

Introduction

On July 16, 1945 at 05:29:45 local time (Mountain War Time), a team of scientists reached the culmination of the Manhattan Project, the first test of a nuclear weapon. The event was code-named "Trinity".

On July 16, 2005, at 05:29:45 local time we - a team of artists and engineers - will commemorate the 60-year anniversary of Trinity by simulating the look and feel of the detonation of a nuclear device. To do this, *we are building what is possibly the world's largest flame effect machine.*

This simulation is an act of protest, a way to awaken the public to the persistent threat of the world's nuclear stockpiles lurking just below the surface of our daily lives. Bringing the events long forgotten after 60 years into the present is a tool for healing – by creating a close connection with the destructive nature and history of nuclear technologies, peace will become the higher option.

A gallery show in July will accompany this event, allowing artists working in a variety of mediums to delve into the implications of atomic weapons that have pervaded our lives for the last 60 years. Additionally, we will plant 60 trees as a lasting and healing memorial grove. We are collaborating with some leading nuclear policy groups to add depth to the anti-nuclear statement we are making. Every piece of this project will be documented in photographs and video to reach the largest audience.

The Vision

In the 60 years since that world-changing moment that was the Trinity detonation, the Bomb has permeated the collective consciousness, shaped generations, economies, and nations, and within the last decade almost completely disappeared. Children today barely know the fears of the nuclear age. Ask most anyone on the street what he or she would do if there was an impending nuclear attack and they would likely stare at you blankly, not knowing what that would mean.

The Simnuke Project seeks to illustrate the needless threat of such limitless, destructive energy in the hope that no one will ever again experience the devastation of the real thing.

The Simnuke Project is a complete aesthetic: a commemoration of a moment in history that changed the world. It is performance art, drawing upon many elements to express outrage at the out of control buildup and maintenance of nuclear weaponry. It uses fire on a large scale to create a visceral experience of an atomic event. It is protest art. It brings into view the modern conundrum we are in - destructive weapons technologies pervade our lives, to the point of glorification, even fetish. It opens a dialogue for artists to contribute their interpretations, reflecting on the Bomb and its effect on our world. Perhaps most importantly, by making the destructive age unleashed 60 years ago relevant again through art, it is healing.

In the month of July 2005, we will commemorate the dawn of the Atomic Age with three events:

Nuclear Simulation in the Desert

A mushroom cloud of fire, rising 400 feet above the desert floor, on the precise anniversary of Trinity.

Gallery Show

An opportunity for artists to share their interpretations of the impact of the Atomic Age.

Planting of "The Trinity Memorial Grove"

60 trees, one for each year since Trinity, planted with the intention of providing a lasting positive legacy.

Goals

The Simnuke Project aims to make an artistic and historical difference in four key areas:

1. **Portray:** Using modern and safe flame effect technology, the closest thing to a nuclear event that most Americans on US soil could experience will be created. By taking accurate blast radius and weapon-efficiency measurements, we will provide a small group of people the experience of witnessing Trinity, precisely 60 years ago.
2. **Reclaim:** We strive to reclaim some of the destructive energy generated by the nuclear age, using it instead to promote awareness and peace. By taking matters into our own artistic hands, we own some of the light that has cast a shadow over our lives. We remind ourselves that destructive energy can be used for art, not just death. This project will benefit the public through education. The weapons of war that American generations have paid for, but not owned or controlled by us, will be brought to light – a mirror to the military-industrial complex and its effects on our lives will appear.
3. **Interpret and Protest:** In addition to our simulation of a nuclear event, we draw upon the artist community to interpret the bomb, nuclear energy, and their effects on society in their own ways. We create the space for these works to thrive: either in the desert around the event itself, or grounded in the gallery space. Bringing these works to light is an act of protest, in an attempt to awaken the public to the persistent threat of nuclear arsenals.
4. **Peace and Healing:** Bringing the events long forgotten after 60 years into present-day reality is a tool for healing. Viewers will reflect on how the bomb culture has affected them and the world that they live in. It is our hope that by creating a close connection with the destructive nature of nuclear technologies, peace will become the higher option, and viewers will be compelled to act.

The intended audience for the message of the Simnuke Project crosses age groups and demographics. Some will directly experience the commemoration itself in the desert. Others will visit the gallery. Many more will read or see media about the project and reflect on the Atomic Age.

Baby Boomers will recall fallout shelters and the Cuban Missile Crisis. Children of the Boomers, or “Generation X” (the artists’ age cohorts) will recall the absurdity of the nuclear stockpiling of the 80s. Children and teenagers that view glorified violence and explosions on a daily basis will be educated to the ways in which their world has been shaped by 60 years of nuclear development.

Present Reality

The nuclear threat lurks just below the surface everywhere. President George W. Bush and challenger John Kerry both described nuclear proliferation as the number one threat to US security in the 2004 debates. Pundits and US news organizations have of late devoted a great deal of time describing how the nuclear threat is just around the corner; nuclear weapons are a fixture of the post - 9/11 fear zeitgeist.

It was argued that the Iraqi nuclear threat was a premise to going in to the Iraq War. North Korea and Pakistan both have nuclear weapons and have sold the technology to other countries. Iran is developing nuclear weapons. India has nuclear weapons and is developing thermonuclear weapons. Russia is missing and has sold its nuclear weapon technology or materials. Israel, in the middle of the volatile Middle East, has the Bomb but denies it. Libya, Brazil, and South Africa all had and have abandoned weapons programs. Terrorists seek to carry suitcase nukes, or load “dirty bombs” into shipping containers.

The US military routinely uses depleted uranium in its bombs. The Bush Administration is pushing development of modern “tactical nukes” such as nuclear bunker busters, exiting the ABM treaty and has failed to ratify the Comprehensive Test Ban Treaty.

Historical Context

Trinity

The Trinity test took place at the Alamogordo Bombing Range, now the White Sands Missile Range. The device, nicknamed “Gadget”, exploded with energy equivalent to 20 kilotons of TNT. It left a crater in the desert 3 meters deep and 330 meters wide. The shock wave was felt over 160 km away, and the mushroom cloud reached 12 km. Around 260 personnel were present, none closer than 9 km. In those few milliseconds, the world was changed forever. Later, Robert Oppenheimer said, “The atomic bomb made the prospect of future war unendurable. It has led us up those last few steps to the mountain pass; and beyond there is a different country.”

Trinity changed more than war, it changed the balance of power in the world. Entire industries and economies were created and destroyed. Nearly 60 years have passed since this fateful

In *The Day the Sun Rose Twice*, Ferenc Morton Szasz writes:

Some scientists feel that the generation of the 1980s has less respect for nuclear weapons than the generation of the 1940s. The World War II scientists literally built the bombs with their own hands. They were familiar with all the features of their creation, from the ground up. Few people today can boast of this familiarity. Mathematician J. Carson Mark has half seriously suggested that all heads of state in the United Nations be forced to witness an atmospheric nuclear explosion once a year. The lack of appreciation of the power involved, [Los Alamos scientist I.I.] Rabi concluded, has created an atmosphere where human beings are considered “as if they were matter” with “nations lined up like those prisoners at Auschwitz.”

What happened at Trinity Site, therefore, has evolved into the most crucial issue of the twentieth century. The creation of the Los Alamos, Victor Weisskopf observed at the Los Alamos anniversary, “has become the unintended cause of the world’s tragic predicament.” “Forty years ago we meant so well,” Weisskopf continued, “but it did not turn out so well.”

The nuclear genie will never be put back in the bottle. In the New York Times of September 26, 1945, William Laurence wrote, “And just at that instance there rose from the bowels of the earth a light not of this world, the light of many suns in one.”

The Simnuke Project recreates a fraction of that light, but produces it in a way to build awareness of the Singularity born of that light 60 years ago, and how that moment has cast a shadow over life ever since.

Hiroshima and Nagasaki

The story of what happened at Trinity did not come to light until after the second atomic bomb was exploded over Hiroshima, Japan, on August 6. President Truman made the announcement that day. Three days later, August 9, the third atomic bomb devastated the city of Nagasaki, and on August 14 the Japanese surrendered.

Altogether, the two bombings killed an estimated 110,000 Japanese citizens and injured another 130,000. By 1950, another 230,000 Japanese had died from injuries or radiation. Though the two cities were nominally military targets, the overwhelming majority of the casualties were civilian. Precedents for bombing civilians were already well established, with thousands of firebombing runs used extensively through World War II by the US. However, the decision to bomb Hiroshima and Nagasaki - the first and last use of atomic weapons in combat - remains one of the most controversial in military history.

Those who made the decision, as well as most of the survivors, are long gone. The effects, though - the lingering scourge of radiation, the memory of the ghastly civilian casualties, the psychological impact of simply knowing that such a destructive force exists - remain.

The Cold War

Baby Boomers grew up with the direct threat of the Bomb from the then Soviet Union. They and their parents built bomb shelters in their backyards, and decorated them as vacation retreats. They waited out the Cuban Missile Crisis; President Kennedy, in a televised address on October 22, 1962, announced the discovery of Soviet missile installations in Cuba and proclaimed that any nuclear missile attack from Cuba would be regarded as an attack by the Soviet Union and would be responded to accordingly. People had a very real feeling of how close the world was to nuclear Armageddon.

In recalling memories of nuclear anxiety of the Cold War, suburban witness V. Chase recalls to CNN:

In the summer of 1962, we moved to Burlington, Vermont. This didn't get us any farther away from the Russians dropping a Big One in our lap. One of the Air Force's largest strategic bomber units was directly across from Burlington on the other side of Lake Champlain. In Burlington, I remember being disappointed that I no longer had to play "Duck and Cover." My new school was equipped with a Civil Defense shelter. We simply moved downstairs to the basement when the sirens sounded.

Children of the Baby Boomers (like us) knew of the threat, but it was removed from our direct experience. There is a whole generation growing up today only knowing of the vaguest appropriate actions to take in a nuclear attack. Our safety relied on "Mutually Assured Destruction", and Reagan sold the public that the MX missile was a "Peacekeeper".

Nuclear Art – as Reaction, Protest, and Inspiration

Throughout the 60-year history of the Atomic Age, many artists have explored the subject. "The Bomb", Salvador Dali intuited, "burns the mind and scars the imagination."

We draw upon many media and artists as inspiration for this project - Stanley Kubrick's *Dr. Strangelove*, the dystopian movies of the mid-80s, the pervasive bomb imagery in Japanese anime. The works of several artists such as Gregory Green and Jim Sanborn are particularly relevant. These artists built near replica nuclear devices, and bring the classified and mythical technology to the viewer. The works bridge the gap of the awesome power of the devices and the frailty of the human condition. Also, we admire the large-scale pyro displays of the renowned Chinese artist Cai Guo-Qiang.

Also inspirational are the campaigns of the Los Alamos Study Group to build awareness of New Mexico's nuclear legacy, and the works of The Center for Land Use Interpretation.

The awe-inspiring books of Richard Rhodes, Ferenc Morton Szasz, and the photographs in Michael Light's *100 Suns*, and others stimulated much thought. A complete list of the books used in reference can be seen in the Bibliography and further reading list at the end of this document.

Artists' Statements

Teiwaz

Growing up in the suburbs of Southern California, I was fascinated by the potential death and destruction of millions of people that the Bomb could unleash. The idea had an almost science fiction quality to it, as I tried to comprehend what that would mean for my world. I recall seeing the TV drama *The Day After* in 1983; I was 10 years old. This was my one of my first exposures to the cold war threat of a nuclear holocaust, and half the US adult population watched the controversial show, scaring the shit out of most of them, me included. I remember reading Carl Sagan, who explained "nuclear winter" and how it would be far worse than what was depicted in the drama. I was fascinated with how powerfully destructive a single warhead could be.

I want to exorcise these dream demons and fantasies from my youth. If the Simnuke Project can bring awareness and a dialogue about nuclear weapons and their proximity to our lives (there are in the range of 30,000 nuclear warheads in the world today), all facets of the project are more than worthwhile.

I see the Trinity event of 60 years ago as one of the most significant events of the last thousand years. The idea of commemorating this event has haunted my thoughts for the last three years - since our first test in 2002 of one of the six fans we will use for the simulation. Creating that intense heat and huge fireball had a profound effect on everyone who witnessed it. Placing this power in the historical context of the Atomic Age - creating a cauldron of protest to achieve a greater purpose - has become my duty.

Sparky

I spent the early part of my childhood in Houston, Texas. After numerous trips to Johnson Space Center, I KNEW that I was going to be an astronaut. I had huge plans for the future.

I began to lose my naïve worldview when the house we were renting was sold so that someone could put in yet another skyscraper; the huge tree in the backyard with my tree house was to be demolished. I then began to notice all of the "no children" signs on apartment buildings as we looked for somewhere else to live. In the late 70s as I headed towards adolescence, I grew more aware of the larger world outside and began to pay attention to and understand the implications of the news: OPEC and the gas lines, inflation, the Shah, neutron bombs and MX missiles. I remember thinking that Leonid Brezhnev was a scary looking man and that he was the one that decided our fate.

Nuclear winter, total annihilation, AIDS, proxy wars in Afghanistan, all these things left me and the other latchkey kids of my generation with the expectation that not only were we not wanted and weren't expected to amount to much, but that we had no future because we were either going to die from some pandemic or from nuclear war. Movies like Mad Max and Red Dawn resonated with me because the characters were thriving even in the face of utter destruction because they were fighting back.

Fast-forward to today. My generation had to raise itself and find its own way, and thus we're the ones innovating as we face the challenges of today. But now we have new threats being invented - new "Red Scares" to deal with.

Simnuke represents the opportunity to stop the madness by waking people up from their soma-induced psychosis. Killing machines, no matter how "technically sweet" are not something to ogle over; they shouldn't be fetish objects. I hope that this project will inspire audience members to start asking hard questions of our leaders about the direction they are taking us.

The Simnuke Project - Execution

The Simnuke Project absorbs these historical aspects, and reflects upon the 60-year history of the Atomic Age through art. The three events this July provide an opportunity to achieve our goals.

Nuclear Simulation/Realization

The centerpiece to the Simnuke Project, we intend to create an immense column of fire, roiling up to the sky in a searing mushroom cloud. Using the most environmentally and safety conscious means, we will burn fuel (not an explosion) shaped in a way to give the look and feel of viewing a nuclear event.

Simnuke is created with what is possibly the world's largest flame-effect machine, a "Gadget" comprised of six large fans with spray nozzle assemblies in front of the fans. The fans are arranged in a circle, with each fan pointed towards the center of the circle.

Using a series of pumps, fuel is driven through the valves to the nozzles to create droplets, and each fan creates an airflow that mixes with the fuel. As this mixture passes over the pilot light, the fuel is ignited and burns, but does not explode. Each of the six fans creates a plume of flame about eight feet wide.

We will place the fans in such a way that each plume merges. These join to form one extremely hot and large mushroom fireball that will rise toward the sky for hundreds of feet. A detailed technical specification is available.

In witnessing this simulation, the viewer (in person and in video documentation) will be able to map their historical and cultural experience to a visceral, body experience. The flash of light, the heat, the sound pressure wave will wake the audience from its long dream of distance from nuclear destruction. Around this altar, performers are invited to create an environment before, during, and after the “detonation”. This environment will further expose the stark realities of the nuclear hazard, and the glory of the human spirit - juxtaposing the destructive imagery of the mushroom cloud of fire with the joy of being alive. One idea is to have a “USO” type show in the hours before the performance, with the tone changing significantly after the Trinity burn.

With extensive video and photo documentation, the moments of July 16, 2005 can be distributed and shared, along with images and presentation through the simnuke.org website.

Gallery Show

With the intention of fostering unique interpretations of the Atomic Age, we have invited artists to participate in a San Francisco and traveling gallery show in July 2005. We will include artists who have explored the subject in previous works, as well as collect submissions from any other interested creators. We expect about 20 artists creating 30 pieces – enough to fill a medium-sized space. We have already received proposals for works in folded paper, ceramics, metal sculpture, and more. An accompanying website will allow the gallery pieces to be viewed by visitors all over the world.

The Trinity Memorial Grove

We intend to plant 60 trees, ideally in fire-damaged areas around Los Alamos, or Northern California redwood forests. Each tree is a point of healing, a point of honor to the environment, and a lasting show of respect to those who have lost their lives because of nuclear technology. A single tree for each year since the Trinity event, symbolizes the growth that has happened in the time that has passed.

This grove represents our stewardship over our project, our duty to the earth and to the victims of the Atomic Age, and to have a lasting positive legacy. With sufficient interest, this could be an ongoing pilgrimage – to plant a tree each year going forward. We intend to have the site marked with a stone and plaque. We are exploring options for locations of this grove on both public and private lands.

Documentation – photographs and video

Much of the value of the Simnuke Project is in the documentation that can then be published far and wide. The moment of the anniversary will be witnessed by just a few, but will resonate throughout the media – captured in film and video. We have a film crew that is videotaping the entire process from building to execution of the Trinity event, through the gallery show and tree planting. We expect significant media coverage of this event, and are briefing news organizations with the project vision.

Collaboration with nuclear policy organizations

We are building collaborations with groups such as the Nuclear Age Peace Foundation, Nuclear Policy Research Institute, Downwinders, and others to leverage the Simnuke Project’s appeal into a deeper, more meaningful, educated, and far reaching message. The Simnuke Project is made possible with the fiscal sponsorship of the Cloud Factory Collective for the Arts, a 501(c)3 organization.

Ongoing/Traveling Exhibition

Through the remainder of 2005, we will pursue opportunities to present the Simnuke Project's "Gadget" at other locations throughout the world that have been affected by nuclear weapons. We have designed the system such that the full or a portion of the flame effect can travel using standard shipping methods. We envision the Gallery Exhibit traveling to other locations in the US and Internationally.

Environmental Impact Statement and Harm Reduction

We are environmentalists, and are planning to use the most ecologically responsible means possible to execute this project. This project has two primary sources of environmental impact: consumption of hydrocarbons and large flame.

By using primarily biodiesel (which is created from recycled vegetable and fry oil) as our fuel, we avoid contributing to the problems of a petroleum-based world by using hydrocarbons that are part of the carbon cycle. Even so, the Simnuke project intends to end up with a significant net negative carbon use through two other means:

First, the planting of the Trinity Memorial Grove is a way to help reduce the carbon emissions that we will release with this project. Each tree planted will absorb an average of approximately 46 pounds of carbon dioxide every year as it grows, and 60 trees would equal roughly in excess of 2760 pounds per year. Thus, the grove will absorb considerably more carbon dioxide over the course of a few years than the project will generate.

Second, for each fan used in the project, we will also purchase "Green Tags" from the Bonneville Environmental Foundation, supporting the development of clean renewable energy. From their website (<http://www.b-e-f.org>): "Green Tags are created when wind power or other renewable energy is substituted for traditional power. The result is a shift away from our dependence on burning fossil fuel to produce electricity. Using clean renewable energy is friendly to the environment and reduces emissions of carbon dioxide and other greenhouse gases. Green Tags represent the real savings in carbon dioxide and other pollutants that occur when green power replaces burning fossil fuel." "BEF Green Tags support new renewable electricity generation, which offsets the environmental effects of burning coal, gas and other fossil fuels in the region where the renewable generator is located, and helps shift the overall energy mix toward more renewable resources."

Any large flame generates a great deal of heat, and the heat coming off of the Simnuke flame effect is an integral part of the performance. In order to prevent scarring of the desert floor, the system will be raised off the ground and placed upon a burn platform to eliminate the possibility of any scarring. Additionally, we are using the minimal amount of fuel to achieve the desired effect.

Safety

Safety is our utmost concern in conducting this project, and safety measures incur the greatest expenses in the budget. We are using tried and tested pre-existing technology. The flame effect will be operated remotely, with a safety perimeter of 300 feet for the audience. All plumbing, valves, pumps, and hardware used will be appropriately shielded, and rated above minimum specifications for this application. All flammable materials will be properly stored and transported. A complete safety plan with specifications is available.

Locations and 2005 Timeline

Winter through summer: Pre-event testing

A series of tests of portions of the flame effect system will be performed in winter and spring in desert locations (we have already performed one test, Summer 2002). We will use these tests to quantify specific variables, such as placement, temperature blooms, heat rise, fuel volume, and other items. We will also use these tests as opportunities to document the effect in photographs and video for publication and to raise awareness of the project.

April 2 - Trinity Site Visit

Trinity Site is open to the public two days a year, and on April 2nd, the Simnuke team will visit Trinity Site to reinforce the magnitude of the project, witness the landscape, and interact with the visiting public there.

July 16 - Trinity Event

05:29:45 local time - we will commemorate the 60-year anniversary of Trinity by simulating the look and feel of the detonation of a nuclear device. Desert location to be announced to invited guests and media.

July 28 - Gallery Show Opens

The gallery show will run from July 28 – August 9. We will have an opening night gala showcasing the art and video of the Trinity anniversary along with speakers, performances, film screenings, and media coverage. We will have a more somber memorial closing of the exhibit August 9, the anniversary of the bombing of Nagasaki.

Late July

The Simnuke team and other interested parties will work together on the planting of the Trinity Memorial Grove.

Potential Traveling Event Locations

The Simnuke flame effect system is being built in such a way to afford easy transportation. All or part of the system can be loaded into a shipping container and transported, taking advantage of standard intermodal shipping methods. The following are some examples that we are pursuing:

August 6th - Hiroshima and August 9th - Nagasaki

It is the greatest dream of the Simnuke team to work with the Hiroshima Peace Memorial Museum to bring the work to the people of Japan as a gesture of commemoration, peace, and healing.

In Nagasaki, we would love to present near The Peace Park in conjunction with the Nagasaki Atomic Bomb Museum.

As appropriate, we will have the opportunity to have a point of measure to what was felt by the Japanese by giving the viewer a yardstick (at roughly 1 / 10,000 scale) to compare the heat and shockwave they feel vs. the distance they are from the piece to the real blasts at Hiroshima and Nagasaki.

August 29th, 2009 - Semipalatinsk, Kazakhstan

Travel to Russia to commemorate the 60-year anniversary of the then Soviet Union's first atomic bomb test - Joe1, also known as RDS-1.

Other potential locations

Locations that would have significance or a large audience include: the Nevada test site, South Pacific (Bikini Atoll), San Francisco Bay, New York Harbor, Britain, France, India, Pakistan, Korea.

Budget

The budget for the entire Simnuke Project is estimated at \$28,150. To raise this amount, we are seeking art and anti-nuclear foundation grants, financial and in-kind donations from individuals and organizations, and we will conduct a series of fundraisers. Donations can be earmarked for specific aspects of the project. The following is an overview, and a detailed cost basis evaluation is available.

Trinity Event	
Category/Item	Amount
Fans	
Fans (already purchased)	1500
Steel for fan carts	400
Wheels	300
Pilot light assembly	300
Plumbing	
Schedule 80 pipe	1000
Pipe fittings	500
Hoses	250
Pumps	
3 pumps, 1000 each	3000
Valving	
6 valves, 500 each	3000
Additional fittings	500
Electrical	
Cables, 3 phase	1000
Cables, 1 phase	500
Connectors	700
Junction boxes	800
Generator rental	300
Fuel	
700 gallons, \$3 gal	2100
Spill containment	300
Tank	700
Trinity Effects	
Flash	300
Sound	200
Sound system	150
Transportation	
Shipping Container	500
Event	1000
Tests	500
Safety	
Burn Platform	250
Fire Suppression	400
N2 Purge System	700
Permits	
	250
BEF Green Tags	
	500
Crew Expenses	
Food [event]	1500
Food [tests]	750
Misc meals	500
Transportation	500
Total	25150

Gallery Exhibit	
Category/Item	Amount
Gallery Space	1500
Sound	200
Reception	300
Total	2000

Trinity Memorial Grove	
Category/Item	Amount
Plaque	500
Tools	250
Truck Rental	250
Total	1000

- The majority of cost items associated with the project are one-time expenditures, such as the plumbing and electrical infrastructure.

- Additional future performances will cost far less; the estimated budget for an additional, full-scale performance of the flame effect is \$6000. We can also do a small performance one fan out of the six for \$2000.

- Wherever possible, we will seek donations for any equipment and materials.

- Budget does not include costs for documentation of the project; we are working with photographers and videographers that are interested in donating their efforts to the project.

- We are seeking a nonprofit fiscal sponsor to make all donations to the project tax-deductible.

- Tickets may be sold to the event for a donation to help cover costs.

Conclusion

The Simnuke Project is performance art. It is protest in response to nuclear weapons. It is a commemoration of Trinity - a moment in history that forever changed the world. We will hold a mirror up to this subconscious reality through a real life portrayal of the visceral experience of a nuclear device detonation. On all levels - as art and as historical statement - every aspect of the Simnuke Project aims to raise awareness and heal. By simulating the experience of nuclear detonation, the implications of nuclear weapons become vividly clear.

In creating a huge mushroom cloud of fire, we seek to reclaim some of the limitless destructive energy unleashed 60 years ago. By inviting other artists to interpret the event in a gallery exhibition, other pieces will further this conversation beyond the Trinity anniversary itself. The Trinity Memorial Grove will leave a lasting legacy, preserving the awareness raised by the project and helping to heal the environment.

It is our hope that no one will ever again have to experience the real thing.

Artist bios

Sparky

As an artist, Scott "Sparky" Bartlett focuses on art and technology and the human factors that arise from that interface. He is technically trained as a hardware/embedded systems engineer, microprocessor/ASIC designer, mechanical engineer, and fabrication expert. His diverse artistic projects focus on light and or sound and often draw upon his broad technical abilities. A small sample of his works include: a system to create music from a dancer's motion in real time, black and white photography, various fire art pieces that incorporate laminar flow flame effects creating both light and sound, as well as participating in the design and construction of a large flame effect piece for Burning Man 2004.

Scott's work has been shown both in the San Francisco Bay Area, where he makes his home, as well as other art and gallery events throughout California and Nevada. Along the way Scott has founded two companies; the latest is a dynamic systems company that he co-founded in 2002 with clients across the US.

Teiwaz

Camron Assadi - also known as Teiwaz - is an artist, entrepreneur, technologist, and social activist. Working primarily with metal, fire, and a variety of other mediums - he creates kinetic, interactive, and sculptural works that provoke. Some recent projects include: several pyrotechnic devices large (300' columns of fire) and small (tabletop fire art), a kinetic sculpture representing money's draw on government and society, building two art cars, a device to extract pure water from Coca-Cola, participation on a robotic combat team, and creation of political art and propaganda online and offline. He has created and managed large art events, working with teams of volunteers from a variety of groups.

Teiwaz has shown artwork in several venues, many in the San Francisco Bay Area, and grant funded work at the Burning Man Festival in Nevada. He has founded a software company, which helps nonprofit organizations effectively manage their operations. Teiwaz lives in Oakland, California.

Team and Advisors

We have assembled a team of experienced artists, pyrotechnicians, metal workers, and engineers. The team works together on the building of the flame effect, logistics, organization of the gallery show, production of the event, and fundraising.

Team

Below is a list of team member and the area of the project they are specializing in. We will grow our team as needed to approximately 30 people by the July event.

Dave Abel – electrical and power systems

Michael Ang (“Mang”) – electronic engineering and video documentation

Will Bartlett – carpenter and fabrication

Dave Bayer – electrical and power systems, welding, industrial design

David Calkins – event production

Glenn Cambell – professional photographer

Max Carlson – gallery show logistics

Sasha Harris-Cronin – gallery show lead, human interface expert

Simone Davolos – event production

Sasha Magee – video documentation

Rita Manachi – Press and media relations

Dave Marr – Web design and development

Argyre Patras – engineering, fluid dynamics, and logistics

Earl Stirling (“Dodger”) – Engineering, design, and pyrotechnics

Advisors

Our advisors meet with the team and provide expert assistance on a variety of facets of the project.

Mark Borden (“Booger”) – Nuclear simulation expert

Bob Mackey – Ph.D., Materials Science

Alexander Rose – Executive Director, Long Now Foundation

Kelly Saturno – Development and fundraising professional

Kimric Smythe – Pyrotechnics expert

Bibliography, further reading

Books

[100 Suns](#), Michael Light, Knopf, 2003

[Dark Sun](#), by Richard Rhodes, Simon and Schuster, 1996

[The Making of the Atomic Bomb](#), by Richard Rhodes, Simon and Schuster, 1986

[The Day the Sun Rose Twice](#), by Ferenc Szasz, University of New Mexico Press, 1984.

[City of Fire: Los Alamos and the Atomic Age, 1943-1945](#), by James Kunetka, University of New Mexico Press, 1978

[Now It Can Be Told](#), by General Leslie Groves, Da Capo Press, 1975.

Information Please Almanac, Pearson Education, publishing as Fact Monster

Articles and Internet Resources

The Bomb Project <http://www.firstpulseprojects.net/bombproject/Index.html>

The Atomic Archive, <http://www.atomicarchive.com/>

Nuclear Age Peace Foundation, <http://www.wagingpeace.org/>

The Los Alamos Study Group, <http://www.lasg.org/>

NRDC's Archive of Nuclear Data, <http://www.nrdc.org/nuclear/nudb/datainx.asp>

The Museum of Broadcast Communications (MBC), "The Day After" programming info and synopsis, <http://www.museum.tv/archives/etv/D/htmlD/dayafterth/dayafter.htm>

CNN Interactive: Cold War, <http://www.cnn.com/SPECIALS/cold.war/>

The Cold War Museum, <http://www.coldwar.org/>

The Bay Area's Nuclear Legacy, SF Chronicle Article, January 5, 2005
<http://www.sfgate.com/cgi-bin/article.cgi?file=/gate/archive/2005/01/05/gree.DTL>

Charting the Far-Reaching Shadow of Nuclear Fallout,
<http://www.kued.org/avoidingarmageddon/miller-story.html>

Carbon Reduction Plan, <http://www.cred-uk.org>

Bonneville Environmental Foundation, <http://www.b-e-f.org>

There are extensive additional resources on the subject on the Web, for a more complete listing please visit <http://simnuke.org>.