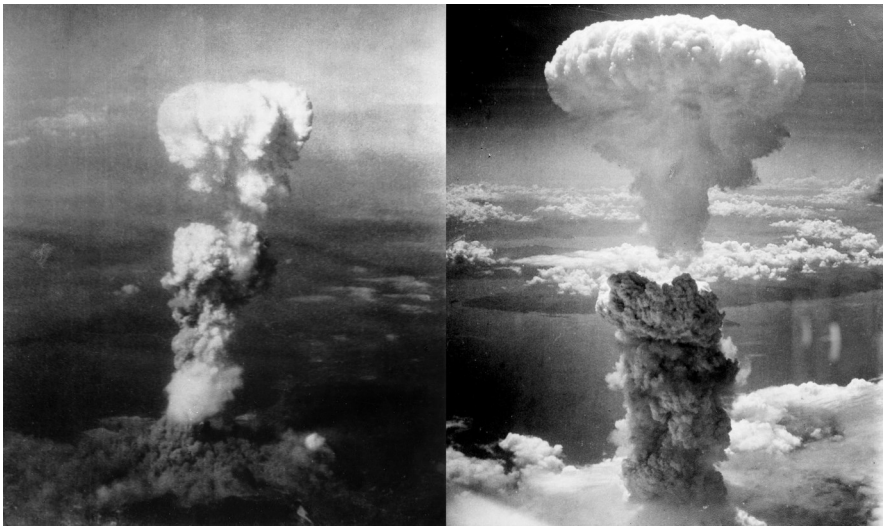

The Drink Tank

Editorial by Christopher J. Garcia



The Manhattan Project was the greatest scientific sprint in history.

It was one of the darkest, heaviest, and most morally debatable of any scientific mission in history. You could say that the bombs dropped over Japan in 1945 saved lives, as the United States would have likely firebombed more of Japan in preparation for a land assault. You could also say that both were unconscionable crimes against humanity. There is no end to the ethical questions that are impossible to ignore.

The Manhattan Project was a race against the Germans and an enterprise that was transitioned to being a multi-faceted tool: to end the war with Japan and to scare the ever-loving fuck out of the USSR.

This entire project was one of the most fascinating to come through America. Nothing changed world geopolitics like the bomb. The Atomic Age has made the world less safe and more anxious, but also, we've done incredible things with the research done during the project.

The figures involved in the project were some of the most important of the twentieth century. Oppenheimer, Edward Teller, Glenn Seaborg, and John von Neumann were among the so many

important players in advancing the sciences -- and warmongering as well. This is why the Manhattan Project has always fascinated me, and now to my adorable, and far too interested in atomics, children. Bella can tell you all about the Manhattan Project and Trinity in specific. JP liked the series of *Last Podcast on the Left* about the Manhattan Project and has learned the meaning of the word "sloughing."

> **"Those of us who saw the dawn of the Atomic Age that early morning at Alamogordo … know now that when man is willing to make the effort, he is capable of accomplishing virtually anything."**
>
> **— Leslie Richard Groves**

Next time we're back, in a month, it's going be about Douglas Adams! SO MUCH TO SAY THERE!!!

On my front, health-wise, I've had a minor setback. My numbers aren't as great as they were, so some adjusting is happening. It seems to be working, but I'll know more in a month or so. I've been interviewing for a new job, a much bigger job than I've ever had, but I killed it on the first interview. I have no plans for cons, save for an afternoon at BayCon, perhaps, but I'm hoping that I'll get to at least one this year (maybe Loscon???).

Also, if you haven't been reading *Claims Department,* you probably should. It's a throwback to the early days of *The Drink Tank* if you remember those. I'm having much fun just dropping thoughts on paper, as it were. I'm covering all the Jack Haldeman stories there, and it's been so good reading!

Okay, enough of that. Let us become Death, the Destroyer of Worlds . . .

A Look at Barefoot Gen by Alissa Wales

In my World History class in high school, my teacher must have been very keen to use imagery to teach us about the more poignant aspects of certain points in history. Two stand out to me: one was watching 'Night and Fog', which I will never forget, and cried through the whole thing. The other was watching a Japanese animated film about the dropping of the bombs at the end of WWII. I didn't remember the name of the Japanese film, but I certainly remembered the imagery. After a bit of an internet search (and based on the year), I figured that it must be 'Barefoot Gen'. It is currently available in English Dub on YouTube in full form.

Barefoot Gen tells the story of a family in Hiroshima dealing with hunger through rationing during WWII. Two little boys, Gen and Shinji, were doing their best to be children, and their mother was expecting a baby. In the midst of fighting over the last of fighting over a sweet potato, their big sister, Eiko reminded them that the coming baby needed the potato more than they did. It's such a sweet scene to see the family talking about the coming baby and who's going to be a great big brother.

That night, the family was startled awake by the air raid siren. In the bomb shelter, mom and dad discussed that Hiroshima

had never been bombed. Once the all-clear sounded, they made their way out of the shelter. However, mother doubled over in pain! What's wrong!? The boys rushed to get the doctor, and he said that she was suffering from malnutrition.

When the neighbour suggested carp's blood to help with Mother's condition, the boys set off on a mission to find some. With fishing poles in hand, they set off in pouring rain. They found a carp pond in someone's garden and caught a carp. But, they also were caught in the process! The owner was very upset and hit Gen repeatedly. Gen stood firm and said that 'you can hit me as much as you want, as long as I can keep the fish when you're done'. Shinji said, 'Me, too!' Apparently, this pulled the heart strings of the pond owner, as he let the boys keep the carp.

When the boys got home, they were really excited to have given Mother what she needed. She was very emotional. Father expressed his opinions to the boys about the war and how the government was doing things. He said, 'Japan has all but lost the war.' He went on to say that the government was run by madmen, and they were stupid and crazy. The boys tried to discourage him from saying it, but Father said that he would be proud to be called a traitor or coward. He said that he 'thinks that it takes more courage not to fight than to fight', especially when everyone around you is just the opposite.

That evening, the old man who owned the carp pond came to visit. The boys got scared and scarpered, but the old man told their parents that they admired their courage and had brought them some cake. When they returned, the boys' parents told them they were proud of them and gave them the cake the old man had brought for the family.

Next day, Gen left for school and promised to play with Shenji after. Shenji noticed a whole lot of ants going in one direction for the first time ever. Everyone noticed airplane vapour trails in the sky that were unusual. At 08:15, the Boeing B-29 Bomber called Enola Gay released the bomb, just as Gen bent over to pick up something he dropped.

The absolute horror of the next two minutes of animation probably doesn't even compare to the reality of what happened on that day.

Gen Nakaoka: Isn't that terrible, Father? Grown men fighting over a bowl of soup.

Shinji Nakaoka: If they're going to fight, it should be over some fish.

Gen found himself buried under some rubble and the girl he was walking with not too far away. He tried to rescue her, only to find that she was dead. A group of people were walking toward him; they looked like zombies. Gen had no idea what happened. He immediately started to run home. He saw Mother trying to leverage fiery beams off Father, Eiko, and Shinji. As he was laying there, Father told Gen in his dying words that he must look after Mother and the baby and keep them safe. As the burning house crashed around the rest of the family, Gen tried to pull Mother away, and she became hysterical. Due to the stress of the situation, Mother went into labour.

Mother told Gen to try and find a doctor or midwife. There was nobody about, due to the crisis. In the end, Gen and Mother brought the baby into the world on their own, together. Gen was absolutely a mess about the whole thing only after the baby girl is born, crying and screaming for the family.

After the birth of the baby, it started to rain. Gen was startled because it wasn't just raining, it was black rain, radioactive rain. The Northwest section of the city had been covered with dust, debris, and radiation high in the atmosphere that created a cloud which generated radioactive rain. The bomb itself had an impact of over 20,000 tonnes of TNT and temperatures of over 4000 degrees. Over 60% of Hiroshima was gone. The initial impact claimed 100,000 lives, but many suffered for years after with cancers of all sorts.

After the bombing of Hiroshima, the U.S. issued an ultimatum to the Japanese government about the war. They said they would drop a second bomb if Japan did not surrender. The Japanese High Command ignored the warning. They also masked the damages of Hiroshima, by making sure very little of it was reported. Three days later, another bomb was dropped on the city of Nagasaki. This is what finally convinced the Japanese High Command to surrender.

For those of you that would be interested in watching this, I'm going to finish telling the rest of the story for others who may not want to watch the graphic nature.

***SPOILER ALERT ***

Gen and his mother wandered around the city over the next few days meeting random people. Gen tried to help a soldier who seemed unwell, taking him to hospital. In the end, the soldier died before he reached medical care. The radiation poisoning would have killed him in any case, but Gen had no way of knowing that. Mother needed food for the baby and asked anyone and everyone. She came across a lady that screamed at her to kill the baby. Suddenly, the woman offered the baby her breast as tears streamed down her face. She was terribly sad because she lost her own baby.

Gen was so angry because of the death and destruction. He was frustrated and trying to express his emotions. He flopped down on a mound of sacks, cried, and shouted, 'dammit, dammit, dammit' whilst pounding on the sacks. When he pounded on the sacks, he must have torn one of them, because black rice was pouring out of it. He figured out that the bomb charred the rice. He got the idea that maybe, if he dug far enough in, there might be some rice that wasn't charred. He found a whole lot of good rice!

That night, they name the baby girl Tamoko, meaning 'friend'. Gen found bald spots on his head, like the soldier that he tried to rescue that died from radiation poisoning. He was nearly inconsolable, thinking he was going to die like the soldier.

As the Japanese surrender address was aired, a bald Gen dug up his dead family members' remains from the fallen home. Gen and mother found a home (or shelter) to stay in. A little boy tried to sneak in whilst they were eating and attempted to steal some food. Gen chased him and brought him back to mother. He looked just like Shinji! His name was Ryuta, though. Mother and Gen invited him to share their food. Ryuta's mannerisms and everything were just like Shinji; it's uncanny! Mother and Gen invited

Ryuta to be a part of their family.

The boys went out to try and find a job. A gentleman hired for them for 10 yen a day. As it turned out, it was his brother who needed help. He was a bomb victim, and the boys were hired to take care of him. The brother was initially abusive to the boys, but when Gen and Ryuta stood up to him he got emotional and told the boys how grateful he was for the human contact. Gen tickled him to get him to laugh, and it inspired him to try painting again. The boys were paid 100 yen!

With their newly earned fortune, they sang all the way to the market to buy milk for their little sister. They were so excited to get home with their wares. Mother was rocking and silent. Tamoko was dead.

Ryuta asked Gen if he was going to be sad for long. As they were walking along, they saw wheat growing! Even though they were told things wouldn't grow there for 70 years, the wheat was already growing! Also, Gen's hair was also starting to grow back! In the end, Gen made another boat like he did for Shinji, but this time he got a chance to sail it with his little brother.

*** END OF SPOILERS ***

The Manhattan Projects by Christopher J. Garcia

I was living in Stanford's Lucille Packard's Children's Hospital, the hospital so nice it's got three possessives. It was a hard time. Vanessa was in for long-haul waiting for the birth of our twins. They were nearly born at 24 weeks, which would have made long-term survival a very touchy possibility. Vanessa held on, though, and we spent four weeks in a hospital room.

We also have amazing friends.

We got visits from many people, some worried for us, rightly, and others just wanted to make sure we didn't feel alone. The number of nurses and periodic tests and scans meant we weren't alone for long.

Chuck Serface, the King of Men, joined us several times. He's always a good one to have on your side, and since Chuck and I share a love for comics, he rightly figured I could use some entertaining graphic novels to keep my mind off the fact that two tiny humans had tried their darnedest to pop out of their mom only half-baked.

It was a good call.

One of the sets he brought was a story so strange that it got me thinking about producing an issue of one of the 'zines dedicated to the historical event that formed the basis of its mythmaking. I was 'zining a lot in that hospital room, I did at least two issues of *Journey Planet* and a *Claims Department* or two. *The Drink Tank*, at

that point, had been dead for a few months.

The comics were *The Manhattan Projects*, some of the most fascinating reads I've ever been handed.

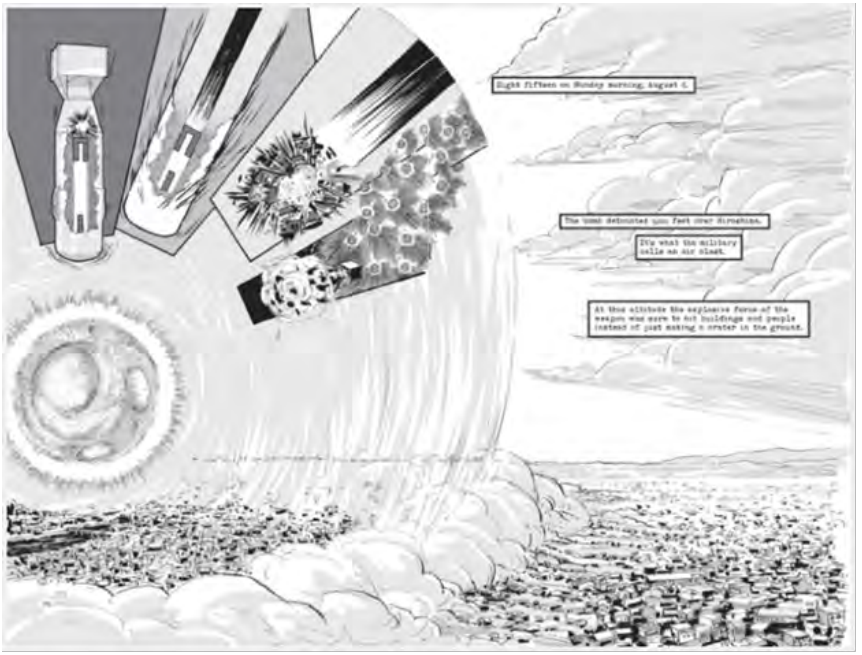
The story takes the real-world Manhattan Project and places the main real-world characters into a multiverse filled with conflicts -- internal, external, and somehow both -- that are fantastical and horrific in nature. The Manhattan Project had been something of a cover. Though, yes, it did design the atomic bomb, it was also pursuing far more esoteric research into the dark and dim areas of the universe. There's a Lovecraftian stripe to things, especially characters who end up being from alternate timelines or just plain aliens (and few might argue that Enrico Fermi could easily have been an alien!). There's Joseph Oppenheimer, twin brother of Robert, who can eat people and take on their memories. There's Albert Einstein and his doubles from other timelines, who are brutal and brilliant. There's both General Leslie Groves, who continues the Manhattan Project, and General Westmoreland, who is a dastard who arranges the assassination of JFK (a little art imitating life, if you ask me). There's even Yuri Gagarin, whose pet dog Laika is lost in space, and eventually, he sets out to find him.

It's a great weird comic.

What made it work for me was that they were hiding all this clandestine, Masonic super-science as a part of the Manhattan Project. Let's face it -- it would have made sense. These were some of the most arcane Americans and resident aliens in American history. There was so much intelligence that wouldn't be a waste to stop with the bomb. THERE MUST HAVE BEEN MORE!!! The way that The Manhattan Projects take it makes use of our decades of gathered skepticism, our (okay, my) thoughts that there are conspiracies in the government that go into areas we don't understand. While Operation Paperclip is kinda hinted at here, we've known for decades that the government lied to us for ages about us bringing in Nazi scientists after the war, and that was a massive conspiracy, no? Taking this extra step wasn't hard for me, though I may be in possession of a wandering mind.

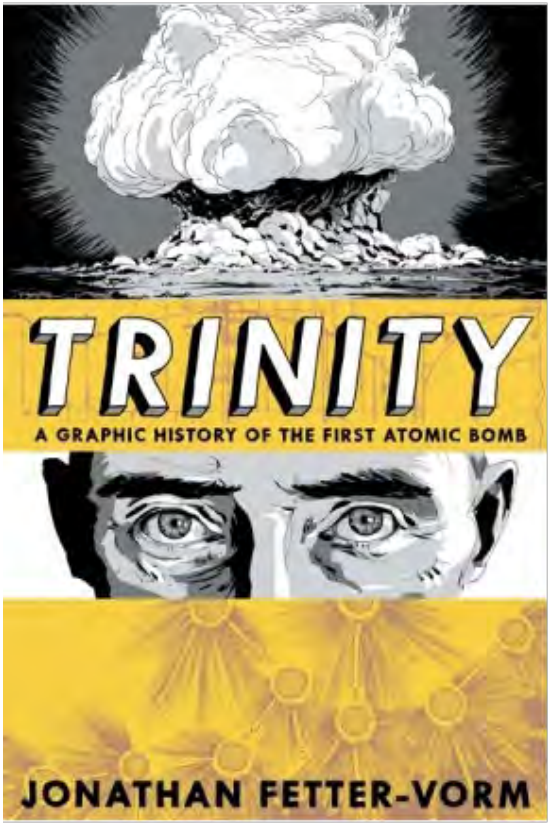
This was exactly what I needed in that hospital room. Instead of considering that at any moment Vanessa could give birth to two extremely tiny humans, I got to wonder about the strangeness of the universe and what really would have happened if America and Russia had finally gotten together.

Jonathan Fetter-Vorm's *Trinity*
A Review by Chuck Serface



Years ago, a friend who'd served with me in Peace Corps Ukraine asked if I knew of any graphic novels based on civil rights history. A social studies teacher at International Community High School, he wanted attractive materials to facilitate student interest. At the time, I wasn't very helpful, but today I could suggest several titles, premier among them *March* by John Lewis, Andrew Aydin, and Nate Powell. I'd add Sybille Titeux de la Croix, Amazing Ameziane, and Jenna Allen's *Ms. Davis: A Graphic Biography.* And finally, there's *The Black Panther Party: A Graphic Novel History* by David F. Walker and Marcus Kwame Anderson. I know I'm missing others.

Overall, twentieth-century history has become quite an inspiration for graphic-novel creators. I've experienced Derf Backder-



f's *Kent State: Four Dead in Ohio* and *The Age of Selfishness: Ayn Rand, Morality, and the Financial Crisis*. Many rightfully have praised Art Spiegelman for his *Maus* series, as well as Marjane Satrapi for *Persepolis*. Whether purely from a historical perspective or through personal lenses, authors and artists are filling bookshelves with graphic accounts of feminism, immigration, LGBTQIA+ issues, and anything else of interest to anyone -- adult or child -- looking for introductions to any number of topics. To this list, I'll add Jonathan Fetter-Vorm's *Trinity: A Graphic History of the First Atomic Bomb.*

I was born in 1965, on the cusp of baby boomers and Generation X, and nothing provoked more generalized anxiety during our formative years than the bomb, that reality heaped upon us by J. Robert Oppenheimer and his colleagues at the Manhattan Project, those Destroyers of Worlds. When would it come? Sting famously hoped that the Russians loved their children too, for Hell's sake. Even after the fall of the USSR, societies still had cause for worry. What if rogue elements like North Korea or Al Qaeda were to score

nuclear capabilities? North Korea's crossed that finish line, of course, and we know it – oh, how we know it. Mother, will they drop the bomb on us? Some are still looking over their shoulders and up at the sky.

Fetter-Vorm centers his narrative around July 16, 1945, the day the first atomic bomb was detonated in the Jornada del Muerto desert, New Mexico. A part of the Manhattan Project and codenamed Trinity, this bomb equaled 25 kilotons of TNT. Oppenheimer himself chose the codename Trinity based on lines from John Donne's sonnet, "Hymn to God, my God, in My Sickness." He'd been introduced to Donne by his former fiancée, Jean Tatlock – a psychiatrist and member of the Communist Party -- who killed herself in 1944. I must believe that Oppenheimer fully knew what irony he was provoking by naming a massive bomb test after a poem that opens with "Batter my heart, three person'd God." The brilliant physicist also was well read not only in dead white men but in Sanskrit poetry as well, and so hence his famous "Destroyer of World" reference from the *Bhagavad Gita*.

Readers won't get much beyond the Trinity event from Fetter-Vorm, however. He's working only with just over 150 pages, so he's laser-focused on discussing scientific discoveries that led to Trinity and the politics surrounding later decisions to employ this technology on Hiroshima and Nagasaki. To experience wonderfully complete detail overloads, obtain Richard Rhodes's *The Making of the Atomic Bomb* and *American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer* by Kai Bird and Martin J. Sherwin. The latter is the basis for the film *Oppenheimer* (2023).

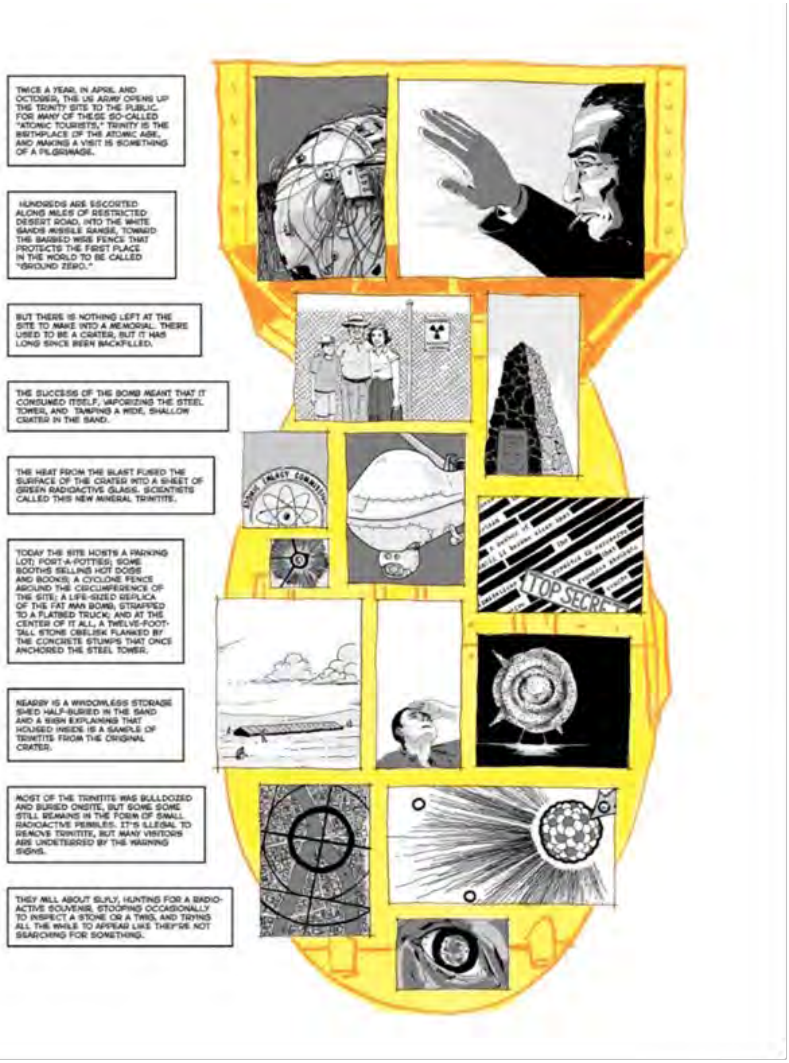
This is the place to start, however, the place to give intermediate and young-adult readers a taste of nuclear science and the history surrounding it. For once, I understand the differences between

gun-type and implosion bombs. A few of Fetter-Vorm's images are stark, pulling no punches about the immediate effects Little Boy and Fat Man had on Hiroshima and Nagasaki, and the dreadful radiation poisoning that lingered all too long.

Critiques have included the author/artist's apparent propagandizing of elements surrounding the decision to bomb sites in Japan, questioning whether he distorts Japan's attitudes toward surrender. I see the point here. Kai Bird and Martin J. Sherwin offer more balanced perspectives on this matter. Overall, however, with *Trinity* Fetter-Vorm blends science, history, and politics to illustrate that so terrible day out in the New Mexican backcountry. All we are saying is give peace a chance.

"No one who saw it can forget it, a foul and awesome display. "

Kenneth Bainbridge


TWICE A YEAR, IN APRIL AND OCTOBER, THE US ARMY OPENS UP THE TRINITY SITE TO THE PUBLIC. FOR MANY OF THESE SO-CALLED "ATOMIC TOURISTS," TRINITY IS THE BIRTHPLACE OF THE ATOMIC AGE, AND MAKING A VISIT IS SOMETHING OF A PILGRIMAGE.
HUNDREDS ARE ESCORTED ALONG MILES OF RESTRICTED DESERT ROAD, INTO THE WHITE SANDS MISSILE RANGE, TOWARD THE BARBED WIRE FENCE THAT PROTECTS THE FIRST PLACE IN THE WORLD TO BE CALLED "GROUND ZERO."
BUT THERE IS NOTHING LEFT AT THE SITE TO MAKE INTO A MEMORIAL. THERE USED TO BE A CRATER, BUT IT HAS LONG SINCE BEEN BACKFILLED.
THE SUCCESS OF THE BOMB MEANT THAT IT CONSUMED ITSELF, VAPORIZING THE STEEL TOWER, AND TAMPING A WIDE, SHALLOW CRATER IN THE SAND.
THE HEAT FROM THE BLAST FUSED THE SURFACE OF THE CRATER INTO A SHEET OF GREEN RADIOACTIVE GLASS. SCIENTISTS CALLED THIS NEW MINERAL TRINITITE.
TODAY THE SITE HOSTS A PARKING LOT, POST-A-POTTIES, SOME BOOTHS SELLING HOT DOGS AND BOOKS, A CYCLONE FENCE AROUND THE CIRCUMFERENCE OF THE SITE, A LIFE-SIZED REPLICA OF THE FAT MAN BOMB, STUMPED TO A FLATBED TRUCK, AND AT THE CENTER OF IT ALL, A TWELVE-FOOT-TALL STONE OBELISK FLANKED BY THE CONCRETE STUMPS THAT ONCE ANCHORED THE STEEL TOWER.
NEARBY IS A WINDOWLESS STORAGE SHED HALF-BURIED IN THE SAND AND A SIGN EXPLAINING THAT HOUSED INSIDE IS A SAMPLE OF TRINITITE FROM THE ORIGINAL CRATER.
MOST OF THE TRINITITE WAS BULLDOZED AND BURIED ONSITE, BUT SOME SOME STILL REMAINS IN THE FORM OF SMALL RADIOACTIVE PEBBLES. IT'S ILLEGAL TO REMOVE TRINITITE, BUT MANY VISITORS ARE UNDETERRED BY THE WARNING SIGNS.
THEY MILL ABOUT SLYLY, HUNTING FOR A RADIOACTIVE SOUVENIR, STOOPING OCCASIONALLY TO INSPECT A STONE OR A TWIG, AND TRYING ALL THE WHILE TO APPEAR LIKE THEY'RE NOT SEARCHING FOR SOMETHING.
ATOMIC ENERGY COMMISSION
TOP SECRET

Doctor Atomic by John Adams
by Christopher J. Garcia

When I was working on an issue of *Claims Department* about the legendary American composer John Adams, I started digging into things that I had yet to listen to from him. Most of it was discord and minimalism-infused stuff with some great layering of meaning but not enough emotional content. It was almost entirely intellectual (though a couple of significant exceptions exist where Johnny gets himself a little playful!), and I noticed he had a piece that I had yet to hear called *Doctor Atomic.* I set that aside but returned to it so I would have something productive to listen to while I wrote pieces for the Manhattan Project issue.

Good call for me, as it's a significant piece of music and one that tackles a lot of the themes for this entire issue.

Okay, as is typical of my apparent self-indulgence in all my writing, I need to say a little about my relationship with opera – I don't get it, but I love it.

I often listen to operas, mostly post-modernist stuff like *Einstein on the Beach* or *Nixon in China*, but I don't get it. Like Melanie Griffith declaring, "This room's nice" on an audio tour of the Met-

ropolitan Museum of Art, I can only enjoy them for what's on the surface. While I might just happen to enjoy the hell out of *Pagliacci*, I have no freaking clue what's going on. This doesn't mean I don't care about what lies beneath the layer I can not penetrate, but I have found an appreciation of the layers I can lap up.

Doctor Atomic was created over the years, the first two of which saw Adams collaborating with Alice Goodman. The pair had done *Nixon in China* and *The Death of Klinghofer,* and it looked like this was the third. Only the pair came to a problem – Edward Teller.

As I often remember, I met Teller at Livermore during a fiftieth-anniversary event. He had one and a half feet in the grave then, and he called Von Neumann "Johnny," which was cool.

There are a couple of ways you can portray Teller's action during the Manhattan Project, ranging from ultra-nationalistic, equating the science being performed with patriotic civic duty, to completely non-patriotic, equating him with the Nazi scientists, most of whom were working for the Nazis simply to advance science.

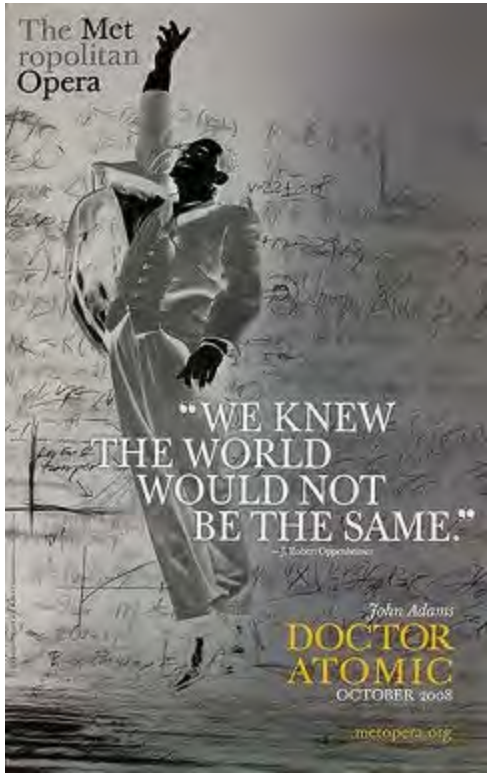
Now, we are all sons of bitches.

Kenneth Bainbridge

And there was always the likelihood that if you didn't, they'd either force you or jail you.

The one that I've come to find makes the most sense is that

he wanted a bigger solution to a bigger problem. Some saw the bomb as a means to winning the war, so it didn't have to be anything more than a bomb that showed tremendous destruction. Teller wanted thermonuclear weapons, far more than needed to win the war. It was enough to win future wars, perhaps even prevent them.



And that is a far darker character, right?

After Goodman left the piece behind, Adams teamed with Peter Sellars, arguably the greatest living American stage director, to create the libretto. The story came together, and the team played off each other's strengths. There's a linear progression to the piece, but at the same time, time doesn't quite work the same way throughout the piece. Things speed up and slow down, and not so much in a way to allow more action, but to show the way that interactions between quantum particles often don't follow strict forward causality. The writing is taken from sources like diaries and letters, and a little license is taken, of course. Still, ultimately, it's much telling and not showing, and that's remarkable because it is through this that we realize it's Adams' music as opposed to Sellars's words that must carry the emotional weight of the entire piece.

The opening is a discordant electronic grinding that sets the

tone. It's as if we're passing through a warp of some sort. I, personally, was reminded of the Santa Cruz Beach Boardwalk's Cave Train Adventure opening audio. It eventually comes much more of a rhythm and perhaps invokes the sense of the development of modern technology, which must inexorably be hurting us towards the atomic bomb.

And there's a theory that I believe is important that no matter what, all strenuous technological development will end up creating a weapon that can kill millions.

When what we traditionally think of as "music" begins, it's no more melodious, but it is organized, if strident and harsh to the ears. It eventually gives way to a chorus, who tell us much of the science and history behind the bomb until that moment.

When we finally get to Oppenheimer, he's presented smartly. The lyrics are from sources that were never meant to become lyrics, and thus they patter strangely along with the traditional operatic delivery. It's easy to follow the plot from the lyrics alone, which is a plus for an opera in English.

When Adams goes in for gentleness, like in Act II, Scene II "I Dreamed the Same Dream," the lyrics can become something more like a salve on the content. We know, both from history and the path of the opera's libretto, that we are heading towards Trinity and there's nothing we should feel more trepidation about than that moment.

My favorite moment is when Edward Teller comes to Oppenheimer and General Leslie Groves, saying that Fermi was betting on whether the Trinity test would ignite the atmosphere. It's such a great exploration of both Teller (sardonic to the extreme) and Groves (he is not amused) and how it is the real moment where we feel it's more than a goal, but a calling. Oppenheimer is being called, and he's answering. Edward Teller was also being called, but he's called towards a cynicism that recognizes the deadly seriousness of his situation. Groves is being called to save his country. What isn't quite explored is that all this was moot if the original purposes were to be believed. The Germans were done, and the Manhattan Project was meant to get a bomb before Germany did. Go figure.

Manhattan Project Participants and Me

by Christopher J. Garcia

I've only met a few Manhattan Project scientists, and, with one significant exception, they were widely known outside of the Manhattan Project, and the reasons I met them had nothing to do with looking into the Project.

There are a couple of folks whose work I've studied closely, including hand-written letters and notebooks. Robert Weitbrecht is one. He worked at SRI and developed a modem version that used phone lines. Stanislaus Ulam was a mathematician who developed a couple of important theorems, including working on a thing called the Monte Carlo Method, which changed the way searches could be done. I exchanged correspondence with Priscilla Duffield while trying to understand what Ernest Laurence was like to work for.

I'll do a whole thing on Vannevar Bush later. He died before I was born, but I had a lot of people I knew who knew him and have certainly spent time studying him. He was a science-fiction fan, you know.

Willy Higinbotham invented video games with Tennis-for-

Two, at Brookhaven National Labs. I've studied it very closely, as well as his work on nuclear non-proliferation.

While I never met John Kemeny, I studied his computer works extensively, especially concerning BASIC, which he co-developed with Thomas Kurtz at Dartmouth. At one time, an ash-tray-like thing that had been given to him at Dartmouth as an award was on my desk at the Computer History Museum.

I didn't get to shake Glenn Seaborg's hand, but I did open the door for him. He came to speak at my middle school. I was in student government, and I was supposed to watch the door closest to the parking lot. He came, and I opened the door. I didn't go inside for the presentation, however.

Frank Oppenheimer

I can say for certain that Frank Oppenheimer, the brother of Robert Oppenheimer (and thus, the uncle of the atomic bomb???) was the first member of the Manhattan Project I ever met. Growing up in the Bay Area in the 1970s and 1980s, every school made at least one trip to the Exploratorium, and my mom would take me there a couple of other times a year. The science museum that the Exploratorium represented was new in 1969. It was hands-on, experiential, and, most of all, it had a kind of hippy mindset. Frank Oppenheimer was the founder and first director, and up until he died in 1985, he was there almost every day, often found on the floor.

I remember the few times I met him, about 1980 or so. I remember we walked in, and above the entry area was this neon thing that, if you looked from the corner of your eye, was an image of an eye, and another was the word "eye" (I think. I was like five years old.) I remember an old guy with a cane was out there, talking about it, and being generally an old guy about it. I remember my teacher, Bob, said that the man was the founder, and the class, in unison and, as I recall, without prompting, said, "Thank you." Of course, that image is a bit sepia-toned, so I may have just rearranged actual events.

I know I saw him again, and interacted with him, a couple of years later when my class returned. While we were walking around, waiting for the cow's eye dissection, I saw him standing on the platform with two televisions, one black and white and one color, that you could mess with using a strong magnet. He was laughing as one of the kids, as I recall a tiny kid, maybe two years old, would move the magnet, then move his head, then move the magnet more, and then move their head more. Frank looked at me and said, "Want to try?" and BOY O BOY, did I!

He passed away in 1985.

Arthur Widmer

Had I known I would be doing this issue, I'd have asked so many questions.

When I first did film festivals and hung out in Los Angeles, I met Arthur Widmer through friends who had worked for him. Arthur was an incredible effects guy. His list of innovations in film includes the concept of the blue screen, which he called the "ultraviolet traveling matte" for brevity's sake. This one technological advance, after about 50 years of fine-tuning, revolutionized filmmaking.

He was a beloved, if cantankerous, Hollywood legend until he died in 2006. I probably met him the first time in 1997, but we sat down and chatted about 2000, I believe, at the Los Angeles Film Festival. He was a good guy and talked about how effects had become more of a Band-Aid than a tool. You know, old-timer stuff.

Tom Dowd

You would be hard-pressed to find someone who understood audio engineering better than Tom Dowd. He engineered so many incredible albums that it would be impossible to list them all, but I will say for certain that you've heard them. He engineered "Layla," which should be all you need to know.

The reason I met him: Ampex.

There was an Ampex event, a private event for former engineers, I think, at the Computer History Museum in 1999. It was within the first couple of weeks of my working there. The once-mighty makers of magnetic recorders of all kinds revolutionized the recording industry just when Dowd was making his mark. He was responsible for getting legendary music executive Jerry Wexler to buy Atlantic Records an Ampex eight-track recorder, making them the first to have a multi-track recording.

Dowd was old that day and for about three years more before he died. I shook his hand as he entered the visible storage area where we used to have events. He seemed happy to be there! Sadly, we didn't talk much, but I did introduce myself and welcome him, which was usually my job at events like these back in the day.

Norman Woodland

Norm invented the UPC, you know, the barcodes on literally everything. He had been an enlisted man with a technical background, so he became a technical assistant on the Manhattan Project.

He came to the Computer History Museum probably about 2004 or so. He was a nice guy, very Canadian, and I believe he gave us a batch of early barcode examples. He'd worked for IBM for years, and much like everyone who was there during the 1950s. There's a fascinating story about how IBM, Philco, and RCA all dithered for years with the technology, until they finally let the patent run out, and formed a supermarket consortium, and that's when things took off, starting in 1971. IBM and RCA were pretty much the fighters, and IBM won that little battle. Also, the war. And pretty much every tech war they engaged in through the 1980s.

Phil Morrison

Sometimes, you meet the guys paying the bills and it turns

out that they were on the Manhattan Project. That happened to me in the 1990s when I was a PA on a project on Schrodinger that was both supported and not supported by WGBH Boston.

So, Phil Morrison was a big name in the world of science for the masses. You could see him pretty frequently on PBS, and perhaps most importantly, he wrote the script for Charles and Ray Eames' legendary film, *Powers of Ten*.

He lived in the nice part of Cambridge, which happened to be where my friend Amy lived. He had been funding a project she wrote, which I'm pretty sure was never actually finished, largely because she had been pulled off for that Schrödinger piece that I also happened to be working on, though I wasn't doing more than answering phones in the office a few hours a week. We had to go over to his place at one point, I believe, to pick up a couple of his less famed books, and he greeted us warmly and invited us in. I remember there being tea and enjoying it at a time when I hadn't yet really embraced the drink.

Edward Teller

Teller's the biggest name, and the only one I knew had been a part of the Manhattan Project.

It was the fiftieth anniversary of the Lawrence Livermore National Laboratory and the museum had sent a contingent. We walked into the auditorium, and there was an old dude in a wheelchair, and no one seemed to be talking to him. The event started, and the speaker, I believe the head of the lab at the time, said some nice words, and then said, "And now I'd like to introduce the man who needs no introduction, Dr. Teller."

Edward Teller's role in the Manhattan Project was crucial, and at the time, he was probably the most important survivor still alive, Glenn Seaborg having died a year or two before. I don't remember 100% of the speech, other than he rambled about ten minutes or so about the early days of the lab in his thick Hungarian accent, but I do remember one portion.

"I talked to Johnny, and he impressed on me the importance of mathematical processing devices, today we call them computers, on the advancement of the sciences."

I knew, pretty much by instinct, that he was talking about John von Neumann.

I also remember, at some point, leaning over to my co-worker and saying, "Man, who let the air out of that guy." He did appear to be receding into his chair.

I left right after he finished talking to go and see the exhibits we'd helped with, but others from the museum stuck around and got a picture with the man. When he passed away, there was a myriad of stories about his role in the Manhattan Project and the development of the American nuclear thing in general, I remember a commentator saying that Teller might have been one of the most consequential people of the last century, and you'd be hard-pressed to find an average American who knew who he was.

Bern Porter, AKA Saint Fuck You
by Christopher J. Garcia

Bern Porter published works by the great Palo Alto poet Kenneth Patchen. Bern Porter is seen as one of the true innovators in the world of Found Poetry (a form near and dear to my heart!) and published several poetry books. Bern Porter was an outstanding member of the Avant-Garde arts movements of the 1950s, through the 1970s. Bern Porter worked in sculpture, painting, performance, and poetry, and six years after his death, MoMA created an exhibit about him.

Also:

Bern Porter worked on the development of the cathode ray tube.

Bern Porter worked on the Saturn 5 rocket.

Bern Porter worked in Oak Ridge, Tennessee, as a part of the Manhattan Project.

So, why have you never heard the name Bern Porter other than the seven times I mentioned it above?

There are reasons, but the biggest is the fact that we in America largely ignore the Avant-Garde, at least until we got Lady Gaga. That's the short answer, but the real deal is probably more

complex than that even.

So, Bern Porter was born in Maine, in the portion most Mainers would call "the backwoods" or perhaps "out there." He was a smart guy, and after attending a junior college, he was given a scholarship to Colby College. This was the late 1920s, and things around Colby were interesting then. They'd been pumping out poets and artists at a good clip, especially politicians. He studied rather broadly: economics, physics, and chemistry. He graduated and headed off to Brown to do his master's. He graduated, though I've seen differing accounts, with some saying a degree in physics and other chemistry. I tend towards the latter because after he graduated, he went to work for Acheson Colloids Corporation, working in the exciting world of coatings! He was tasked with finding an appropriate coating for the inside of television tubes. It was an exciting time to be working in television development. The great Philo T. Farnsworth (San Francisco's own!) had developed the basic premise, but it was still in the works to figure out how to make it a producible product.

During this period, he started hanging around MoMA, the intellectual homeland for me, and there was exposed to the Art of the Moment, and especially the Surrealists, whom he encountered at a major exhibition of Fantastic Art, Dada, and Surrealism which was a massive exhibit that changed American art. He was especially impressed with the works of Marcel Duchamp and Joseph Cornell. They used found objects to create works that expressed much about the modern world, commodification, and, most importantly, the absurdity of modern life.

He worked there for a couple of years, but he was never much of a stick-around kind of guy, and he had always had a bit of an artistic bent, so he headed off to Paris.

And there, he ran into Gertrude Stein.

Now, it's not 100% clear how Bern Porter and Stein met, or if they were friends. He certainly attended one of her famed salons, but so did hundreds of others over the years. There's no question that Porter fell in with many of the folks in her orbit, especially a

fellow named Henry Miller of *Tropic of Cancer* fame. Porter read the manuscript for the book, and the two struck up a friendship that would eventually become an important publishing partnership.

He returned to the US in 1939 or 1940. He ended up at Princeton, and there met a smart guy named Albert Einstein. Now, come 1940, he worked on physics projects, though I can't seem to find whether he was at the Institute of Advanced Studies or at Princeton itself. He did work with J. Robert Oppenheimer, and he was put to work studying the process of separating Uranium, that is the separation of U-235 from U-238. That's a major required step in making an atomic bomb.

Before the Manhattan Project officially started, the Princeton work was only a part of the general research that set the table for the project. Once the war started, it was determined that we needed to launch the project to beat the Germans to the Bomb. Porter was brought in, and he worked in Berkeley, California, and Oak Ridge. However, I believe he spent more time in Berkeley, where they had a cyclotron which was the principal way of separating U-235 for use in the project. They eventually brought much of that work to Oak Ridge, which allowed Porter to move between the two locations.

There are so many potential uses for U-235, the one that so many figured was the main priority was nuclear power. The level of secrecy, coupled with the obvious thought that nuclear power would be what America needed during the War because of the diversion of coal for War Department use. It wasn't until the bombing of Hiroshima that most of those working on the Manhattan Project understood what they had been working on.

And the only reason they ever did was because Harry Truman said so.

One of the most important, and possibly dumb, things that Truman ever did during his presidency was announcing that on August 6th, the US had created the bomb and dropped it on Hiroshima. Now, they couldn't deny that they'd dropped the bomb on Hiroshima, but to admit that the Manhattan Project existed was admitting that the government had been funding a massive project

with many scientists working on what they thought were peaceful projects but who all were making the bombing of Japan possible.

Bern Porter was aghast.

He immediately left the Project, and many people don't realize that the Manhattan Project did not end with Trinity, Hiroshima, or Nagasaki, but continued until 1947. Porter bolted and ended up in Sausalito, California. Many people, especially big names, stayed with the project after the bombs were dropped.

I do not know whether he lived on a houseboat or not.

"I'm gonne get even, I'm gonna get even, I'm gonna get even."

The Last Acts of Saint Fuck You

Porter's reaction to having worked on the bomb was to become a leading pacifist, far from the only one. The thing is, he had already published an anonymous pamphlet that was anti-war. Henry Miller wrote it. The pre-war center of anti-war publishing was Berkeley, and San Francisco was a major liberal center even then. William Saroyan had written for a pacifist magazine in the 1930s (*Phenix*), and there was the tradition of the pacifist student activist.

Even before the war was over, Porter had gotten into publishing. There were so many important figures in publishing around these parts, including Henry Miller and Ken Patchen, He also founded a publishing house, Bern Porter Books, which published writers like Kenneth Patchen and Henry Miller. He continued this through the 1940s and 1950s.

And all along, he was also creating his own art.

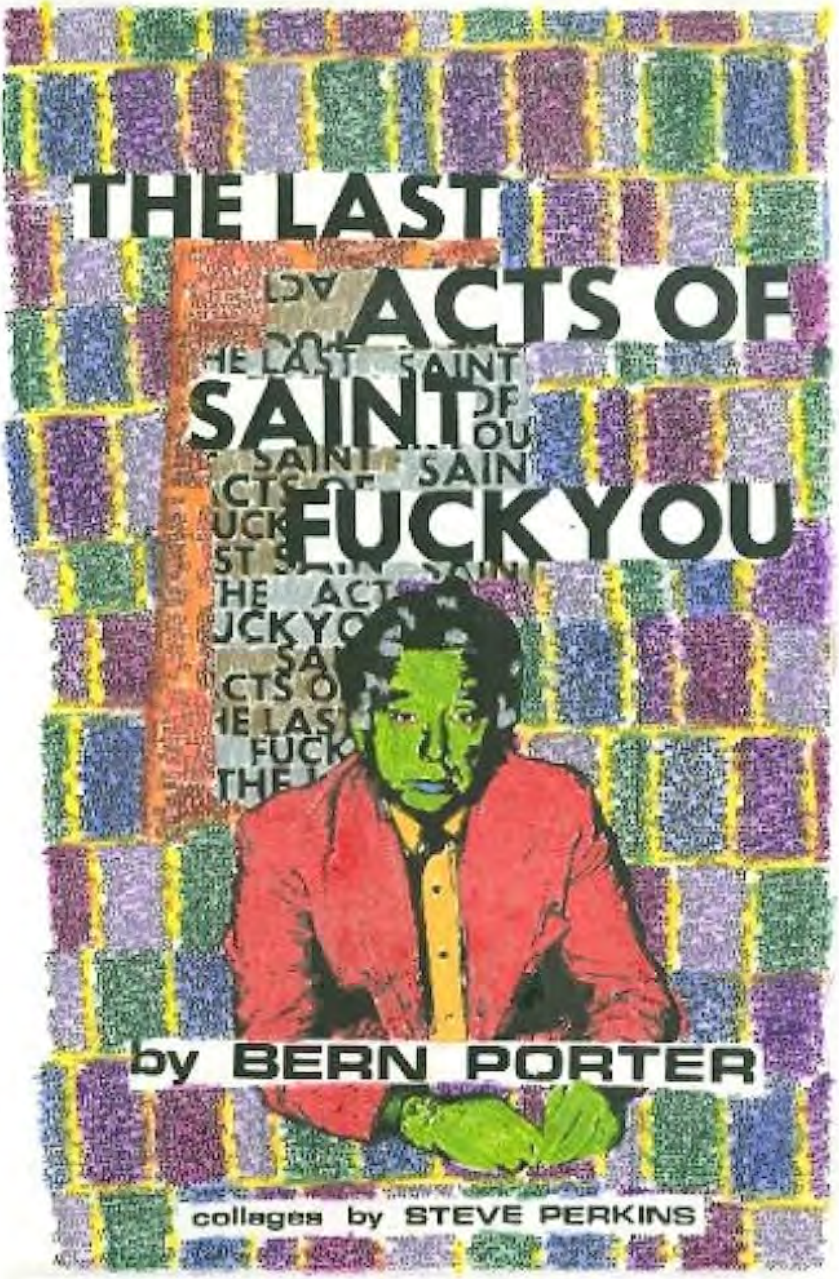
One thing he innovated, or perhaps simply perfected, was Mail Art. Mail Art had been around for a long time, probably as long as there have been postcards and letter services, but it was in 1943

that it started to become a movement. Porter got in early, and he combined the ideas of Found Poetry and Found Art. This was a remarkable combination, and I believe he did some of his work in the 1950s and 1960s from San Jose, or at least that's where many pieces were postmarked from here. Must research more!

The thing is, while his publishing work often promoted his pacifist ideals, his own work tended towards absurdism and anger. Nowhere is that more evident than in his masterpiece – the performance poetry piece "The Last Acts of Saint Fuck You."

It's a performance piece that Porter turned into a poetry art book. Honestly, in the printed form, it's nowhere near the explosion that it is spoken by Porter (https://www.ubu.com/sound/porter.html), where it feels like a talk between God and his creation. It's a heavy piece, but it's all about what happens when we've been through hell and can finally say whatever we want to that we see the anger that needs to be released. He uses the ABC methodology, where he starts with a series of A verbs and moves all the way through Z verbs. There's anger, but there's also release. He created these 40 years after his time with the Manhattan Project, and it seems that he was using the idea of rebelling against the world once you're free of the bounds of any sort of expectation. I can't help but see this as a reaction to the Manhattan Project. For decades, the Project was seen as one of the greatest accomplishments of American science, but Porter feels as if he'd been burned on the whole thing. Years later, when the patina had begun to accentuate the cracks and flaws, he could explode at the very idea, perhaps against every idea. This isn't merely, "I've been wronged," but it's "everything is wrong." and that's the beast he fights in this one.

Bern Porter's science career didn't end with the Manhattan Project, as he also worked on the Saturn-5, but his worldview was changed by being a part of the development of the deadliest weapon ever created by humans.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