

# 89 Seconds to Morning

by Erika Baumgartner



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*Dedicated to my friends!*

# FOREWORD

This project is meant to be a stream of consciousness — a journal or compilation of my scattered thoughts on our nuclear past, present, and future. If you're engaging with this with the intention of gaining knowledge or of learning something substantial regarding a historical narrative, you've come to the wrong place.

I'm no scientist or historian. I'm just a person behooved with the happenings of the world, and someone with an odd fascination of human audacity.

It's kind of funny — I have a mother born, raised, and somewhat a refugee of the Soviet Union, and a father born and raised during the height of the Cold War. It's like when two magnets drawn to the same pole are around each other. To be honest, I don't know what either of them think about that period of history. I find that their minds flip-flop on the subject of international relations, politics, love, hate, war — whatever. I won't get into it here, but I'll let it remain a mystery.



In the same way, I'm curious about my own fascination on this topic. It could have started when I first learned about the planets through the DVDs my dad would put on our TV (against my will, to which he'd promptly fall asleep to). It definitely deepened when I read Carl Sagan's *Pale Blue Dot* sometime a few years ago. It's the only book I keep wanting to reread, and it remains one of my favorite pieces of literature. It's a book that tells of our place in the universe and, in Sagan's words, of "tiptoeing through the Milky Way." And it's a book that will be referenced in here... A lot. He touches on nuclear technology, how the same stuff of interplanetary space travel is used for war and weapons of mass destruction. He also touches on the human ego. How we have this insatiable lust to explore what's beyond our comprehension, but that we've confined ourselves to a future realized only by war and violence from our anthropocentric ways. I've recommended this book to literally everyone I've ever met, and I recommend it to you, even if you couldn't care less about the subjects of science and space. Everything connects, the universe is held in your hands, too.

The title *89 Seconds to Morning* is a direct reference to the current (April 2025) Doomsday Clock title: 89 Seconds to Midnight. I'll touch on this later in the book, but I want to emphasize that this book, or compilation or whatever, is not a tool of fear mongering and anxiety sowing. In fact, I enter this project with a positive outlook on life and the world despite the horrors and happenings that bombard us every day. Maybe that will change by the time I finish this project; maybe this will reinforce my hope in humanity and our futures.

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Like I was a Spectator



# Kennedy's Rice Speech

"...If this capsule history of our progress teaches us anything, it is that man, in his quest for knowledge and progress, is determined and cannot be deterred. The exploration of space will go ahead, whether we join in it or not, and it is one of the great adventures of all time, and no nation which expects to be the leader of other nations can expect to stay behind in the race for space.

Those who came before us made certain that this country rode the first waves of the industrial revolutions, the first waves of modern invention, and the first wave of nuclear power, and this generation does not intend to founder in the backwash of the coming age of space. We mean to be a part of it — we mean to lead it. For the eyes of the world now look into space, to the moon and to the planets beyond, and we have vowed that we shall not see it governed by a hostile flag of conquest, but by a banner of freedom and peace. We have vowed that we shall not see space filled with weapons of mass destruction, but with instruments of knowledge and understanding.

Yet the vows of this nation can only be fulfilled if we in this nation are first, and, therefore, we intend to be first. In short, our leadership in science and in industry, our hopes for peace and security, our obligations to ourselves as well as others, all require us to make this effort, to solve these mysteries, to solve them for the good of all men, and to become the world's leading space-faring nation...

**For space science, like nuclear science and all technology, has no conscience of its own. Whether it will become a force for good or ill depends on man, and only if the United States occupies a position of pre-eminence can we help decide whether this new ocean will be a sea of peace or a new terrifying theater of war.**

I do not say that we should or will go unprotected against the hostile misuse of space any more than we go unprotected against the hostile use of land or sea, but I do say that space can be explored and mastered without feeding the fires of war, without repeating the mistakes that man has made in extending his writ around this globe of ours... We choose to go to the moon. We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard."

## September 12, 1962

6961969  
July 16, 1969



One of my favorite things to read about is people's experiences of watching the Moon Landing. The event was a major turning point in human history, and a special one that included the entire world in its observation. There are few moments that hold such enormity in the progression of humanity. The only other ones I could think of are when we discovered fire and when we invented Pinterest. We've made something out of our incomprehensibly small existences.

It's an awe-inspiring feat that makes me well up — to sit in front of a static-y television at an unusual hour of the day and watch these people set foot on the abstruse, glowing ball in the sky. No matter our differences or divides, we all share the same moon, the same sky, the same everything. We are infinitesimally small!

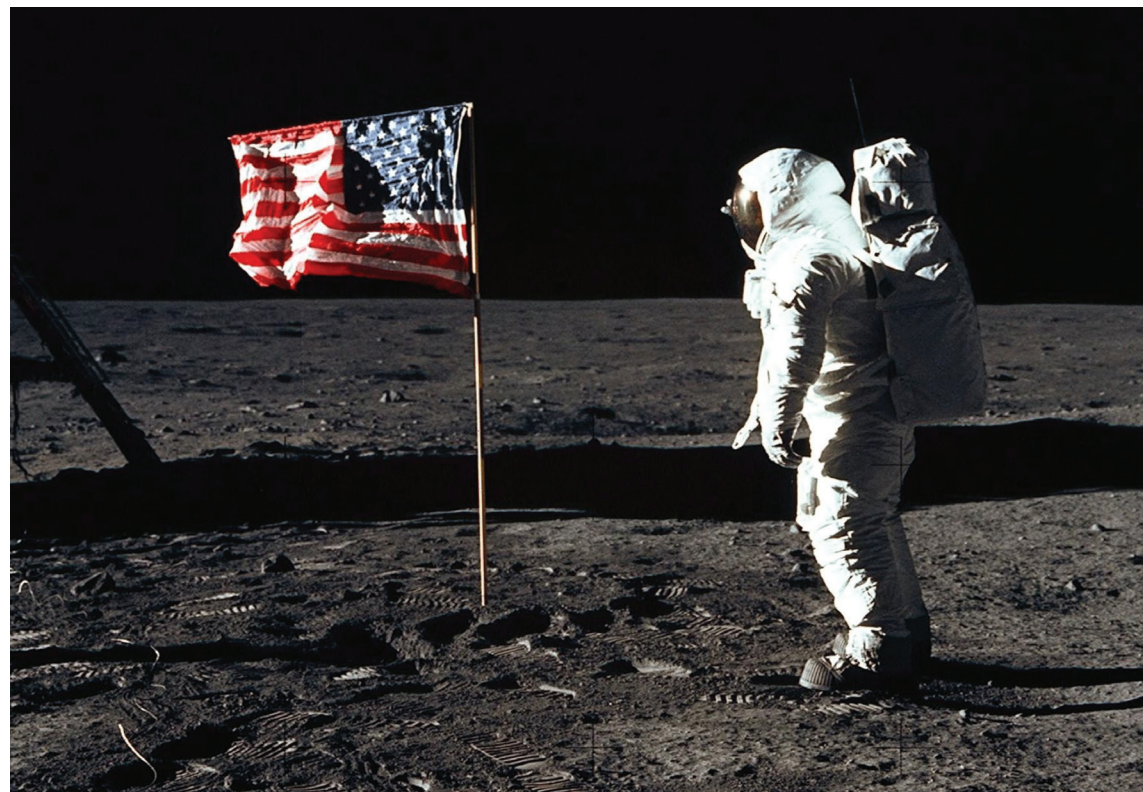
And how the astronauts must have felt! To look back at home and revel in its — and their — macro-microscopic glory.

To have all that pressure of national prestige on your shoulders.



"As the United States was dropping 71/2 megatons of conventional explosives on small nations in Southeast Asia, we congratulated ourselves on our humanity: We would harm no one on a lifeless rock." (Sagan, PBD, 170)

I often think about how this experience is clouded by its purposes of being a political gesture, a nod to our power in the international board game of reining space. It's unfortunate that, despite our justified pride in this confidence, our intentions for space-faring were rooted in reasons far more malicious than the advancement of our knowledge and the betterment of our humanity — even if unconscious. In a weirdly perverse way, the Apollo program took people's hopes and enthusiasms for the future and turned them into harbingers of a new possibly self-destructive, anxiety-ridden nuclear age.



If we could fly to the Moon, as so many have asked, what else were we capable of? Even those who opposed the policies and actions of the United States — even those who thought the worst of us — acknowledged the genius and heroism of the Apollo program. With Apollo, the United States touched greatness... For the first time, the inhabitants of Earth could see their world from above — the whole Earth, the Earth in color, the Earth as an exquisite spinning white and blue ball set against the vast darkness of space. Those images helped awaken our slumbering planetary consciousness. They provide incontestable evidence that we all share the same vulnerable planet. They remind us of what is important and what is not. They were the harbingers of Voyager's pale blue dot. We may have found that perspective just in time, just as our technology threatens the habitability of our world." (Sagan, PBD, 171)

On another note, I think about how this history-altering event became somewhat of a bore. For years, we thought that this feat brought about a new future of space travel, and possibly space colonization. If we made it to the Moon, who's to say we can't make it to Mars, to Titan, to Europa? Who's to say we can't go on the Moon more than once?

We have. Like six times.

The government realized we have exhausted our resources, and people's wonderstruck attitudes have dissipated — there's no need to pay for a round-trip to a floating rock with no resources. So, since 1973, we have not physically stepped foot on the Moon, or in any other part of our Solar System. Even manning the Space Station seems hollow — our technology has gotten so good that we probably don't need to set foot into space ever again! All of our little robots can enter the unforgiving conditions of Out There and be manned from the safety of home. I think people wish that going to space was a more viable and frequent option. It's probably hard to accept that the idea is far from ideal, especially after witnessing the glory of us actually doing it.



"I watched ghostly black and white images on the TV in my parents' sitting room, with Patrick Moore talking us through things. My father went to bed leaving strict instructions he should be woken when the astronauts emerged. In between the landing and them stepping onto the surface I went outside: the moon was shining brightly and though I couldn't see, I knew the rocket was safely up there. It was the most important, exciting, momentous event of our generation. We watched breathless as Armstrong climbed down the ladder. We all cried! Somehow we thought landing on the moon would make the world a better place." **Marlene Fenton, Lancashire**

"We watched the landing on TV in our shared house in London and as soon as Armstrong stepped out my flatmate and I rushed to the window in the loft and stuck our heads out to stare at the moon – as if we could see him – to find that just about every household in the street was doing the same. It was a great shared moment not just for the street but for mankind." **Carolyn, 73, Bristol**



"I am struck again by the irony that spaceflight — conceived in the cauldron of nationalist rivalries and hatreds — brings with it a stunning transnational vision. You spend even a little time contemplating the Earth from orbit and the most deeply engrained nationalisms begin to erode. **They seem the squabbles of mites on a plum.** If we're stuck on one world, we're limited to a single case; we don't know what else is possible. Then... our perspective is foreshortened, our insights narrow, our predictive abilities circumscribed. By contrast, when we explore other worlds, what once seemed the only way a planet could be turns out to be somewhere in the middle range of a vast spectrum of possibilities. When we look at those other worlds, we begin to understand what happens when we have too much of one thing or too little of another." (Sagan, PBD, 175)

"I was 16, sitting in our huge downstairs recreation room with my parents, my brothers and sister, and many of our closest friends. We were one of the few families with a large colour television in our circle of friends, so we invited many of them to join us to watch Apollo 11 land. As I recall now, there were almost 30 of us sitting and standing, hardly daring to even talk as we watched.

I remember feeling an almost physical thrill run through me as we watched Neil Armstrong climbing down the ladder, and I remember my mother gasping aloud "That was perfect!", through her tears of joy and excitement after he made that famous "That's one small step for a man..." statement. I remember my grandfather screaming with excitement: "Do you believe what we just saw? My lord, can you believe it?" As a young man, he had witnessed Glenn Curtis fly the first airplane over New York and now he'd watched men walk on the moon. He was like a little boy again for a few moments, so delighted to have lived to see both." **Edwin Green, Knoxville, Tennessee, USA**



I do think that that's part of the reason why now, there's this uptick of the ultra-rich wanting to step into space. Privatized spaceflight and space walks and what not. Right now, I'm thinking about the announcement of the Blue Origin crew, owned by Jeff Bezos, and consisting of some former NASA workers and astrophysicists (plus Katy Perry). I was reading the Elle interviews with the members of the all-female crew. I understand that this is meant to be, in ways, an inspiring feat for women — another message meant to rouse the next generation of explorers and to bring awareness to the misogyny and discrimination that occurs in STEM-centered workplaces. In the back of my mind though, I can't help but ask "why?".

I could go on about how I feel about the ways in which billionaires make and choose to spend their money. I do agree that this mission is a message. As an observer, the message is: "We have enough money to fund real research and opportunities for scientists all over the world, and we are choosing to do the depthless." Hidden behind the shallow guises of feminism and diversifying space travel, we choose to throw money at things that don't actively better a world in pure shambles.

The message is: "Hey look! We can still do cool things!!!! But only billionaires and their honorary friends."

Maybe my opinion of this is unpopular, but am I wrong in saying that that kind of money could be used for better things? It does make me have a more negative outlook on our prospects of space travel and "exploration" (if you could even call 11 minutes in space enough time for exploring). Maybe I really am on my hater shit... point blank. Or maybe my frustrations and those of others come from a real place — why are these field trips for billionaires and celebrities being funded, but not real, legitimate, substantial research — or at the very least for aid for others who need it?

I just can't imagine people having the same wonder and awe watching Blue Origin as they did when watching Apollo 11 make their landfall, even if the messaging and politics are two sides of the same coin.

← I actually just found out that the ENTIRE trip was 11 minutes. Like getting just past the bandaid of space — the Karman Line or whatever. Which means they were up there for like... 3 minutes



"The flight is different from what you might envision: The entire trip is only expected to last 11 minutes, and the women will be going up in a rocket that flies itself, allowing each of them to enjoy the flight as passengers. Once they reach space, they'll be able to float around the rocket, experiencing weightlessness and looking out the windows at the universe and Earth below for about four minutes before coming back down." (Elle, 2025)

*I needed more. I needed drama, I needed excitement. I need to see Katy Perry doing zero-gravity backflips in a spacesuit performing "ET." I needed a brief system malfunction that was miraculously corrected at the last second. I needed more.*

@joan.of.arca via Instagram



# In Event of Moon Disaster

What would have happened if things really did go awry? To be fair, we only had seven short years to refine rocket technology, to perform test launches, and to design an actual spacecraft and its navigation systems when we announced we were going to the Moon... People would have gone ballistic if the mission had gone wrong.

I was presented with this prepared speech in the case something DID happen during the Apollo mission. It was sort of haunting, imagining an outcome that very much could have been a possibility. I wonder what kind of statement would have been issued, or how people would have reacted, if something like Blue Origin blew up.

To: H.R. Haldeman  
From: Bill Safire

July 18, 1969

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IN EVENT OF MOON DISASTER:

Fate has ordained that the men who went to the moon to explore in peace will stay on the moon to rest in peace.

These brave men, Neil Armstrong and Edwin Aldrin, know that there is no hope for their recovery. But they also know that there is hope for mankind in their sacrifice.

These two men are laying down their lives in mankind's most noble goal: the seach for truth and understanding.

They will be mourned by their families and friends; they will be mourned by their nation; they will be mourned by by the people of the world; they will be mourned by a Mother Earth that dared send two of her sons into the unknown.

In their exploraton, they stirred the people of the world to feel as one; in their sacrifice, they bind more tightly the brotherhood of man.

In ancient days, men looked at stars and saw their heroes in the constellations. In modern times, we do much the same, but our heroes are epic men of flesh and blood.

Others will follow, and surely find their way home. Man's search will not be denied. But these men were the first, and they will remain the foremost in our hearts.

For every human being who looks up at the moon in the nights to come will know that there is some corner of another world that is forever mankind.

PRIOR TO THE PRESIDENT'S STATEMENT:

The President should telephone each of the widows-to-be.

AFTER THE PRESIDENT'S STATEMENT, AT THE POINT WHEN NASA ENDS COMMUNICATIONS WITH THE MEN:

A clergyman should adopt the same procedure as a burial at sea, commending their souls to "the deepest of the deep," concluding with the Lord's Prayer.





## Pale Blue Dot

"The Universe seems designed for human beings. It's difficult to contemplate these circumstances without experiencing stirrings of pride and reassurance. The entire Universe, made for us! We must really be something." (Sagan, PBD, 11)

194214



# Human Audacity

In a world beset by existential threats, it's only natural for humans to grasp for as much control as we could possibly handle.

We are special. The world is made for us. We may be the only living creatures dwelling the Universe. We live in a time where we have the power to do anything. We can save the world. We can destroy ourselves.

I do believe we are special to a degree. The likelihood of any other living thing in the universe being just like us is so small! We are special in the same way a hypothetical microbe found on Planet XYZ in Galaxy 1234 is. We are special in the way that we happen to exist on a planet with perfect conditions to harbor life – with a sun just the right amount of miles away, with an atmosphere that lets plants grow and all other life thrive, and with water and soil containing exactly the organic compounds needed for survival. We happen to live in a time where our Solar System is relatively calm — no asteroid clusters rushing our way, no war with any other element of space that could wipe us out instantly. We happen to exist and live at the height of technology and science, with the potential of faring — and maybe even surviving — beyond home. We are spoiled! We are also special in the fact that we have the capabilities to wipe our very own species out, along with the rest of the world. We've created so many options for ourselves! — global warming, microplastics, nuclear winter, AI, fascism... not sure if there's another quite like us.

Despite the cosmic miracle of our existences, I also believe that the Earth, the universe, and these perfect conditions for life were not made for us in mind. Though this is, I suppose, a very atheistic and nihilistic approach of thinking, I don't think the harshness of Earth's upbringing and violent history is an inviting place, even for beings akin to gods.\*

\*I'd consider myself to be a "positive nihilist." Like, Yes we are on this floating rock in space and yes nothing matters because we're all going to die one day and the sun is going to blow up even if we don't destroy ourselves first blah blah blahhhhhh. BUT! That's kind of the best part. You can make meaning out of your own life! You can still have the outlook of doing whatever you want and leading with love and openness because this is literally the only chance you're going to have. AND! If you make a mistake, it's not going to matter in the grandest scheme of things!!!! Of course, I say this under the assumption that you're not some evil politician or corporate mogul with fucked up morals. On a personal level, you can make your life whatever you want it to be and you can choose to love what's all around you BECAUSE of the very fact that nothing matters!!!! We are so special and so not special at the same time! Maybe this way of thinking is as shallow, if not MORE shallow than regular nihilism, but I choose to not wallow in suffering. Oops! Sorry!



When we first became conscious of the moving dots in the sky, we figured that Earth was the center of what we knew; we even have our very own Moon orbiting us! Then we discovered that we actually orbit the Sun.

That was okay, though, because the rest of the Universe still revolved around us.

And then it didn't. We found out we are actually in a system of other planets, in a galaxy full of other planetary systems, in a space full of countless more, with no middle or end in sight.

We are just here.

"We live in the cosmic boondocks... The trapdoor beneath our feet swings open. We find ourselves in bottomless free fall. We are lost in a great darkness, and there's no one to send out a search party. Given so harsh a reality, of course we're tempted to shut our eyes and pretend that we're safe and snug at home, that the fall is only a bad dream... Especially when times are hard, we become desperate for encouragement, unreceptive to the litany of great demotions and dashed hopes, and much more willing to hear that we're special, never mind if the evidence is paper-thin." (Sagan, PBD, 51)

I think people are scared to think that we might not be as special as we had hoped or believed. We've done well in finding ways to make ourselves feel more special, despite the fact that simply existing during the time we do is insane. I think the biggest display of our sheer audacity was deciding to go to space. Well, first it was making the atomic bomb, and then it was using that same technology to do something actually cool instead.





Samuel Hyman, 2024

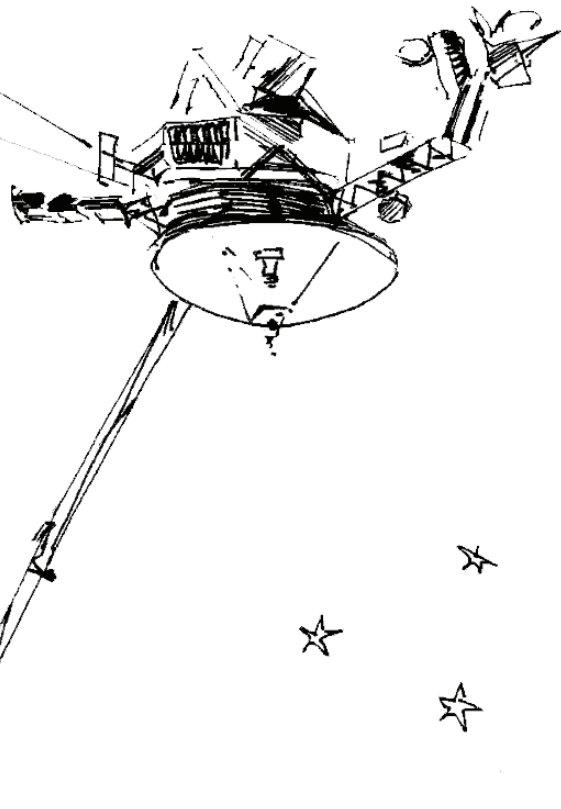
"In the littered field of discredited self-congratulatory chauvinisms, there is only one that seems to hold up, one sense in which we are special: Due to our own actions or inactions, and the misuse of our technology, we live at an extraordinary moment, for the Earth at least — the first time that a species has become able to wipe itself out. But this is also, we may note, the first time that a species has become able to journey to the planets and the stars. The two times, brought about by the same technology, coincide — a few centuries in the history of a 4.5-billion-year-old planet. If you were somehow dropped down on the Earth randomly at any moment in the past (or future), the chance of arriving at this critical moment would be less than 1 in 10 million. Our leverage on the future is high just now." (Sagan, PBD, 305)

*Under Stars*

# On Voyager

I never put two and two together — that the only reason we are able to send rockets out into space is because we have figured out the technology to send missiles and bombs to each other on Earth.

The Voyager Program, launched in 1977, employs the Voyager 1 and Voyager 2 interstellar probes. Once Voyager 1 completed its Saturn and Titan flyby, Voyager 2 was sent to fly by Uranus (lol) and Neptune. Different from the previous Mariner program from 1962-1973, their missions were to explore and collect transmission data from these planets, and once complete, their probes were kept in operation to explore interstellar space (aka the regions beyond our Solar System). Using gravitational assists and the miraculous timing of a rare planetary alignment, this mission was made possible and is still continuing its journey into the dark. Both Voyagers contain records with messages for anyone who may come across them — greetings in multiple languages, sounds of Earth through nature and music, and images that represent our home. Humans still want to be known by sending their stakes to the bounds of the universe.



From Voyager 1's venture beyond our Solar System, we were able to see ourselves as a little blue dot,

*suspended  
in a Sunbeam*

from over 6 billion kilometers away.

"Our posturings, our imagined self-importance, the delusion that we have some privileged position in the Universe, are challenged by this point of pale light. **Our planet is a lonely speck in the great enveloping cosmic dark.** In our obscurity, in all this vastness, there is no hint that help will come from elsewhere to save us from ourselves." (Sagan, PBD, 7)

Voyager 1 and Voyager 2 are powered by Radioisotope Thermoelectric Generators, which turns the natural radioactive decay of Plutonium-238 into electricity — they're essentially nuclear batteries. Their power supply isn't limitless, though it will last for a really long time, given things go smoothly out there. Jet Propulsion Laboratories (JPL) says that there's a small reservoir of backup power that's part of an onboard safety mechanism. What will happen is that, out of five in total, one "science instrument" (these are things like cameras, infrared and ultraviolet sensors, magnetometers, plasma detectors, cosmic mic-rays, and charged-particle sensors oh my god I didn't even know you could fit all of that into one thing) will be shut down to save power. I think they plan to shut one off in 2026; Voyager's mission won't end for a while though, since the other four instruments will still be in operation — only until the power supply declines further will another be shut off.

All of this was to say that Voyager's revolutionary mission, and our ability to revel in our littleness, was built on nuclear technology

The science of atomic radiation, atomic change, and nuclear fission was discovered and developed in the late 1800s to around 1945. The last five or so years of that era were, of course, focused on the production of the atomic bomb. I won't get into the specific science of it all as I'm obviously not qualified to do so, but I'm fascinated with the fact that we started our use of this possible powerhouse of energy efficiency on tools of war, instead of other practical purposes.

There's a lot that can be said about our actions in Hiroshima and Nagasaki in the name of self defense or spreading a message or warning or threat or whatever. I'll say this right here and now, in case anything gets lost in the sauce as this book goes on — I don't like bombs, I don't defend them, and I think it's wrong to kill people. Point blank, but also especially in the name of foreign policy.

I think these events of mass destruction, these messages that tell the world that "This Country can do this, so That Other Country had better watch out," are unproductive. As a result of these very real, but also petty threats, accidents, and mistakes, we've created a world ridden with anxiety about our nuclear futures.

When I say "nuclear futures," I'm mostly talking about two things: the ability of people in power to push a button and not be argued with, and the fear and lack of say that the rest of the world is subjected to.



SIGNALS

# The Gold Code

The Gold Code is the launch code for nuclear weapons provided to the President of the U.S. in their role as Commander-In-Chief of the Armed Forces. These codes “allow the President to authorize a nuclear attack” and are also assigned to the Vice President when the President is unable to discharge a launch order to the National Military Command Center (NMCC). These are arranged on a credit-card-like piece of plastic called “the biscuit” (who came up with that name), and its covering must be broken before it can be read. Provided by the National Security Agency, this card needs to be carried at all times by the President.

If at any point the President decides to launch an attack, their identity must be authenticated through a NATO phonetic challenge code. Once confirmed, the President can launch an attack that’s as large scale or limited as they feel necessary.

That was a lot of technical jargon.

The Nuclear-defense policy expert Franklin Miller “argues that the president has almost singular authority to initiate a nuclear attack” — the reasoning behind this is because the secretary of defense has no power to veto an order, only to verify it. Others argue that authority actually has been delegated by the President to a number of other military officers.

While these regulations are put in place to somewhat prevent a rash decision being made, it raises questions on how much power the President has as the authority figure at the highest level of the executive branch. “The protocol concentrates authority and emphasizes speed to such a degree that it may allow a President to railroad the nuclear commanders into initiating a first strike without apparent cause and quickly executing an order that may be horrifyingly misguided, illegal, or both” (Arms Control Association). Other concerns include the fact that the President could potentially “become hostage to the protocol itself, like a conductor on a runaway train, if an enemy nuclear strike appears underway.”



I bring this up because I feel like many of us have concerns about the decision-making processes involved in war (and other such foreign affairs).

Yes, we're supposed to trust those in power to make the right choices and to protect the country and have the people's best interest in mind yadayadayada. What happens if something like this Biscuit gets into the hands of someone who, possibly time and time again, may act with haste while ignoring those around who might advise against whatever it is they're thinking about doing.... Someone with less critical thinking skills... Someone who's stubborn.... Someone who's reactive....

You know where I'm going with this.

Maybe my points of view are too one-sided and naive; I just don't like the idea of war, and I'm so certain that there's nothing that can't be worked out by just talking.

I recently had a conversation with a physicist completing her PhD at Berkeley. Though her concentration is more so on the early universe (so insanely cool), and not so much on nuclear physics, she still brought something up that made me think more about why our country, and so many others, have such a fixation on having an extensive artillery. I asked her about her thoughts on the classification of information, transparency with weaponry and warfare, and if the technology behind it should be talked about more. When I asked this question, I was focused more on the perspective of the general public, not necessarily of those directly involved in the process of creating or even distributing these weapons.

Her response was along the lines of her being very in favor of open communication and knowledge in science, and that there should be as much declassification as possible. I think when she answered this question though, it was geared more towards the community of physicists that are involved in weapon-making and research. Regardless, her answer brought something up that I hadn't had an in-depth consideration of. She explained that if there is more transparency from country to country, and if everyone has their own arsenal of weapons, the probability of us all bombing each other would be less. I had been so focused on the fact that the biggest, baddest countries had these crazy nuclear lineups, that I had forgotten that there are so many others that have ones that are either nonexistent or frivolous in comparison. I suppose it makes sense — if every country had an equal amount of weapons, or at least access to information and research, there wouldn't be just a handful of leaders throwing around threats of mass destruction. People would be able to fight back if they could.

Though I'd ideally like all nukes to be banned, I understand the perspective of wanting to defend oneself in the case of another country making their own series of rash decisions. Duh.

This brings me to the sphere of miscommunication that comes with war and weapons.

# Proud Prophet

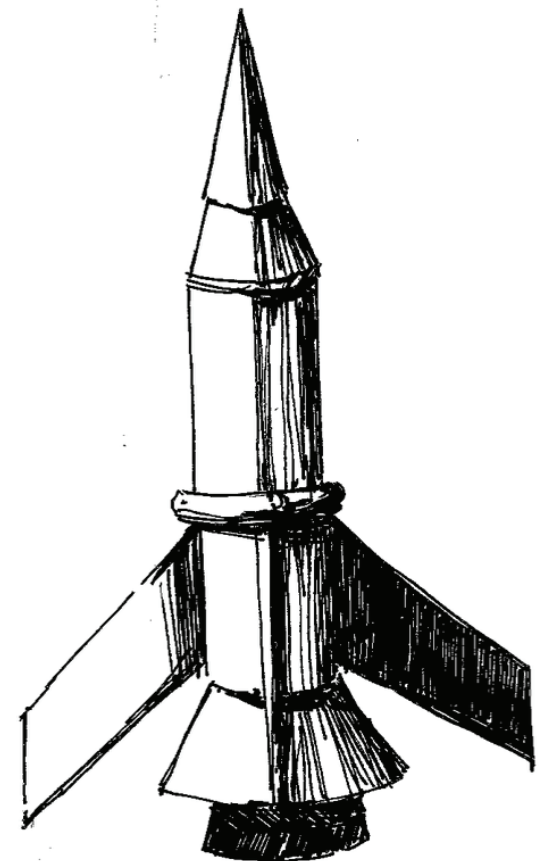
A little while ago, probably around the time of the recent election, a friend had told me about this podcast/article from the New York Times in regards to something called Proud Prophet. It was a secret Pentagon war game that served as an example of the inevitability of disaster with nuclear escalation, as well as its inherent existence as a mode of communication.

This style of communication from country to country, leader to leader, intention to intention really is its own entirely separate language from that of everyone else (aka you and me). It's special in the sense that it can't be fully understood by anyone but those starting the conversation (if it could even be called one). Built on bullying, deceit, what-ifs, and threats, there's far too much room, and stakes far too high, for misinterpretation.

Though there are only about 12,000 warheads today from the 70,000 during the Cold War, the global arsenal is growing again with more and more countries joining the next-gen arms race. With the focus now being more on "smaller, more precise nuclear weapons meant to limit radioactive fallout and civilian deaths," this, coupled with new battle tactics like cyberattacks and advanced surveillance systems, brings about more concerns for what the United States, and our adversaries, are capable of on a first-strike basis.

It seems the concern for an all-out war comes from surprise attacks; the emphasis now is on how to combat an attack from out of the blue, as well as controlling an escalation that is happening in plain sight.

"These exchanges echo around the edges of a devil's spiral. At the top of the spiral stand the preparations meant as deterrents. At the bottom stands all-out nuclear war." (William Langewiesche, NYT 2024)







Proud Prophet was created in 1983 and acted somewhat like a nuclear test. Played by those in the highest rankings of the U.S. military, the game was mostly unscripted, utilized real communication channels and secret war plans, and is highly classified. Because it was all hypothetical and involved no use of real weapons, the course of the game could be taken as far as its natural conclusion allowed it (the end of the world basically).

It came to fruition after Reagan's speech in which he announced the Strategic Defense Initiative (S.D.I.) — in essence, he had come up with a plan for the U.S. to develop a multilayered shield against ballistic missiles, mostly from the Soviet Union which he had provocatively called an "evil empire." His goal was to have the American people not live under threat of a Soviet nuclear attack and to have a means of intercepting and destroying any weapon sent our way. He wanted to render the nuclear weapons of others "impotent and obsolete." Kind of like a "rules for thee but not for me" sort of thing.

Soon after this proposal, Yuri Andropov, the Soviet leader at the time, condemned it, and basically said that "missile defenses would be 'a bid to disarm the Soviet Union in the face of the U.S. nuclear threat.'" Obviously this missile shield wasn't going to happen, but at that point, the Soviet Union felt at threat and was under the assumption that we're going to send strikes to them, and vice versa. Though this was never the case, the misunderstandings on both ends were fervent.

← i swear recently i saw something about plans being made to make another shield of sorts. GENUINELY now would that work.

The United States had a number of choices for how to go about this threat of attack by the Soviets — when the strategies became too complicated to decide on, the new secretary of defense, Caspar Weinberger, along with the help of Harvard professor Thomas Schelling, proposed the idea for Proud Prophet.

These were some of the available options for the U.S. before Proud Prophet came to be:

- "
- attack preemptively to decapitate the enemy
  - launch on warning
  - launch under attack with enemy warheads exploding
  - escalate "horizontally" by shifting a war in Europe to Asia
  - create a two-front war by getting China to attack the Soviet Union
  - pre-position weapons in space
  - invade Eastern Europe with NATO armies
  - coolly execute a nuclear escalation with the goal of controlling and winning a limited nuclear war.
- "

← ya'll couldn't just talk it out??



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Date: DEC 20 2012

II. (U) BACKGROUND INFORMATION:  
GAME OBJECTIVES, PARTICIPATING COMMANDS,  
EVENTS SEQUENCE AND SCENARIO SUMMARY

A. (U) OBJECTIVES

1. (U) Educational

- a. (U) Expose players to the difficult industrial and manpower mobilization decisions required during a period of developing--but still ambiguous--threat.
- b. (U) Gain insights into the potential impact of selected Allied actions during a developing crisis.
- c. (U) Familiarize players with possible war triggers.
- d. (U) Involve players in the war fighting decisions required during the early stages of a global conflict.
- e. (U) Explore the risks and benefits of an escalation strategy which focuses on conventional options applied against the enemy at points where he is most vulnerable.
- f. (U) Examine the strategic impact of unconventional warfare.
- g. (U) Consider the implications of early decisions on the prospects for successful conduct of hostilities which may continue over an extended period.
- h. (U) Determine opportunities for responsible war termination initiatives.

2.

JS 3.3(b)(5)(8)

II-1

WGSC-S-13-83  
COPY NO. 118

~~SECRET NOFORN~~



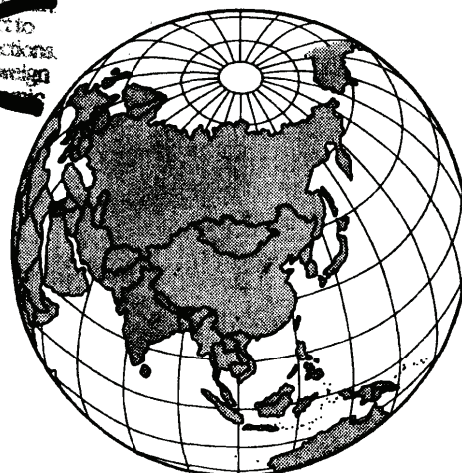
NATIONAL DEFENSE UNIVERSITY

FORT LESLEY J. McNAIR  
WASHINGTON, D.C. 20319

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Chief, Records & Declass Div, WHS  
Date: DEC 20 2012

PROUD PROPHET - 83

13-24 JUNE 1983



GLOBEX SERIES

MILITARY AND STRATEGIC ISSUES

WAR GAMING AND SIMULATION CENTER

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12-M-1497  
Document #1

Office of the Secretary of Defense  
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Date: 2008/06/12 Authority: EO 13526  
Declassify in Part: Deny in Full:  
Reason: 3.245(5)(b), (5)(6), (6)(2)(a)  
MDR: 12-M-1497

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# Game

The game would be based at Fort McNair in Washington, would be played for at least two weeks, and would stretch across classified communication channels with other commanders across the country. The U.S. was team **blue**, and the Soviets were team **red**, consisting of Pentagon officials and C.I.A. experts, each side blind to what the other was thinking or doing. There was also a control team that could see everything that both sides did simultaneously and relay a damage assessment to either side at a given time.

## THE SITUATION

Soviet forces were maneuvering inside Poland, East Germany and Czechoslovakia in what appeared to be a giant training exercise — but drifting toward West Germany. Ominously, residents of Bonn, the seat of the West German government, were starting to sicken mysteriously. Had the red team covertly released biological agents against them?

# Time



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JS 3.3(b)(5), (8)

III. (U) STRATEGIC ISSUES RAISED

A. (U) BLUE'S STRATEGIC PLAN

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B. (U) UNEASY PEACE

1. (U) Summary

III-1

JS 3.3(b)(5), (6), (8)

III-2

JS 3.3(b)(5), (8)



After a couple of days, the blue team's suspicions of the red team were confirmed, and war had begun. NATO troops started moving in, chemical weapons by the Soviets were fired, and U.S. allies began backing away from the pressure. At this point, around the fifth day, the red team “had refrained from using even the smallest of their nuclear weapons in the hope that the Americans might do the same.” Once Belgium and the Netherlands were about to be overrun, the blue team authorized its first use of nuclear artillery rounds. The red team then fired back with their own nuclear artillery. This back-and-forth was to advance each team towards the other along the Eastern and Western German line. Though it was somewhat “contained” at first, and hesitation existed towards firing anything crazier, it soon escalated. There began more and more firing along the German front line with missiles and jets with bombs — many major air bases, docks, and bridges were obliterated, meaning a large number of civilians were impacted too.

On the text-based communication hotline between the blue and red teams, the Americans were trying to explain that only the bridges they hit were targets, and not the civilians, and the Soviets explained the same about the ones they hit. While both were trying to minimize civilian deaths, neither found each other's sentiments reassuring. By day seven of the game, no one was focusing too much on the distinction between what was the target and what wasn't. Nearly every major European city was gone — Germany and Poland were decimated, and Sweden, Belarus, the Baltics, Japan, South Korea, the Philippines, Singapore, and Hawaii and Alaska were all hit.

Ummmmmm why did you kill  
like a million people on  
our side.

Ummmmmm we didn't mean to..?  
Also you literally killed  
like a million of ours wtf  
are you on about.

We were LITERALLY just  
trying to hit your bridges  
and bases come ON.

.....

Surrender was now out of the question for blue and red, though casualties had already exceeded those of World War II. It reached a point where a General Nuclear Response was at play —

**“massive nuclear strikes against the total nuclear threat, other military targets and urban-industrial targets as required.”**

Communication had failed.

Proud Prophet concluded when there was no one left to fight over nothing.

When the news of the game's results reached war councils, and administrators saw how quickly things could go awry, tensions between the U.S. and the Soviet Union eased. No one sent bombs to each other, Gorbachev came to power, both countries reduced their nuclear arsenals, and the Cold War seemed to end overnight.





Samuel Hyman, 2024

It's so interesting to me how, despite these events in history, even the use of this hypothetical game, we seem to have forged a new path of uncertainty and/or destruction. Though my thoughts on this may be iffy because of how much information is classified and hidden to the public, the games of he-said-she-said and puffing one's chest is quite scary to witness from the side. It feels worse knowing that we will never know if a threat or attack is real or not until it happens — so many false alarms and errors have occurred that if a real one were to come our way, we might not even have time to care. It's kind of like when you're fighting with your sibling — you're pointing your finger at them, getting reallyyyyyyy up close and in their face, bugging the shit out of them being like "I'm not touching you! I'm not touching youuuuuuuu!!!!!!!" And then your sibling throws a missile in your face and tells you to burn in hell.

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**VIII-8**



# Nuclear Winter

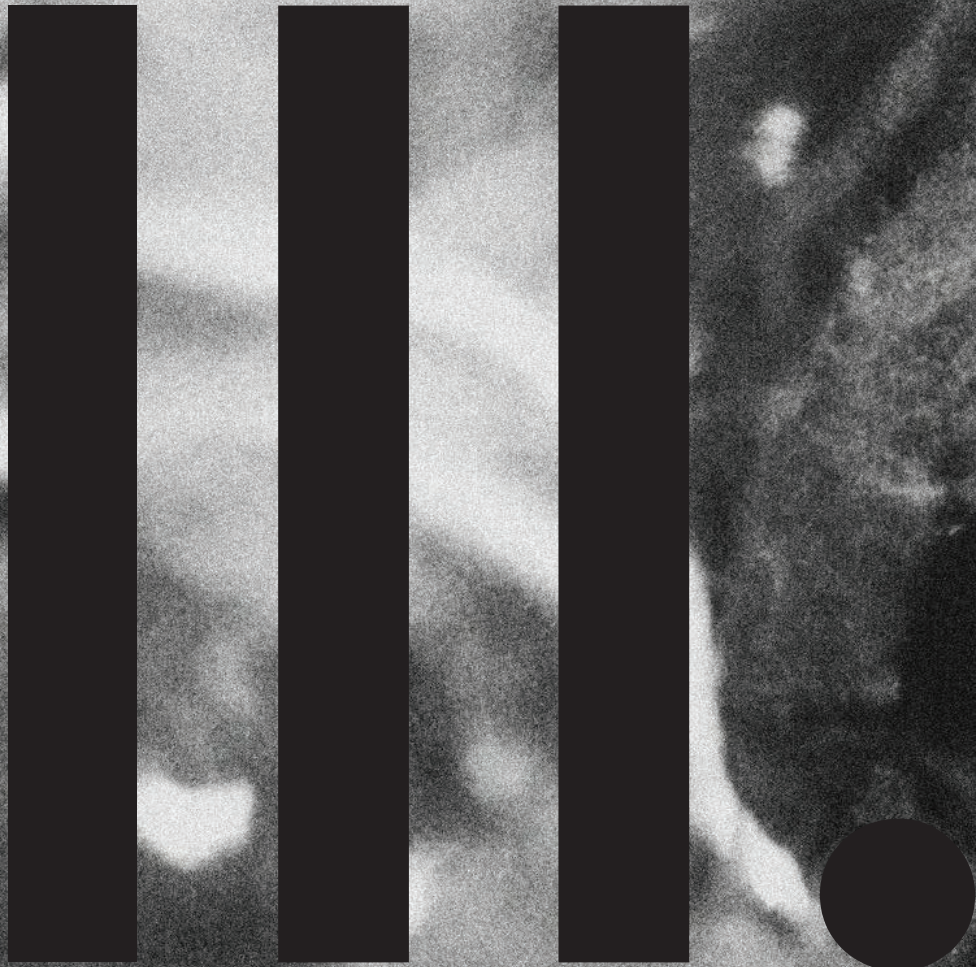
Another topic I really wanted to delve into was in regards to Nuclear Winter. I didn't really know how or where to put this in the book, so here it is. It's a climate event that is likely to occur in the case of an all-out nuclear war where Earth's climate drastically cools down. The theory suggests that nuclear detonations would output tremendous amounts of soot & debris into the atmosphere, blocking sunlight, & therefore causing temperatures to drop. If this were to happen, crop failure, famine, & the end of humanity would be likely. This would be an extinction nothing could recover from.

Even if a full-blown nuclear war didn't occur, we still have global warming to be concerned about (or ozone depletion).

Our timing really is quite special!







At the Foot of a Ladder

Mandis D. Lemos, year unknown



I'm no scientist.

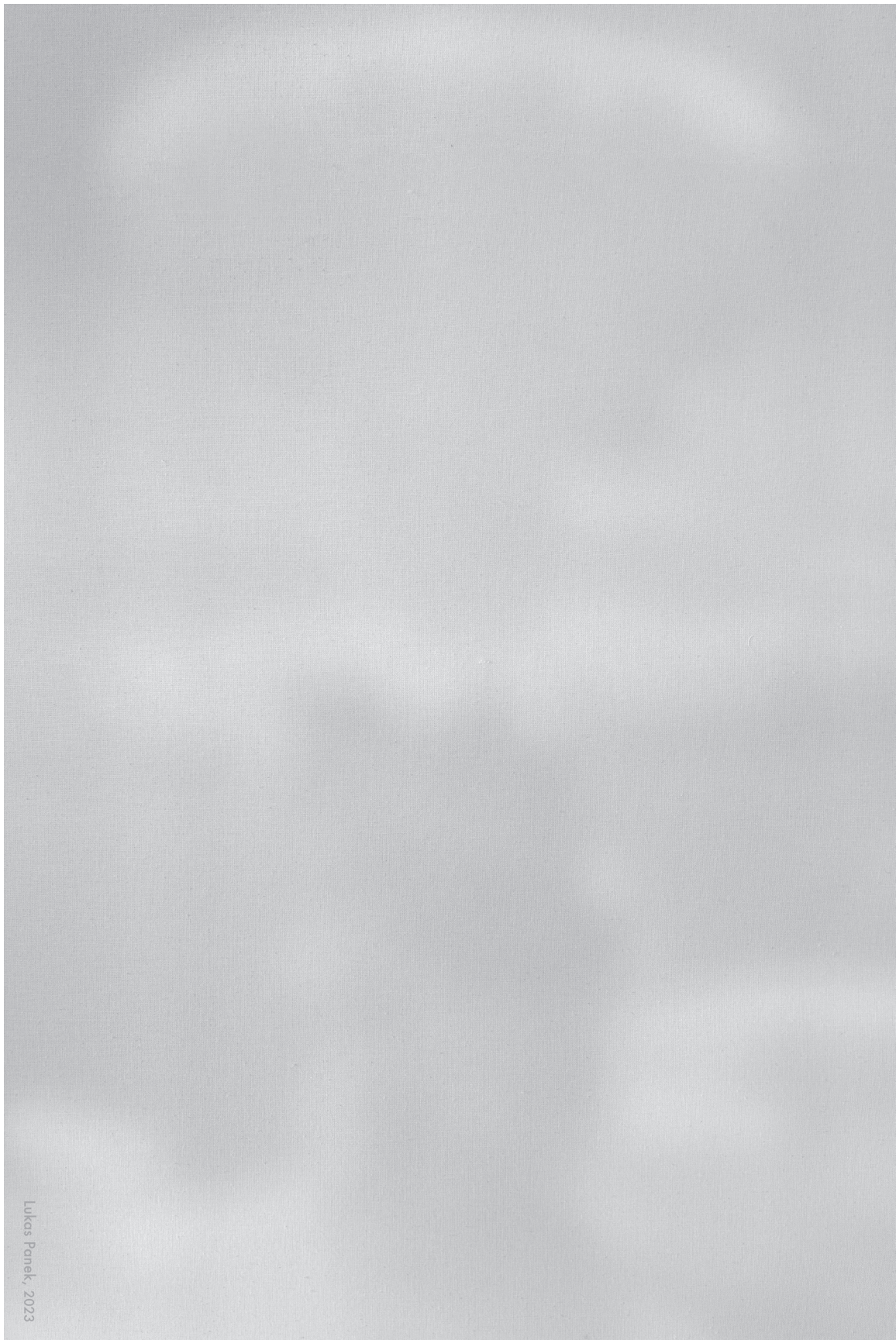
I've always had an affinity for it though! I thought I was going to be a brain doctor for a really long time. It would have been cool to do that, or maybe really tap into my interest in space and become a physicist or astronaut or something. Maybe a politician to really try and change the world from the top. Or maybe a teacher to change the world from the ground level.

I am, however, an opinionated artist that still holds a reverence for the sciences.

When I was doing research for this project, I came across something called Artists Against the Bomb. It's essentially a collective of artists and their messages calling for universal nuclear disarmament through posterwork, type, photography, film, sculpture, poetry.... everything. They emphasize the importance of public pressure and the spirit of protest to reduce nuclear arsenals, as well as "a sense of urgency that we as a species cannot wait for solutions to come from those at the top."

I wanted to highlight some of my favorite pieces that I've seen. It was so cool coming across this source — I was happy to see so much interesting work done by people who are on the same page as me about something like nuclear war. Could I be considered an artist against the bomb? What the hell, sure.





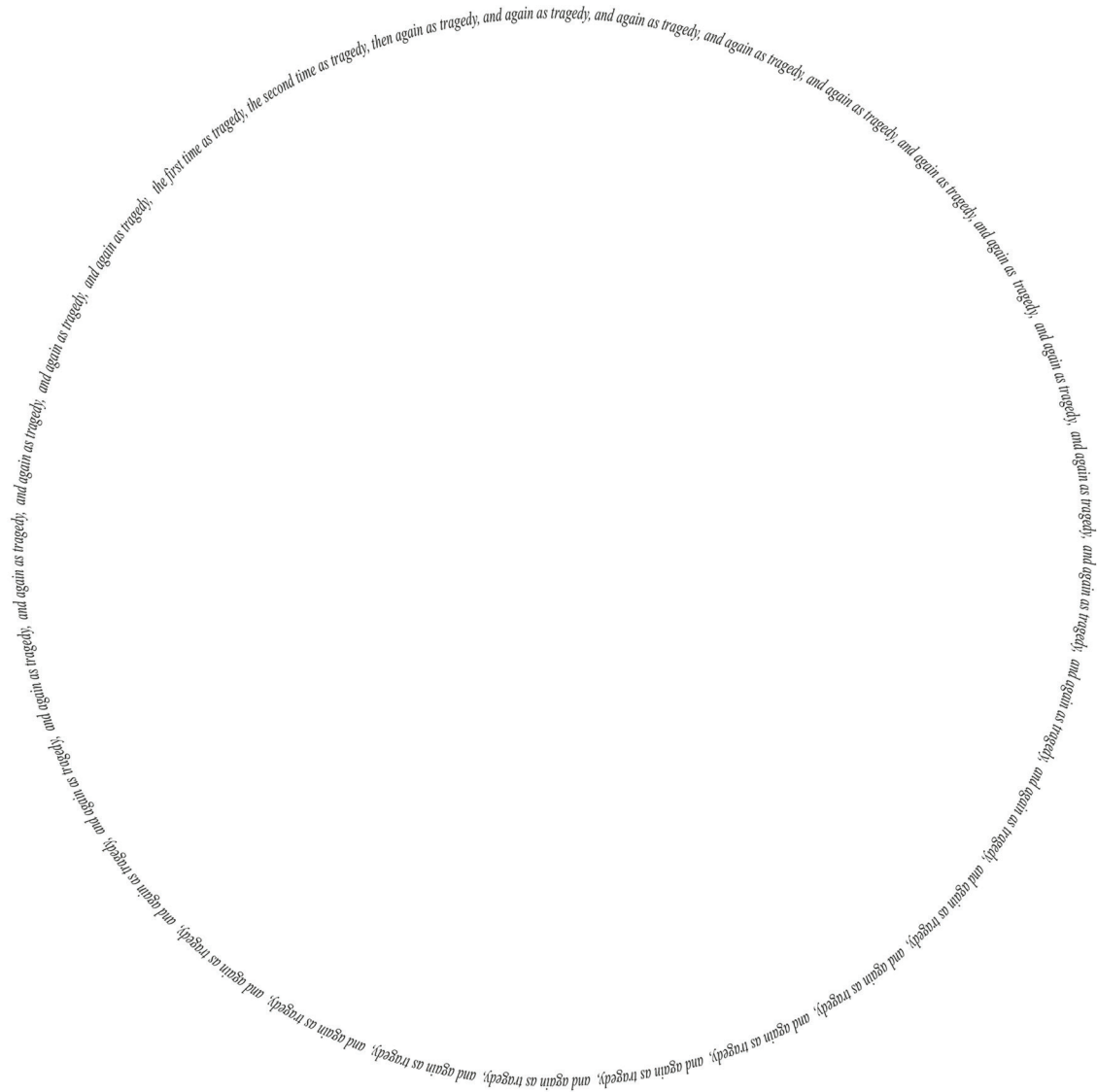
Lukas Panek, 2023

# LUKAS PANEK

“A painterly yet digital image of the infamous photograph Atomic Cloud Rises Over Nagasaki, Japan, 1945, shows a blurred 45,000-foot-tall mushroom cloud rising over Nagasaki, a few minutes after the nuclear bomb was detonated on August 9, 1945.

By dimming the original image, the artist attempts to tarnish the presence of the atomic explosion — in hopes of its complete erasure —, while also preserving the remnant, an important aspect for the construction of the collective memory of a disaster.”





# ARSENY ZHILYAEV

“While directly referencing to the famous quote ‘History repeats itself, first as tragedy, second as farce’ by German philosopher Karl Marx, the artist modifies it by changing the end and looping it in order to outline the circumference of a circle, leaving no more space for tragedy.”

There is no more space for tragedy. Ban the bomb.



# NADYA TOLOKONNIKOVA // PUSSY RIOT

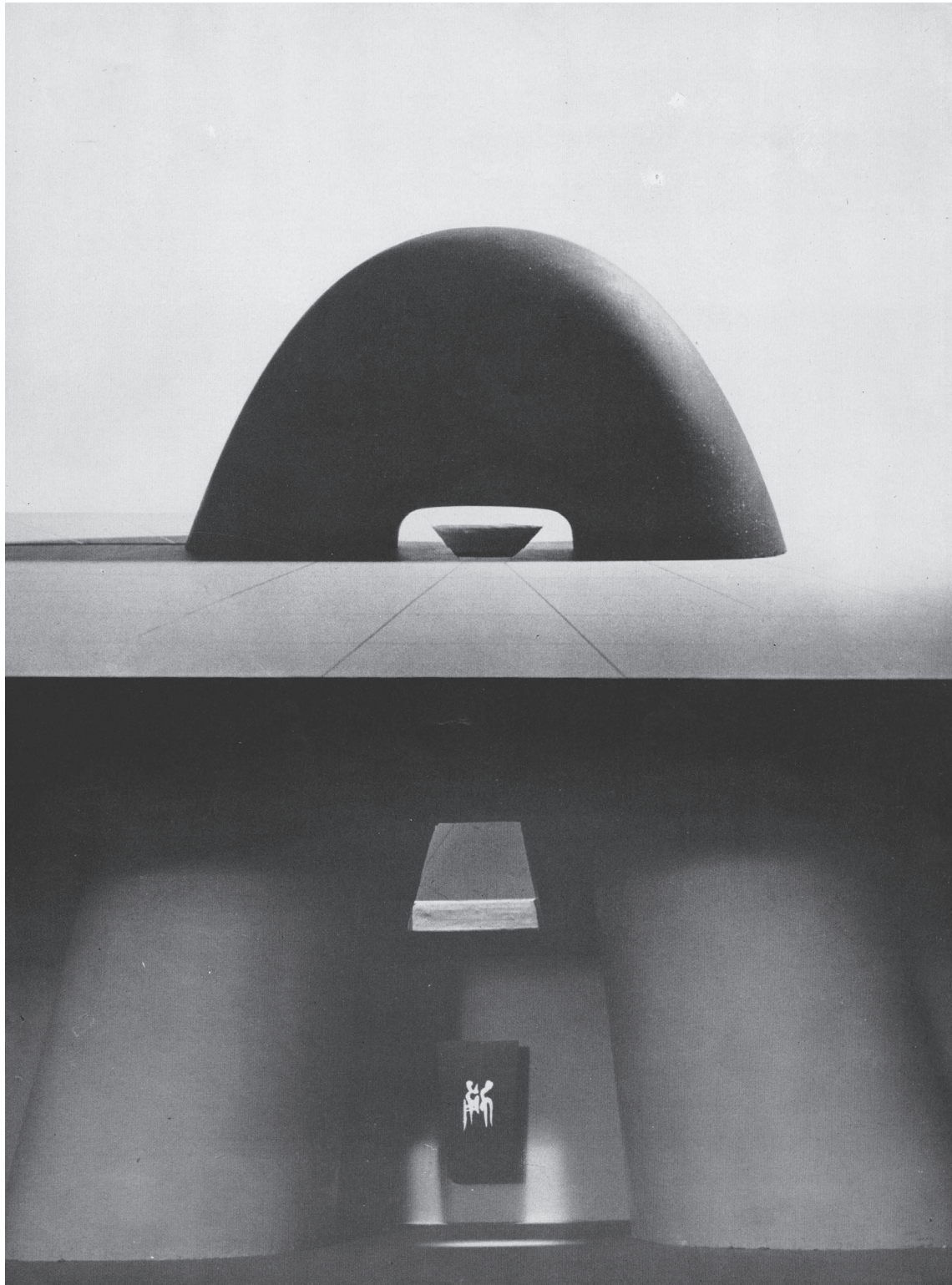
"MAD (Mutually Assured Destruction) doctrine, emblematic of the Cold War, posits mutual annihilation as a deterrent to nuclear war. This principle inflicts a profound emotional toll, symbolizing humanity in perpetual precarity. Pussy Riot's MAD illuminates this existential dilemma, juxtaposing the innocence of a girl warrior against Goliath, and challenges the 21st century to seek a more sustainable and harmonious global ethos that transcend the doctrine of mutual destruction."





## PETER KENNARD

"Broken Missile (1980) depicts a nuclear warhead cracked in half by the CND symbol. Kennard said he bought a toy missile at a toy shop in London, smashed it in two with a hammer, and took a photograph. The image later became the logo for the International Campaign to Abolish Nuclear Weapons (ICAN).



# ISAMU NOGUCHI

“Seeing the opportunity to use his extraordinary position as a human bridge between Japan and the United States, Isamu Noguchi — after completing his design for the bridges to Hiroshima Peace Memorial Park — was invited in 1951 to design the park’s centerpiece, a cenotaph to the dead. Unfortunately, the political will and funds never materialized and the project was never carried out. Isamu Noguchi (1904–1988) was one of the 20th century’s most significant sculptors, yet his resolute redefinition of the art form led to a practice spanning gardens, playgrounds, public projects, furniture, lighting, and set design. He believed strongly in the social role of art and dedicated much of his life to creating public works such as parks, plazas, and fountains.”

After working on the bridges to Hiroshima Peace Memorial Park, Noguchi was invited by Kenzo Tange and Shinzo Hamai to design the cenotaph to the dead that was intended to be the centerpiece of the park. Noguchi’s proposal would have featured a monumental black granite arch with legs extending into an underground repository bearing the names of the “world’s first atomic dead.”

The organizing committee responsible for the park rejected Noguchi’s proposal, likely because of his status as an American citizen. In the 1980s Noguchi redesigned the cenotaph as Memorial to the Atomic Dead and attempted to find a site for the work in the United States as a form of expiation.

Photo: Isamu Noguchi © The Noguchi Museum / ARS

“I felt a little strange as an American, walking into this, absolutely nothing there. And all the graves upturned and everything all knocked over. And all the traces of the bomb: the buildings are burned; the shadows of people who had been sitting there reflected on the granite; everything had been burned. And so this was [my] answer to the atomic bomb, that is to say,

I wondered about the atomic bomb and came closer to the reality of it in Hiroshima. Having traveled around the world looking at ancient art, I came to the reality of [it in] Hiroshima.”

Isamu Noguchi, interview with Dore Ashton, September 13, 1978, 62, The Noguchi Museum Archives, MS\_WRI\_047\_005.



# **Nuclear War is Bad for Kittens.**

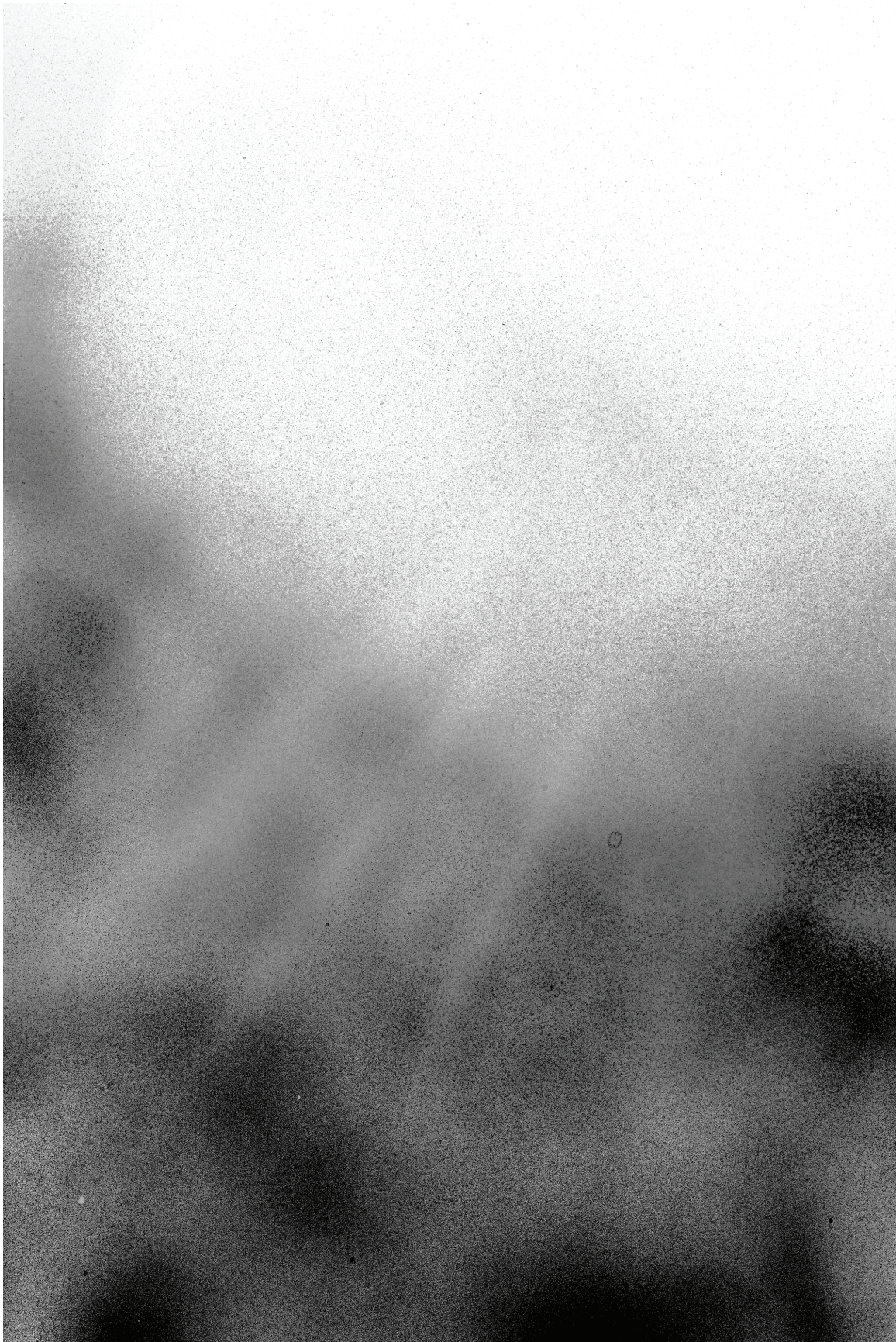


HARRELL FLETCHER 2022

## **HARRELL FLETCHER**

"In this poster, Harrell Fletcher acknowledges the impact and engagement of meme culture by joining the image of a kitten, with a sentence that dumps the weight of the serious nature of a nuclear catastrophe imposed on the tiny cat."





# JOSE EDUARDO BARAJAS

This is the cover of the project!

“This work uses refraction of light to emphasize the atmospheric quality of an atomic blast. In keeping with the artist's interests, he chooses to work with a close-up image to highlight that only through fragments and vignettes can we approach the world. With its abstraction of a specific moment, experiencing the image becomes almost like developing a photograph. The notion of landscape — a key feature in Baraja's paintings — is present, no longer as a panoramic vision but rather a collection of memories with a strong emotional charge.”



# THINK ABOUT IT

These Tartar-Bakshir women live next to the Techa River in the village of Muslyuomovo by the Ural mountains. Their village is 35 kilometers downstream from the Mayak plutonium production complex, which made the first soviet atomic bombs. The Soviets had been in a great hurry to catch up with the American atomic bomb program, which had devastated Hiroshima and Nagasaki in August of 1945. Soviet engineers cut corners anywhere they could, and they ended up with their own atomic bomb by 1949. One big short-cut they took was to take dangerous liquid high-level radioactive nuclear wastes and dump them into the Techa River. To this day no one knows what to do with these kinds of horrible wastes, having discussed sending it underneath the tectonic plates at the bottom of the ocean, or sending it on rockets into the sun. The Soviet bomb-makers took a much shorter route. The waters of the Techa turned black, many people fell ill, and many died.

The Soviets put up miles of barbed wire fence along the river with signs saying Do Not Use the River, which had been used for many generations. Doctors were told not to use the word "radiation" but instead inform sick people that they have "vegetative syndrome." On the day I took this photograph, a group of Western activists explained to the people of Muslyuomovo why, after 40 years of lies and silence, the health of their communities had been ruined. You can read in the women's faces the grief, incomprehension, anger and anxiety of having found out what for them would be the darkest secret of the nuclear age. What I love most about this photo are the women's expressions because in a way, they are us.

None of us know what we need to know about nuclear weapons and their production. We find about their direct effects and also their side-effects long after the damage, rapid or slow, has been done, and it is always worse than you imagined. But still these women are curious and concerned, and they have many questions. Here is the biggest question: what are we to do? Yes, like these women, we may be ignorant in nuclear weapons matters; but we are not that ignorant. We know enough to realize that this is a hideous reality and we can understand that we must do something about it. Humans have invented this Bomb, surely there must be hundreds, even thousands of ways to dis-invent this Bomb and get it abolished. There is no one way to do this, but one thing is certain: We are the only ones on planet Earth who can make this happen.

— Robert Del Tredici



# ROBERT DEL TREDICI

"His first nuclear work documented the 1978 accident at Three Mile island. He went on to document all the U.S. H-bomb factories in *At Work in the Fields of the Bomb* (Harper & Row, 1987), using pictures with words to capture the canny spirit of the nuclear age. The book won the 1987 Olive Branch Book Award for its contribution to world peace."



# Bulletin of the Atomic Scientists

JUNE 1947

**HAROLD C. UREY**  
An Alternative Course for the Control of Atomic Energy

**AUSTIN M. BRUES**  
With the Atomic Bomb Casualty Commission in Japan

**YOSHIO NISHINA**  
A Japanese Scientist Describes Destruction of Cyclotrons

**SYLVIA EBERHART**  
How the American People Feel About the Atomic Bomb

**WAR DEPARTMENT THINKING** on the Atomic Bomb

**HARRISON BROWN**  
The World Government Movement in the United States

**THE SENATE DEBATES** Mr.Lilienthal's Confirmation

**BOOKS** .....UN Atomic Energy, News

Vol. 3 PRICE: 25 CENTS No. 6

## MARTYL LANGSDORF

“Martyl Suzanne Schweig Langsdorf (St. Louis, Missouri, USA, 1917-2013) was a Chicago landscape painter and lauded designer of the Doomsday Clock. The artist who went by Martyl professionally, primarily painted abstract scenes of the American West and Midwest. Nestled amongst the scientists of the Manhattan Project, Martyl was presented with the opportunity to design a cover for the seminal June 1947 issue of their publication, The Bulletin of the Atomic Scientists. She designed the Doomsday Clock, an iconic image that merged visual saliency with science. Throughout her career, Martyl experimented with translating information in different ways, ranging from abstract textures of nature to bold, urgent messages. Martyl passed away in 2013 at the age of 96 with eight decades of painting under her belt, having ‘established herself as the nexus of Chicago’s mid-century art and design scene.’”





# STANLEY KUBRICK

honorable mention

Stanley Kubrick is NOT on the list of artists for the Artists Against the Bomb. oops. BUT! I think his movie *2001: A Space Odyssey* is a perfect example of a great piece of art made during the Cold War. This movie has been on my watchlist for YEARSSSSS and I finally got to see it for the first time recently. It's unbelievable that it was made in 1968! After doing all of this research on the Cold War and piecing together this very awkward timeline of it all, it's so awesome to see this hypothetical scenario being made after our announcement to go to the Moon. Similar to why I love *Pale Blue Dot* so much, this movie has such an interesting perspective on what space travel might look like in our future, as well as how something like artificial intelligence might work with (or against) us. For these reasons, on top of the fact that it's a gorgeous watch, I kind of need everyone to go see it.





Partially what inspired this project!

This album was made for a 1983 documentary with 35-millimeter footage of the six Moon missions. An album of ambient noise and static that turns a bit clearer and friendlier as it progresses. Truly a treat to listen to.

The chapters of this book are named after some of my favorite songs/titles from this album! Most people know *Deep Blue Day* from *Trainspotting* which is cool and all and whatever, but my favorite track would have to be *Silver Morning*. Such a hopeful, bright sounding song. It's got this cowboy-esque, country-like twang — undeniably for the fact that we've entered, and are placing our stakes throughout, the new frontier of space.

**BRIAN  
ENO**  
honorable mention



## The Doomsday Clock Dilemma

For the people in the back who don't know, the Doomsday Clock sort of acts as a marker for how close we are to irreversible damage due to things like climate change, nuclear tech and war, misuse of biological sciences, and more recently, AI. The decision to move the handle is handled by the Science and Security board at the Bulletin of the Atomic Scientist; the closer the proverbial handle moves to midnight, the closer we are to global disaster. Over the course of its history, the clock's handles have shifted 27 times, starting from 1947. In some years, the handles shifted back — we started out with 7 minutes to midnight, shifted to 3, moved back to 12 minutes when the Partial Test Ban Treaty was signed, and again, slowly getting farther, then closer to midnight as the years passed. In 2017, after Trump's first presidential win, the clock shifted to 2.5 minutes. In February of this year, 2025, the clock's handle has shifted to 89 seconds to midnight.

Conflict in the Middle East, the war in Russia and Ukraine, increasing nuclear arsenals, rising global temperatures and extreme weather conditions, possibilities of biological warfare being created, artificial intelligence being used by militaries across the world, the corruption of the information ecosystem, threats on free speech..... It really does feel like we are doomed.



"Because the world is already perilously close to the precipice, a move of even a single second should be taken as an indication of extreme danger and an unmistakable warning that every second of delay in reversing course increases the probability of global disaster" (Bulletin of the Atomic Scientists).



When I first saw the clock circulating around again after its handle moved forward, I also saw a huge wave of people online calling bullshit on the whole thing. Some thought the clock was a tool for fear-mongering — either making people scared that Something will happen once the clock strikes midnight, or making people question if this timeline is to justify the Bulletin’s existence by keeping public interest. I also saw many comments along the lines of “pfffft idgaf do you think I’m gonna believe that the world’s gonna blow up when it hits midnight or something... nothing ever happens anyway.”

These are some more that I’m looking at right now.

“We are all piss ants anyway in this universe, so why bother...” @lindhollmarie via instagram

“No one cares bro” @littlehidgieart via instagram

“Someone explain this to me in NFL terms” @ca\_wilsonn via instagram

“Imagine this is your job [laughing crying emoji]” @the\_sweetretreat via instagram

Others thought the clock should’ve moved forward MORE. Before we reached 89 seconds, we were at 90 in 2023, largely because of the Ukraine war. A lot has happened in the last few years, with the things we need to worry about becoming exponentially more dire. I saw lots of comments saying that it would feel more logical to move it to about a minute, and that this short creeping-up of time only allows leaders like Trump or Putin to continue whatever it is they do best. There’s a sense of disappointment — all of these catastrophic world events happening the past two years equated to only one second of our lives. There’s not enough pressure towards politicians and military industrial complexes.

My thoughts on the Doomsday Clock fall on the lines of people needing to consider it more seriously. I firmly believe that this isn’t meant to be an instrument of fear-mongering, as well as the fact that people shouldn’t assume that it’s just another Thing that reminds us of how little we can do about something of this magnitude.

While yes, I think it would make sense for the clock to be closer to midnight, it’s still crazy that at this point in history, it’s closer to midnight than it ever has been before — EVEN DURING THE HEIGHT OF THE COLD WAR!!!! Of course the world isn’t going to just blow up when the clock hits midnight!!!! But people have to think about how different the world is, and how much more advanced our technology is, in comparison to then.

Is it really fear-mongering if we are already scared?

People forget that this clock is an art piece. A symbol of where humanity lies on the scale of peace and catastrophe. Regardless of what people’s opinions of the clock’s existence are, it’s still a reminder to take a step back and to just observe how the world is doing. Again, we happen to exist during a very special time. We can do something to fix the mess we’ve made for ourselves — mobilize and work with each other to pressure politicians, demand a ban for nuclear weapon making, advocate for fixing our climate... Or we can keep coursing down the path to our own demise





## A Silver Morning, A Deep Blue Day

Utah Sky, 2024

The stairs of the sky are let down for him that he  
may ascend thereon to heaven. O gods, put your  
arms under the king: raise him, lift him to the sky.  
To the sky! To the sky!  
(Hymn for a Dead Pharaoh, Egypt, 2600 B.C.)

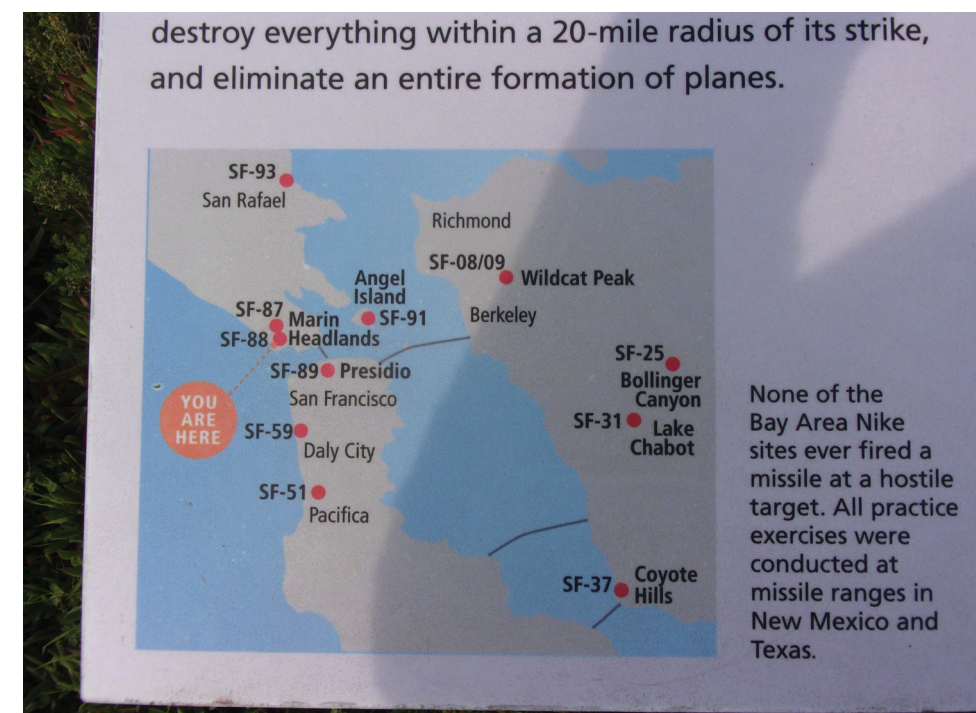


In March, I was told about a Nike Missile launch site on Mount Tamalpais, just past the Golden Gate Bridge. For years its mysterious golf ball-esque structures sat perched along the hills of Mill Valley without anyone ever knowing what they were there for. There are about fifteen in total throughout the Bay Area, none of which ever fired a missile at a hostile target.

The one I visited was constructed in the 1950s, and was armed with radar-guided surface-to-air missiles designed to destroy enemy aircraft. Getting there was kind of a challenge. I was with my friend Nova, both of us with a beautiful first-day-of-spring state of mind. We decided to go to the closest Nike Missile location, slightly smaller than the other closest one about an hour's drive away. After driving through the rolling hills of Mill Valley, we didn't know if we had actually arrived at our destination. There was definitely something — a large base (and maybe some bunkers) completely fenced off from anyone getting in. We first parked at a place with some cabin-looking buildings which we found out were for active-duty military training. Though there was one truck parked along the viewpoint of the fenced-off base, there seemed to be no soul in sight.

We drove a little further up to check out some of the informational placards that were sitting on the upper levels of the hill. What once was a nuclear launch site for the Nikes and Hercules' was now a hotspot for graffiti and an endless landscape of spring. I could hardly believe that this overgrown ruin of the Cold War could produce or send missiles, and I didn't want to believe that places like these had to exist to protect the Bay Area from some unforeseen attack. While these places aren't in commission anymore, they're still shrouded in its secrets, visited by bikers, date-goers, and teenagers needing a place to utilize their stolen can of spray paint.

# On Spring















Nova in Marin, 2025







I often think about what the world will look like 100 years from now — even 50. The world has changed dramatically since we've discovered fire, created and destroyed our biggest empires, gone to the Moon... My sisters aren't that much younger than me, but I've often worried about what their prospects may look like with new problems arising at the turn of every half-century. Don't even get me started on the kids being born just today.

I wonder if my approach to the world will be similar to that of my parents when I am older. Can you be an open and stubborn person at the same time? Again, my mom was born in Russia during the Cold War, and my dad was well into his adulthood around then. I think their opinions on the state of the world are wildly different than say, 20 years ago, 30 years ago, 40. If the happenings of the world align with their political or religious stances, things don't seem so bad — they seem to be at a disagreement with the apparent wokeness of the world right now.

I digress.

I bring this up for a reason. I know I'm young and that, Whatever willing, I have a good while ahead of me. I find that my views on things like AI and social media and new tech, in ways, make me feel boomer-esque. It would be hypocritical of me to completely dog on these things while also actively engaging with them. I've tried dissecting why this is the case — is it because I feel like I don't have a choice? Do I have the capacity to give up these worldly things so the cognitive dissonance doesn't feel so heavy? If my views of the world change over the next 40 or so years, what would I be thinking then?



Samuel Hyman, 2024



# A Friend's Perspective

I was able to have a conversation with my friend Sam, who shares many of the same thoughts as me on the topic of war, space, international relations, and such. I always feel enlightened after talking with him, even if we've repeated the same things over and over and over again.



Me and Sam, 2025

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**Me:** What made you concerned about this kind of topic?

**Sam:** I would say that I just think it's the most realistic way that the world could end in my lifetime. Like, I just think it's either that or climate change, and climate change is something that would perhaps make life miserable, but not, you know, maybe kill everyone. Really the only thing that I could think of that would just wipe out civilization in my lifetime would be nuclear war. So, I feel like that's sort of why I have anxiety about it.

**Me:** Did your parents have anything to say about it? I know your dad is around the same age as mine, so they must have grown up around the same time of it all. Did you hear about any of it growing up?

**Sam:** Honestly no, sorry. If my dad was talking about politics, it was always domestic issues, not big picture stuff like that.

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**Me:** What did you think about Katy Perry going to the Moon — WAIT not the Moon.

**Sam:** The Moon. Well, yes! She took up space. She took up space! I think that the entire Blue Origin thing — it just — I don't know. I think it's just a miserable scam. I don't think it's a conspiracy — like, I do think they went to space. I'm not saying that they didn't. Even though people have those videos of the door opening, and they're like, "It was open!" I think they were just trying to make a show out of it. But it's just — I feel like feminism in the past, like five years, or maybe even more, has devolved in basically every conceivable way. I think that everybody is less feminist than they used to be and less woke than they used to be. And I just think that this maybe would have done numbers in like 2016. Maybe? But even if they had done it in 2016 — if we had the capacity to do like a little tourist trip to the atmosphere — I don't know... I think if they had put up five real astronauts, that would have been fine. And I would have said, "Cool; All female space trip — that's cool. That's cool." But the fact that it was, like, just one actual astronaut — and then, like, Gayle King, Katy Perry, Jeff Bezos's wife, and someone else — I think is so stupid. And, yeah, I think the class of it all... I don't know. Like the "Have you gone to space?" Gayle King response to criticism? She's like, "Have you gone to space?" like NO? I just don't get what it was for at all.

**Me:** Yeah I thought it was really stupid. I just think it's such a shallow excuse of using feminism for something like privatized space travel or whatever. It's like taunting almost like, "Yeah we have all of this money to possibly do actual research and send actual astronauts to space, but we're just doing this. And Katy Perry is the one doing it." It was so random! That's the thing — it was random and no one asked for it.

**Sam:** Yeah random and pointless. I guess I don't have any moral qualms with privatized space travel. I guess if you're a billionaire and you wanna pay for something like that or those submarine trips — like yeah. If you wanna pay to go in the ocean and risk your life because you got a billion dollars to do it. Like, sure. Why not? I just don't think it's something to be applauded for. Like y'all didn't go on a mission.

**Me:** That's the thing — they probably think they're so cool, like they did something.

**Sam:** Yeah. Like Katy Perry was just, like, smizing into the camera. Feeling the love allegedly. Not even looking out the window. Coming down and kissing the ground. Like, girl.

....

**Me:** How do you feel about the classification of information? I was interviewing this girl completing her PhD in physics, and I asked her about how she thought of classified information and sharing details about war and the technology behind it in general. My question was more from the perspective of a regular civilian who has nothing to do with it or has no say in any of these things, but her answer was more in terms of the people producing the weapons and making them. She was all for declassification, but in the sense that if every country in the world had access to information, and we were all on the same page of how to make a bomb or something, then we would be less at risk of killing each other.

**Sam:** I think that nuclear stuff is so tough. I feel like my best case scenario, which is impossible, would be total disarmament. Like a global disarmament. And then, we'd all wipe our memory on how to build [bombs] in the first place. I guess the current philosophy, which is supposed to be comforting, and is not at all, is that it's mutually assured destruction. It's like, "We have world peace and no one is ever gonna use [the bombs] because if someone uses them, then we all use them and we all die." It's like oh, great! That's so comforting! But it's not comforting because, I don't know, people literally, like, kill themselves anyway. It's predicated on rationality, which we don't have. I guess if every single country had it versus now — what, there's like eight? Of the big ones? I don't know. But if everyone got them, I don't know if that'd make me feel more comfortable. I think that would just make more opportunities for them to be used. I would much rather have no one have them.

**Me:** Yeah. Well, there's also the issue now of, not just more nuclear weapons being made, but new stuff with cyber attacks and AI and all of that.

**Sam:** Yeah!



**Me:** Even those sonic attacks that they were doing recently. Like that shit is crazy. There’s just extra stuff for us to worry about now.

**Sam:** Yeah. It’s just that if I don’t trust, like, the United States, with a warhead, then I don’t see why I would trust developing nations with it. Like sorry. Maybe I guess I would rather have it be in the hands of a few superpowers than with everyone. But I’d much rather them just be with no one. Like, if they’re ever used, we’re all dead.

....

I was thinking of the earlier question of why I got interested in the first place. Maybe not why I was interested in the first place, but, as I’ve researched it more, I feel like I’m interested in nuclear apocalypse more so than other hypothetical futures. I feel like it’s particularly... Like, no one has a part in it besides maybe five people. It’s unjustifiable. I feel like with global warming, which is, again, the only other major apocalypse that I can think of, it’s mostly just a few companies like Exxonmobil and all that stuff. But I think it would still be somewhat of a “we had it coming” moment. Like, we all use electricity, I drive a car — especially living in the United States, and not in a developing Global South nation. Like, the world is gonna be miserable, but it was all of our fault. But with nuclear war, I feel like it feels particularly cruel, because everyone will die and, like, what beef do I have with Russia? What beef do I have with North Korea? It just feels more stupid. Just very stupid and unnecessary, versus with global warming where I’m like, “Well shit I did have my heater on like, every day last winter. Like, well shit.” Like, “Used my AC a lot last summer. Oooh, maybe I do deserve a warmer summer.” But, you know, with nuclear war, I would be like, “This is how I go out? Like? For real?

**Me:** Have you heard about nuclear winter?

**Sam:** Yes.

**Me:** What are your thoughts on that?

**Sam:** Like if it happens?

**Me:** Like if we were to somehow survive a crazy all-out nuclear attack, and we had to survive post-THAT, and the earth is just very cold and dark and miserable.

**Sam:** Very *The Road* by Cormac McCarthy. I feel like I remember watching a video that was explaining how many people would die if there was an all-out war, like, in the first hour. And it was like billions or whatever. But then, like, in the next year when there’s all the winter-induced droughts and all the soot in the atmosphere causes famines — check the source — but I’m sure it’s like 90% of people will die. Like, hypothetically during the nuclear winter part... The video was like, “Oh this many people will die in the bombs, and then within a month, this many will die from radiation, and then within six months, the last five billion people will die of starvation and drought, blah blah blah.”

**Me:** Oh! Awesome!

**Sam:** Litttt. Like if LA didn’t get a direct hit —

**Me:** — nah we’d get a direct hit —

**Sam:** — like if the South Bay was spared —

**Me:** — yeah, fuck Redondo Beach —

**Sam:** — yeah I’d thug it out *The Road* style. I’d maybe strap in? I don’t know. I’d try to live — like, I wouldn’t kill myself.

**Me:** I feel like you would survive. You would be a survivor for sure.

**Sam:** If we’re talking, like, zombie apocalypse — if it’s like fast zombies — I’m shooting myself for sure. Like if it’s *The Walking Dead*, I’d maybe thug it out.

**Me:** Yeah you’d survive that.

**Sam:** But if it’s fast zombies, I’d kill myself. In *The Last of Us*, I’d probably kill myself. TBH. Maybe unless I made it into that Boston community or wherever they are. But, yeah, no I’d probably thug it out, and uhhhhh. You know. I’m not gonna have kids so it’s not like I got anyone to watch over. I’d see it through.

**Me:** I believe in you.

....

A section of my book talks about Artists Against the Bomb, which is just a collective with artists in support of disarmament and stuff, and I talked a bit about some Cold War and post-Cold War art. Do you have any recommendations or pieces of art you like from then?

**Sam:** I mean, basic choice, but *Dr. Strangelove*. A Kubrick satire. It’s just a satire of the war room. And it definitely epitomizes the stupidity of the situation because it’s just like the US President arguing with the Russian diplomat. And it’s funny, but it’s also like damn you guys are literally gonna nuke each other. That one’s good. And besides that... let me think. Cold War stuff, I don’t know. Maybe *The Road*. If we’re going the apocalypse route.

....

**Sam:** I also have a lot of thoughts on, like, the Elon Musk of it all. Like the space travel that needs to be happening — that should be happening — like we did in the 60s when NASA was actually funded. Not having to go through private companies to do anything. Like, actual important stuff isn’t happening, and instead what’s happening is — like you said — Blue Origin and privatized travel. But there’s also Elon Musk having this delusion and convincing the world that we’re gonna go to Mars and live there. Like, that would be sick if it could be done. I have nothing against that sort of scientific progress. If humans become an interplanetary species, like, why the hell not? Like. Sure.

**Me:** What the hell, sure.

**Sam:** What the hell, sure. If Earth catches on fire, then sure, we have Mars. That’s great. But it just won’t happen. Like if you ask anyone — ask Niel deGrasse Tyson. He’s gonna tell you, “No, that’s never gonna happen.” Go to the local astronomy facility of your college and ask the professor, “Hey, do you think we’ll, like, live on Mars?” They’re gonna be like, “No. No, I don’t think so.” No one thinks it’s gonna happen, and yet [Musk] focuses on it. I’m sure he knows it’s not gonna happen. He’s not stupid. You know what I mean? It’s just so silly. It’s just a game. That shit pisses me off.

**Me:** It just doesn’t even matter at this point. There are so many other things we need to worry about here before we could even think about going there.

**Sam:** And it’s just that Mars will never be a viable planet to live on. I’m sure we could get boots on the ground in the same way we went to the Moon — like you’re just there for a little bit and then you go back home. I’m not unconvinced by that. Maybe that could happen in our lifetime. But this terraforming idea is just not happening. There’s no playing, there’s no pool. It’s not happening. Shit pisses me off.

And the Katy Perry stuff is just, like, a microcosm of that. That one was more playing in our faces. Like yeah, no one was excited for that. At least Elon Musk has some fanboys who are like, “No, no like, we’re gonna go to Mars — it’s great, it’s cool.” And even I will admit that SpaceX has greatly improved NASA’s capacity just generally, because NASA is super underfunded — like, they don’t get shit. So, I think that’s great, but I don’t know. No one was excited for the Katy Perry of it all. No one gave a fuck. It was literally like whenever there’s a new article that’s like “Scientists Find Signs of Life on Blah Blah Blah” — nobody cares. Like. We don’t care. We do not care. So yeah. The malaise of it all.

....

**Me:** Hmmmm what else did I talk about? I talked a bit about the President’s power to issue a nuclear attack because he has that little Gold Code biscuit thing.

**Sam:** His little button — next to his Diet Coke button.

**Me:** That part.

**Sam:** Again, going to the injustice of it all, ‘cause like. What’s that got to do with me? What’s that gotta do with meeeeeee? And even if the war happened, and if Trump or Putin or Netanyahu or whoever presses that button, they’re gonna be the last one to get hit. So it’s like, well. Well, wow. Like, generals used to lead their pack. Generals used to be on the front lines, and that’s not the case. Alexander the Great. He led his troops into battle. That’s why he’s The Great, even though he, like, you know, killed all those people.

**Me:** Fair enough, pravda.

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Do you have any thoughts on the Doomsday Clock?

**Sam:** I mean, it doesn’t really mean anything to me. It’s just a symbolic thing. Hm. The Doomsday Clock. I don’t know. I don’t know what’s changed. It’s not like the clock has any say, but it’s a good reminder. I would say I view it like an art project.

**Me:** I mean, I think that’s how it should be viewed. I’ve been reading comments recently to refresh how people were reacting when the time changed, and half of it is just people thinking it’s stupid.

**Sam:** Like fear mongering.

**Me:** Yeah. Which I’m like, okay, whatever. And then something I didn’t see before was people saying that it should have been moved forward more. Before, it was at 90 seconds, like back in 2023. I think the frustration lies with the fact that all of the things that happened in the last two years — whether that’s with Russia and Ukraine, or Israel and Palestine —

**Sam:** — Pakistan and India —

**Me:** — yeah, just all of the global affairs, plus the global warming of it all, and AI, and all of this other stuff. All of that equated to only one second of our lives on the clock.

**Sam:** That’s true. 89 seconds... Do they define what a second is?

**Me:** I don’t know! They don’t, really.

**Sam:** Like, if it goes down a second every year, like shit, well...

**Me:** I feel like they determine it if something, like, really crazy happens. So I think before, in 2017, after Trump got elected, it got moved forward. And then in 2020 it got moved forward.

**Sam:** Have they ever moved it back?

**Me:** It has been moved back in the past. It started in 1947 at seven minutes, and then went back and forth since then. It went back to seventeen minutes at some point, and then back to twelve. And then it just kind of got closer and closer since then.



**Sam:** Ohhh I guess the clock is not just for nuclear stuff.  
**Me:** And that's the thing — it only moved one second, but there's so much more to consider now rather than just the nukes. There's also biological warfare and AI. And also just generally how the information ecosystem is just completely fucked up. And how everyone is stupid now, you know?  
**Sam:** That part.

....

Am I just gonna be quoted in the book or something?  
**Me:** Yeah. Pretty much, pretty much.  
**Sam:** RAHHHHHHHHHHH!

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I've given a lot of thought on what I'm supposed to do with all of this.  
The anxieties I have about my future, my friends' and my sisters' futures, the futures of people I have no idea about from places that I'm supposed to somehow be in beef with...

It's actually quite hard to close this out.

As an artist (or whatever), I understand that there's this sort of responsibility to make a change and drive history on the course that should be traveled. I understand that everything I do is inherently political — anything I say, anything I choose to do, speaks to my personality and my values as a human being.  
Those things I understand.

It feels kind of hopeless given the downward spiral the world's been pooling into. No matter how much pressure has been put on politicians, the military, other diplomats and overseers to our livelihoods, no one seems to be listening.

I've come to terms with the fact that ultimately, if things don't work out, if change doesn't seem imminent, I just have to move through life. I think something we need to collectively realize is that people in power want everyone else to feel that helplessness and powerlessness — to let the malaise completely wash over. But, like with all other aspects of life, we need to keep talking about the things we're fearful of and to make more noise.

With the whole mutually assured destruction thing, the silver lining is that none of us would survive long enough to deal with the long-term pain as a consequence of our actions (or inaction). The worst part, though, is that there won't be anyone left to hear the innocent tell the story of our demise.

I know this all sounds grim.

Truly though, I don't think there's any better form of resistance than just trying to be optimistic despite these circumstances.

Sure. I could let the fears and lack of control dictate every aspect of my life. I could lock myself in my room and insist that "nothing matters" because I live on this rock floating in space that wasn't made for me. I could let my disillusionment of the world overtake me.

I could do the complete opposite, too — deceive myself and believe that nothing is actually as bad as I've made them out to be. I could live in complete and blissful ignorance. I could live like tomorrow is promised.

I think the way I'm going to go about it is to take it one day at a time. They weren't lying when they said it's the little things in life that matter most! Would I like to stop and smell the roses without having this fear looming over me? Yeah. But I'm going to do it anyway. I want to revel at the stars every night, to pet my dogs, to listen to as much music as possible, to enjoy every blue sky I've got left, to love as much as the heart could handle. To know that there's so much for me to figure out, and explore, and learn. I'm going to do those things, and if a nuke gets in my way, what the hell am I gonna do about it?

If we went to the Moon,  
who's to say we are hopeless  
in finding our way to peace?





Daytime Moon, 2025

if you've read through this  
whole thing, thank you!!





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