
light of a thou-  
sand suns.

Mahmoūd  
Shabestari  
(1288-1340)

**THE **SETUP** OF THE ROOM IN “TRINITY TWINS” IS CAPTIVATING AND IMMERSIVE, DESIGNED TO EVOKE A SENSE OF INTRIGUE AND ENGAGEMENT FROM THE AUDIENCE. AS THE AUDIENCE ENTERS THE ROOM, THEIR ATTENTION IS DRAWN TO THE BACK OF THE SPACE, WHERE A LARGE **PROJECTION** SCREEN DISPLAYS DOCUMENTARY FOOTAGE RELATED TO THE THEME OF THE THREAT OF NUCLEAR WAR. THE FOOTAGE INCLUDES SCENES FROM THE VARIOUS LOCATIONS EXPLORED, SUCH AS CHERNOBYL, GENEVA, FUKUSHIMA, HIROSHIMA, VIENNA, PARANAL, KARLSRUHE, AND HECHINGEN.**

**POSITIONED IN FRONT OF THE PROJECTION IS A PEDESTAL, ADDING TO THE MYSTIQUE OF THE INSTALLATION. UNDER A GLASS HOOD ON THE PEDESTAL LIES A MYSTERIOUS DEVICE, REVEALED UPON CLOSE INSPECTION TO BE A **GEIGER COUNTER**. THE GEIGER COUNTER IS A RADIATION DETECTION INSTRUMENT, AND IT ENHANCES THE AUDIENCE’S ENGAGEMENT WITH THE INSTALLATION. PERIODICALLY, THE GEIGER COUNTER DETECTS RADIATION, SIGNALLED BY A RED LED LIGHT THAT ILLUMINATES, ACCOMPANIED BY A DISTINCTIVE CLICK SOUND.**







**THIS INTERACTION BETWEEN THE GEIGER COUNTER AND THE DOCUMENTARY FOOTAGE ON THE PROJECTION IS A FUNDAMENTAL ASPECT OF THE INSTALLATION. THE RADIATION DETECTED BY THE GEIGER COUNTER INFLUENCES THE PRESENTATION OF THE FILM IN **REAL-TIME**. IT CAUSES ALTERATIONS IN THE DOCUMENTARY SCENES, RESHAPING THE CINEMATIC ELEMENTS AND CREATING A DYNAMIC EXPERIENCE FOR THE AUDIENCE. THIS CONCEPT OF “ATOMIC INTERACTION” INTRODUCES AN ELEMENT OF UNCERTAINTY AND UNPREDICTABILITY TO THE STORYTELLING, ALIGNING WITH THE NOTION OF A “QUANTUM CINEMA OF PERILOUS PROBABILITY” MENTIONED EARLIER.**

**THE COMBINATION OF THE DOCUMENTARY FOOTAGE AND THE LIVE INTERACTION WITH THE GEIGER COUNTER FOSTERS A UNIQUE AND THOUGHT-PROVOKING EXPERIENCE FOR THE AUDIENCE, ENCOURAGING THEM TO REFLECT ON THE **CONSEQUENCES** OF ATOMIC PROCESSES AND THE IMPACT OF NUCLEAR FORCES ON OUR WORLD. IT BLURS THE LINES BETWEEN THE REAL AND THE ARTISTIC, INVITING VIEWERS TO CONTEMPLATE THE RELATIONSHIP BETWEEN HUMAN ACTIVITY, RADIATION, AND THE POTENTIAL DANGERS OF NUCLEAR POWER AND WARFARE.**



**THE PROJECTION IS A SEAMLESS (OVERLAPPING) 3840 X 1080PX VIEW-PORT.**

**THE PC (WINDOWS 10) SERVES 2 HDMI STREAMS 1920X1080PX AND 1 STEREO AUDIO SIGNAL.**

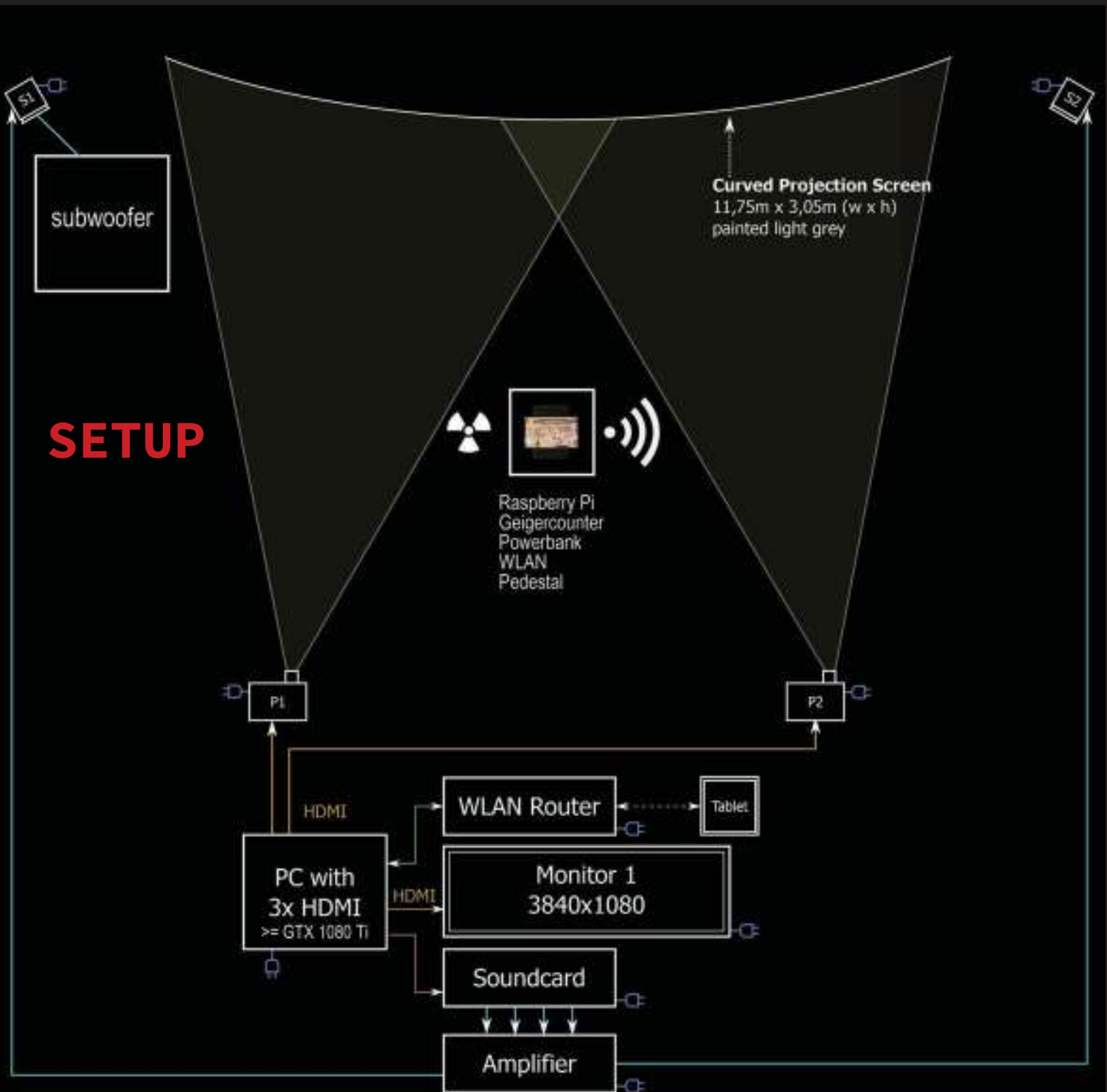
**WE PROVIDE A SPECIAL APP WRITTEN IN C++ THAT PERFORMS ALL REQUIRED ACTIONS.**

**A RASPBERRY PI WITH A GEIGER-COUNTER COMMUNICATES WITH THE PC VIA WLAN AND A PYTHON APP.**

**RADIOACTIVE IMPULSES WILL SPLIT THE RUNNING VIDEO IN REAL-TIME AND TRIGGER SOUNDS.**

**THE APP REMEMBERS ALL SPLITS AND ON EACH ITERATION, THE ORIGINAL FILM WILL GET SHORTER AND MORE COMPLEX.**

**ONCE THE FILM REACHES A CERTAIN COMPLEXITY, IT WILL RESET.**



Schematic system overview		<span style="color: black;">■</span> Device <span style="color: orange;">■</span> Video <span style="color: cyan;">■</span> Audio <span style="color: magenta;">■</span> USB/Firewire <span style="color: green;">■</span> Network <span style="color: blue;">■</span> Power
Project	PhonoLux Machine	
Version	1.2b	
Author	Holger Förterer	
Date	July 27th, 2023	
Notes	Stereo Speakers (S1-S2) plus subwoofer, 4000 Lumen WUXGA Projectors (P1-P2)	

*Atmosphere*



*Atmosphere*



**THE REAL RANDOMNESS OF NATURAL BACKGROUND RADIATION DETECTED BY THE GEIGER COUNTER STEMS FROM THE INHERENTLY UNPREDICTABLE NATURE OF RADIOACTIVE DECAY PROCESSES IN THE ENVIRONMENT.**

**NATURAL BACKGROUND RADIATION CONSISTS OF IONIZING RADIATION EMITTED FROM VARIOUS SOURCES, SUCH AS RADIOACTIVE ELEMENTS PRESENT IN THE EARTH'S CRUST, COSMIC RAYS FROM OUTER SPACE, AND RADIATION FROM NATURALLY OCCURRING ISOTOPES IN THE ATMOSPHERE.**

**RADIOACTIVE DECAY IS A RANDOM PROCESS AT THE ATOMIC LEVEL. EACH RADIOACTIVE ATOM HAS A CERTAIN PROBABILITY OF DECAYING, OR DISINTEGRATING, OVER TIME. WHEN A RADIOACTIVE ATOM DECAYS, IT RELEASES IONIZING RADIATION IN THE FORM OF ALPHA PARTICLES, BETA PARTICLES, OR GAMMA RAYS. THIS PROCESS IS ENTIRELY SPONTANEOUS AND UNAFFECTED BY EXTERNAL FACTORS.**

**THE GEIGER COUNTER, DESIGNED TO DETECT IONIZING RADIATION, REGISTERS THESE RANDOM RADIOACTIVE DECAY EVENTS AS CLICKS AND ACTIVATES THE RED LED INDICATOR. SINCE THE DECAY OF INDIVIDUAL RADIOACTIVE ATOMS IS A STOCHASTIC PROCESS, THE TIMING AND FREQUENCY OF CLICKS ON THE GEIGER COUNTER ARE ENTIRELY **UNPREDICTABLE**. THE GEIGER COUNTER RESPONDS TO EACH RADIATION EVENT INDEPENDENTLY, MAKING THE OCCURRENCE OF CLICKS APPEAR AS A RANDOM SEQUENCE.**

**THE RANDOM NATURE OF NATURAL BACKGROUND RADIATION DETECTED BY THE GEIGER COUNTER ADDS TO THE INTRIGUE AND UNPREDICTABILITY OF THE INTERACTIVE INSTALLATION. IT CREATES A SENSE OF UNCERTAINTY AND REINFORCES THE CONCEPT OF "QUANTUM CINEMA OF PERILOUS PROBABILITY," WHERE ATOMIC INTERACTIONS INFLUENCE THE UNFOLDING OF THE FILM IN REAL-TIME. EACH CLICK BECOMES A UNIQUE AND SPONTANEOUS ELEMENT IN THE VIEWER'S EXPERIENCE, UNDERSCORING THE COMPLEX AND EVER-CHANGING RELATIONSHIP BETWEEN HUMANS AND THE NATURAL WORLD, ESPECIALLY CONCERNING THE FORCES OF PEACE, RADIOACTIVITY AND NUCLEAR ENERGY.**

**TRINITY TWINS, BEING AN INTERACTIVE FILM INSTALLATION, OFFERS GREAT FLEXIBILITY IN TERMS OF SCALABILITY. HERE ARE DIFFERENT WAYS IT CAN BE SCALED:**

**SCALING UP: THE INSTALLATION CAN BE EXPANDED TO A LARGER, MORE IMMERSIVE SETTING. THIS MIGHT INVOLVE INCREASING THE SIZE OF THE PROJECTION SCREEN, USING HIGHER RESOLUTION PROJECTORS FOR ENHANCED VISUAL QUALITY, AND INCORPORATING ADDITIONAL AUDIO AND VISUAL ELEMENTS TO CREATE A MORE ENCOMPASSING EXPERIENCE. SCALING UP COULD MAKE THE INSTALLATION SUITABLE FOR LARGER VENUES OR EVENTS, ACCOMMODATING A LARGER AUDIENCE.**

**BUILDING FAÇADE PROJECTION: TRINITY TWINS CAN BE ADAPTED TO BE PROJECTED ONTO THE FAÇADE OF A BUILDING, TURNING IT INTO A PUBLIC ART INSTALLATION. BY PROJECTING THE FILM ONTO A MASSIVE EXTERNAL SURFACE, THE ARTISTIC MESSAGE CAN BE SHARED WITH A BROADER AUDIENCE IN URBAN ENVIRONMENTS, CREATING AN IMPRESSIVE AND THOUGHT-PROVOKING DISPLAY VISIBLE TO PASSERSBY.**

**MULTI-SCREEN DISPLAY: THE INSTALLATION CAN UTILIZE MULTIPLE VIDEO SCREENS ARRANGED SIDE BY SIDE, EACH WITH A RESOLUTION OF 3840X1080. THIS ARRANGEMENT ALLOWS FOR A PANORAMIC VIEWING EXPERIENCE, IMMERSING THE AUDIENCE IN THE FILM FROM MULTIPLE ANGLES AND CREATING A MORE ENCOMPASSING VISUAL NARRATIVE.**

**SCALING DOWN: FOR SMALLER SETTINGS OR LIMITED SPACES, TRINITY TWINS CAN BE SCALED DOWN TO FIT SPECIFIC CONSTRAINTS. BY USING VERY WIDE MONITORS WITH A RESOLUTION OF 3840X1080, THE INSTALLATION CAN STILL MAINTAIN ITS INTENDED ASPECT RATIO WHILE BEING SUITABLE FOR SMALLER EXHIBITIONS, GALLERIES, OR PRIVATE DISPLAYS.**

**REGARDLESS OF THE SCALE, THE CORE CONCEPT OF TRINITY TWINS REMAINS INTACT: THE INTERACTION WITH A GEIGER COUNTER AND THE DYNAMIC ALTERATION OF THE FILM BASED ON ATOMIC INTERACTIONS. THE ADAPTABILITY OF THE INSTALLATION ENABLES IT TO REACH DIVERSE AUDIENCES AND ENGAGE VIEWERS IN VARIOUS ENVIRONMENTS, EMPHASIZING THE IMPORTANCE OF THE THEMES RELATED TO NUCLEAR ENERGY, RADIATION, AND HUMAN IMPACT ON THE ENVIRONMENT.**

Nuclear  
missile,  
fuck  
you!

# ARTIST

## MICHAEL SAUP

Michael Saup is a German artist, researcher, instrumentalist, filmmaker and coder, pioneering the use of software as an artistic medium. He has acted as professor at HfG/ZKM in Germany and as the founding director of the Oasis Archive of the European Union. He is the co-founder of the Open Home Project, a humanitarian initiative to help people being affected by the Fukushima nuclear crisis in Japan. Michael Saup's work focuses on the underlying forces of nature and society; an ongoing research into what he calls the "Archaeology of Future". Among his works are sound driven computer animations, interactive concerts and interactive site-specific light installations. He shows in major museums, festivals and theatres worldwide, and has produced collaborative works with diverse, contemporary artists. He is based in Berlin.

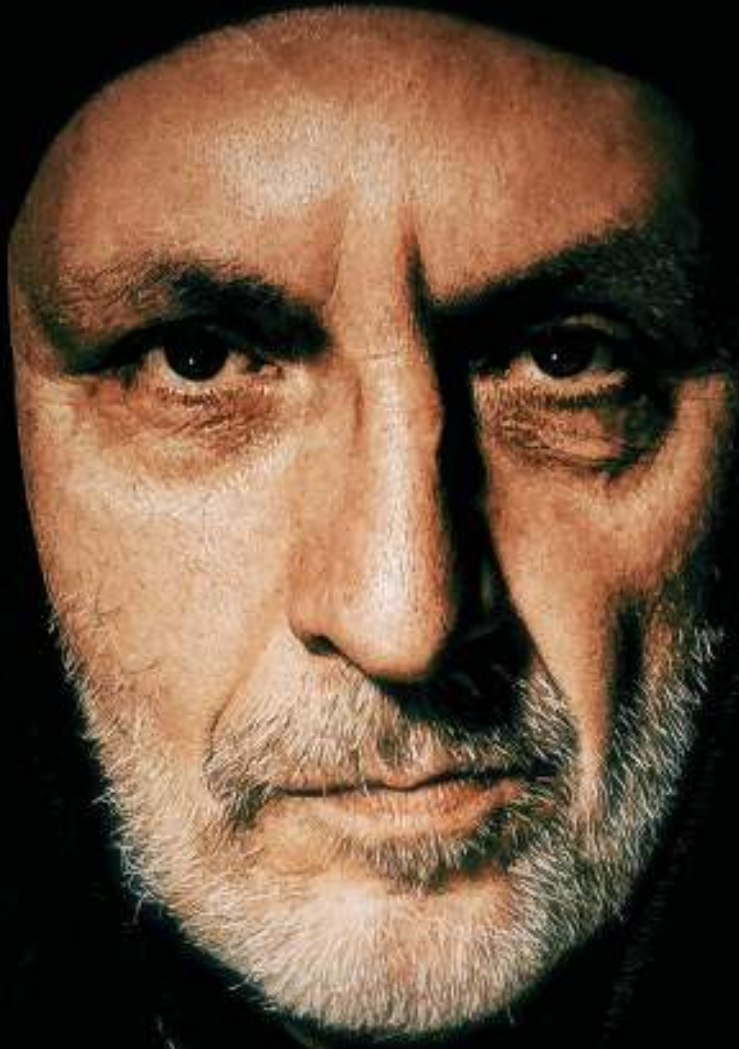
<https://1001suns.com/>

## DIRECTOR STATEMENT

As an artist, filmmaker, and educator, my creative journey has included pioneering the use of software as an artform, creating virtual digital worlds and images that respond to sound, and exploring radioactivity as a future art medium. I have exposed millions of people to mesmerizing light and sound experiences, introduced environmental VR, and explored the connection between energy and art. In times of crisis, I've assisted others in locating new homes and providing support.

My work reflects a deep reverence for nature and society and embodies the "archaeology of the future." Through teaching and collaborative projects, I have shared my passion and knowledge with others. Now living in Berlin, I continue to evolve and inspire through art.

PHILOSOPHY



VISION

# VIDEOS



KARLSRUHE  
UNESCO CITY OF MEDIA ARTS



KINEMATHEK  
KARLSRUHE



PHONOLUX  
MASCHINE

## 0.1 TRAILERS 3 MIN

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<https://youtu.be/j10C6nx7RHE> (EN)

<https://youtu.be/5EUAHGDErRI> (DE)

## 0.2 TEST NEW ELEMENTS FOR THE POST NUCLEAR WORLD

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<https://www.youtube.com/watch?v=zBrFwAyc6Pw>

## 0.3 TEST MINA TALKING

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<https://www.youtube.com/watch?v=cBFCQGsu0Sg>

## 0.4 4 TEST UPSCALE: 4 GEIGERCOUNTERS AND 4 STRINGS

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<https://www.youtube.com/watch?v=dVvttYjaJQg> (12, 34)

<https://www.youtube.com/watch?v=G4M2Wfd4uCY> (1234)

# Trinity Twins



## CREDITS

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Mina Špiler, Laibach, Voice  
Matevž Kolenc, Laibach, Strings  
Laibach, Laibach  
Marc Teuscher, producer  
Andreas Erhart, producer  
Holger Förterer, programming  
Michael Saup, director & programming

supported by  
Kinemathek Karlsruhe  
#unesccityofmediaarts

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