**Audio Transcript – Oppenheimer’s omission**

*Note: Episodes of Outside/In are made as pieces of audio, and some context and nuance may be lost on the page. Transcripts are generated using a combination of speech recognition software and human transcribers, and may contain errors.*

**Nate Hegyi: Hey this is Outside/In. I’m Nate Hegyi.**

**A few weeks ago I was sitting on a bus outside the gates of a military base in New Mexico. It was hot. The air conditioning was roaring.**

*Jen Jet: While we are on the range and we are driving, there's no photography, videography, audio recordings of any kind.*

**Nate Hegyi: That was our handler, Jen Jet, and this place is the White Sands Missile Range. It has hypersonic missiles, military secrets we weren’t allowed to know about, and also… African antelope?**

*Jen Jet: Chances are you are going to see an oryx…*

**Nate Hegyi: Oryx were introduced by wildlife officials in New Mexico in 1960’s for trophy hunting. Now they roam wild out on this active bombing range.**

**But we weren’t there to see oryx. We were there to see a monument.**

*Nate Hegyi (in tape): All right. So we just stepped out of the bus and kind of near a fenced area with barbed wire, a little hut, and then a classic yellow sign that says caution radioactive materials.*

**<<Mux>>**

*And there's a gravel road leading towards the Trinity site.*

**Nate Hegyi: Trinity.**

**It’s the code name for one of the most consequential moments in history. The place where, on July 16th, 1945, the first atomic bomb was tested.**

**They only open the site to civilians a couple days a year. And once we finally got there, I *was* allowed to record.**

*Nate Hegyi (in tape): We’re walking up to the fence line and it’s completely fenced off and I’m wondering whether we’ll be allowed in.*

**For such a huge, world-changing event… the Trinity Site is pretty underwhelming.**

**There’s a shallow crater, and an eerie obelisk made of black volcanic rock.**

*Nate Hegyi (in tape): here’s a fence line and on the fence line are pictures kind of going through a timeline of the blast and this kind of sphere erupting from the ground and creating that classic mushroom cloud…*

*And then behind you see. Clear blue skies. You feel a steady wind blowing towards the Tularosa Basin where thousands of people lived.*

*Bernice Guitierrez: I was about thirty five miles away as a baby.*

*Paul Pino: my mom got cancer and my brother got cancer and my sister got cancer.*

*Tina Cordova: when are we going to hold our government accountable for testing a nuclear device in our backyard*

***MUX THEME***

**Today on Outside/In, we are NOT going to focus on the invention of the bomb, or the scientists behind it, or that ‘Oppenheimer’ movie that just came out.**

**Instead, we are looking at a hidden chapter of this story. A community in New Mexico where the ash from the bomb fell for days and cattle turned white.**

**A place where people died and to this day… the U.S. government has done very little about it.**

**Stay tuned.**

**### ACT 1 ###**

*Paul Pino: Yeah. So we're at the Pino Gate here.*

*Nate Hegyi: 'm just going to come out with you and get some sound of you opening the gate.*

**Nate Hegyi: That’s Paul Pino. We had just pulled into his family’s modest ranch… a ten minute drive from his hometown of Carrizozo. It’s a dusty, sun-blasted crossroads of a place in central New Mexico… about 40 miles due east of the Trinity Site.**

*Paul Pino: You notice there was tumbleweed stuck in your in your bumper?*

*Nate Hegyi: Yeah. I feel like this this rental car from California could use a little bit of tumbleweed and gravel roads.*

*Paul Pino: Build some character. Exactly.*

**Paul is 68 years old. He was wearing a white cowboy hat and a Canadian tuxedo - denim shirt, blue jeans… sneakers. He’s got a second career as a musician… but he grew up on this ranch. It’s been in his family since 1892.**

*Paul Pino: So this is all really good grassland, like the land behind us. Man, it was the best grassland I ever saw. And this used to be in our family too. It's just beautiful. Grandma grass and in front of us there's that kind of grass also. But there's also this grass. They call it sacaton. Or another word for it was Carrizo and that's what we're Carrizozo got. Its name was Carrizozo, like a place where there's a lot of this kind of grass Carrizo you see, it's that real, really tough grass. Like I was telling you, everything around here is tough*

**Nate Hegyi: New Mexico is beautiful, but it can be unforgiving. Paul’s dad was struck by lightning. His family would dodge rattlesnakes and flash floods, driving cattle 10 miles a day on foot. The cicadas are so loud out here they sound like sawblades.**

*Paul Pino:  even even the the grass would cut you. I remember I was we were walking up that mountain one time and I was about 3 or 4 and there was a really pretty piece of grass and I said, Wow, how pretty. And I grabbed it and I pulled it like that. And it just cut me like a razor blade.*

*Nate Hegyi: As you said, this is a tough place.*

*Paul Pino: Yeah. And so the people and the animals that have lived here for this long are tough, you know, And and for some of them, nothing could kill them but radiation.*

***MUX <<ticking clock, something like that>>***

**Nate Hegyi: It was the early morning of July 16, 1945. Scientists and military personnel were wearing thick welding goggles to protect their eyes and taking cover in bunkers three miles away from the Gadget.**

**That was the codename for the atomic bomb. It was sitting atop a tower about a hundred feet above the ground in a sparse valley of New Mexico known as the Jornada del Muerto. The Dead Man’s Journey.**

**It was the middle of monsoon season. It had been pouring rain and windy all night. The air was alive with the sound of desert toads chirping.**

[**<<toad sounds>>**](https://www.aip.org/history-programs/niels-bohr-library/oral-histories/4807-1)

**When the skies finally cleared… everyone hunkered down.**

**Within a fraction of a second… the world changed.**

[**<<boom>>**](https://www.youtube.com/watch?v=Mn7PeI2UyEM)

*J. Robert Oppenheimer: We knew the world would not be the same.*

**Nate Hegyi: Here’s J. Robert Oppenheimer, the lead scientist for the project, in an interview years later.**

*J. Robert Oppenheimer:  A few people laughed. A few people cried. Most people were silent. I remembered the line from the hindu scripture the bhagavad gita… no i am become death, the destroyer of worlds. I suppose we all thought that, one way or another.*

*Paul Pino: some people thought it was the end of the world /And they started praying like crazy. You know, to Santa Rita or whoever. Because they thought the sun's coming up on the wrong side of the world. It was that bright.*

**Nate Hegyi: The bomb had detonated at precisely 5:29 AM. The light was seen as far away as El Paso, Texas, some 130 miles to the South. Paul Pino’s family ranch outside of Carrizozo was only about a quarter of that distance away.**

*Paul Pino: They said it lit up everything, not just for a short while, but it lit up the valley just like daylight, like this.*

**Nate Hegyi: The mushroom cloud launched seven miles into the sky - the height of a massive thunderhead.**

**And New Mexico has notoriously unpredictable weather. There’s a restaurant in Carrizozo called the four winds for a reason. The breezes are always shifting directions.**

**Paul has heard stories of children playing in radioactive ash as it fell.**

*Paul Pino: They said, Wow, it's snowing. In July. They were catching the flakes on their what they thought were flakes on their tongue and rubbing it on their face and stuff like that. Boys were trying to make snowballs out of it. So there must have been a lot of it*

**Nate Hegyi: Government reports back this up. Cattle were found in the vicinity with burns and hair loss on their backs. Ranchers reported a white film on the ground, like snow.**

**Scientists knew the bomb would produce radiation. But how much, they weren’t sure.**

**So military were teams stationed in nearby towns to test the air.**

**They used portable geiger counters… which, if you’ve ever seen any nuclear disaster movie… you’ll know what they are.**

**<<geiger counter sound>>**

**These teams found high levels of radioactivity more than a hundred miles from the blast site.**

**In Carrizozo, it was literally off the charts - the Geiger counters didn’t go any higher.**

**Scientists and government officials discussed evacuating the town. They even had cattle trucks lined up outside the city just in case.  But as the cloud of radioactive particles passed, and settled, the the geiger counters calmed down. So they scrapped the plan and left.**

**In a story fed to area newspapers, officials told locals the blast was an accidental ammunition dump explosion and not to worry. Everything would be fine.**

**MUX**

*Paul Pino: So those mountains there, the atomic bomb was just on the other side of them, on those mountains over that way, the purple ones.*

**Nate Hegyi: Paul’s mom and older brother were sleeping at the ranch when the bomb was tested. At the time, they lived in a small homesteading cabin known as a jacal house. It’s made of wooden poles and clay with a rusted tin roof.**

*Paul Pino: And it looks like every room is built a little bit differently. So it seems like they build what they needed to get by and to start the homestead. Then they'd have a kid or two and then they'd build another room, then have another kid, then build another room*

**Nate Hegyi: Chicano and Indigenous farmers in New Mexico had been building houses like this, relying on the land, for hundreds of years. It wasn’t much different in 1945.**

**They hunted. Raised cattle,  grew vegetable gardens and they drank water from cisterns.**

**They are these big, underground vases that collect rainwater from the roof during storms. Paul wanted to show me one.**

*Paul Pino: We should probably take some of this heavy stuff off.*

**Nate Hegyi: Inside it was cavernous. The size of a bedroom and the kind of place you don’t want to fall into.**

*Paul Pino: It’s narrow at the top… check baby, check!*

*Nate Hegyi: tell me again, what did the water taste like?*

*Paul Pino: it couldn't taste any better. It tasted like really light, really pure. Like even the water that I drink at my house in civilization, you know, around Albuquerque, you can taste like a little minerals in it or something like that. The minerals really mess up, the shower heads, everything, you know, faucets. It makes your hair feel kind of kind of dirty. But, but, but the rainwater tasted so good. It was like, perfect.*

*Nate Hegyi: And so your family was living here in this small home, drinking water from the cistern and eating food that was grown out here. How do you think that they they got radiation poisoning?*

*Paul Pino: Through the water, through the milk, through the eggs, through the chickens that that they'd slaughter and eat. They’d do hunting. They'd get it through the deer, the rabbits.*

*[mux]*

**Nate Hegyi: Radiation is all around us. You’re exposed to a little bit every time you get an X-ray, or fly in an airplane. Every time you eat a banana, you consume a little radioactive potassium.**

**And that’s okay - humans have adapted to live with low levels of daily exposure. And there are different kinds - some more harmful than others.**

**A lot of radiation comes from unstable versions of elements called isotopes.**

**Isotopes are atoms that have extra particles they can’t quite handle.**

**And every now and again, one of those particles goes flying off - like a button on a pair of too tight pants.**

**Another way to think of it is, that radiation is essentially, energy. That’s why acute radiation poisoning looks a lot like a horrible burn. A sunburn, in fact, is a form or ultraviolet *radiation* damage.**

**But there’s a difference between *acute* radiation exposure and radioactive *contamination*.**

**The atomic bomb at Trinity was packed full of highly unstable elements. That’s what made it so powerful.**

**When the bomb went off, these unstable elements started breaking apart. This is what we call fission … and aside from releasing HUGE amounts of energy, it also start flinging new isotopes all over the place.**

**Isotopes of plutonium, cesium, and strontium - all mixing with the dust and ash in the mushroom cloud.**

**These isotopes from the Trinity Test, they drifted down onto roofs and got washed into cisterns. They seasoned the grass that cattle ate and worked their way into the cows’ mammary glands.**

**That’s not going to register very high on a Geiger counter.**

**But if you’re eating and drinking those isotopes, they’re still firing off particles inside your body.**

**They can penetrate your organs, and if you’re exposed to a large amount of radiation, can literally mutate your DNA.**

**And over time - years, or decades - they can  lead to radiogenic cancers that grow inside your stomach, your bones, your thyroid.**

**And you’d never have any idea it was happening.**

*Paul Pino: that’s my mom and that's my brother Greg.*

*Nate Hegyi:**Greg's got a very good mustache. It's a good big mustache. Kind of looks like it was taken maybe in the early 80s.*

*Paul Pino: Yeah, I bet.*

**Paul’s older brother Greg used to drink milk by the gallon when he was a kid at the ranch. Paul found a photo of him in the house.**

*Nate Hegyi: Do you remember when you first found out that he had. He had cancer?*

*Paul Pino: Yeah. They called us and that he had that he had got that they had detected cancer. And and he even said at one point like he was in the hospital and he never came back out of the hospital that time when I was visiting him. But but he says he says I'm in denial and he's just like joking around. He didn't say it mean or anything like that. And I was just like, I know a lot about death and studied a lot about it and stuff like that because I've had other losses in my life and I regret it so much that I didn't talk to him more about it, you know? I just, like, laughed along with him, you know? He said he was in denial and it sounded like he was bad and the doctors said it was bad, but his family was saying. Oh, we're just trying to get him to eat more and stuff like that. So. So my family told me, my brothers and sisters, they said. So we want you to take some time off work and go out there and see how things really are. And I went out there and I saw right away, you know, I called him and told him, you better get out here, you know, within the next couple of weeks. Dying through through cancer and through suffering is a terrible thing.*

**Nate Hegyi: Two studies, from the Los Alamos National Labratory and the National Insitutes of Cancer, showed there were high levels of radioactive material in the Trinity fallout zone as late as the 1980’s and that hundreds of people probably got cancer from it.**

**Greg died from stomach cancer when he was 68 years old. Paul’s mom… she died from bone cancer. His sister had multiple brain tumors. Another had thyroid cancer.**

*Paul Pino: And they were all happened to be alive whenever the bomb was tested.*

**Nate Hegyi: Paul drove me back into Carrizozo. Only about 900 people live here now – it’s a lot smaller than it was back in the 40’s. The homes are mostly adobe and the streets feel empty… though there is a cluster of artists that recently moved here. One of their houses has a mural of a naked woman with her butt crack facing a catholic church.**

*Paul Pino: I think there was a crack in the wall and they just thought that was a good idea. At first I saw it and I was offended. But then I met her and she's like, So cool, Nate Hegyi: That's awesome.*

**Nate Hegyi: The church, by the way, is the Santa Rita parish. It’s little and pink, built in a spanish style you see throughout the southwest. That’s where we were headed.**

*Paul Pino: And here's Father T. Whoa. You didn't tell us. We're going to have to help you paint today.*

**Father T was a young guy wearing a t-shirt painting the deck of the clergy house next door.**

*Paul Pino: we wanted to look at those. The. The. The old death records.*

*Father T: Okay, Okay. Please come.*

**Nate Hegyi: He walked us inside and grabbed a big, dusty old book. Death records from 1945 and 1946. Paul gently sifted through the pages.**

*Paul Pino: The writing is really tough because it's longhand. Spanish.*

**Nate Hegyi: He was looking… for children.**

*Paul Pino: Domingo Chavez died at one month of age. On the 24th of September, 1945. Then under him is Maria Sedillo. I know the Sedillo family. Two wonderful people died at two months of age. On the 8th of October.*

**Nate Hegyi: Federal and state data show that infant deaths in New Mexico spiked by more than a third in the months after the bomb was tested. But Paul figures the number is probably even higher because back then, a lot of babies were born – and died – at home.**

**Their brief lives weren’t recorded.**

*Paul Pino: except with the Catholics, they wanted them baptized and they wanted them blessed, you know, and they wanted them to have a Christian burial. So they kept better records than than the state.*

**Nate Hegyi: Paul has been doing this kind of work – digging up the records of the dead – with a grassroots group of New Mexicans called the Tularosa Downwinders Consortium. Downwinders, as in people who literally lived downwind of the bomb.**

**They’re trying to make a case to the federal government that their communities deserve an apology and restitution. So far, that hasn’t happened.**

**After we looked at the death records, we drove out to the cemetery. It was on the edge of town. A sun-bleached field surrounded by a crumbling fence.**

*Paul Pino: This is one of the oldest parts of the cemetery…*

*Sanchez, O. Ortiz. Manatees. Oh, she was my neighbor. A lot of the Ortiz's my friends they were like my best friends growing up and even today. But a lot of them had kidney cancer and their dad witnessed the atomic bomb. He was working with the railroad and he was laying outside on a bench in between trains coming in. And he had his eyes closed. But the the light was so bright that he saw the light through his closed eyelids.*

**MUX**

**Nate Hegyi: It’s been more than 75 years since the world’s first atomic bomb was tested in New Mexico. More than 75 years since we dropped two of those bombs on Nagasaki and Hiroshima, killing at least 110 thousand people - likely, many more.**

**Ever since then, the United States has been coming to terms with how to address this history. In 2016, Barack Obama was the first sitting president in history to visit the memorial in Hiroshima. We’ve made statements out those bombs. Little kids in elementary school make paper cranes to send to the peace monument there.**

**But the United States has never really addressed the fallout from Trinity. A CDC report found that the military knew about its dangers to the people who lived nearby. But it was wartime. And they were worried about endless lawsuits. So they brushed the whole thing under the rug.**

**But over the past decade, Paul and the other downwinders have been fighting for accountability. And they don’t want a memorial or some paper cranes… they want justice.**

*Paul Pino:  If somebody killed your daughter or your mom or your brother, even if it was by accident, you wouldn't stop until you have had justice. You wouldn't stop until you had acknowledgment. You wouldn't. You wouldn't stop until they told the truth.*

**That’s after the break.**

**### BREAK ###**

**Nate Hegyi: This is Outside/In, I’m Nate Hegyi… and I am a huge Christopher Nolan fan. He’s the guy who directed the Batman trilogy, and one of my favorite World War II movies of all time… Dunkirk.**

**He just came out with a new movie… Oppenheimer.**

**It’s all about  the  scientist who led the development of the atomic bomb. The guy who said ‘I am become death. The destroyer of worlds.’**

**A LOT of people are planning to see this movie on the big screen.**

**But Tina Cordova won’t be one of them.**

*Tina Cordova: those film makers came here and used our tax incentives, took money out of our state to make their film, and and never, ever gave consideration to our part of the history.*

**Nate Hegyi: I met Tina at her house in Albuquerque. She’s the executive director of the Tularosa Basin downwinders consortium. That’s the group that Paul Pino is involved with. Tina says she reached out to the production company multiple times but never heard back.**

*Tina Cordova: I just can't believe that the producers and the filmmakers will not at least give consideration to us and acknowledge somewhere inside of the the film or at the end of the film with a panel that basically acknowledges that human beings, American citizens, children were harmed in the process of the Manhattan Project and the Trinity Test.*

**Nate Hegyi: For the past 18 years, Tina’s organization has been pushing to get medical help and restitution from the federal government. The way they can do that is through an amendment to the Radiation Exposure Compensation Act.**

**This was a big piece of legislation that was passed back in 1990 to help cancer patients who were impacted by nuclear tests in Nevada in the 1950’s and 1960’s.**

**Those tests were massive, by the way. Much bigger than Trinity. Their fallout clouds dumped big amounts of radioactive material as far away as Idaho and Montana… and eventually spread across the country.**

**Doctors were finding strontium-90, a cancer-causing isotope that came from those tests, in baby teeth as far away as New England.**

**If you’re a baby boomer, you can go online to a government website and find out what your risk of getting thyroid cancer from the fallout is. It’s wild.**

**But the Radiation Exposure Compensation Act… it focused on people living directly downwind of the explosions in *Nevada*…**

*Tina Cordova: it doesn't go far enough and it's never gone far enough. And we're trying to expand it. And it would then if if we if we're successful, it would add all the downwinders in the American West. It would add the people of Guam and the Pacific Islands where they went after Trinity. And then it would add the entire state of Nevada, the entire state of Utah, the entire state of Arizona. And it would add Idaho, Montana, New Mexico and Colorado*

**Nate Hegyi: The** [**amendment**](https://www.congress.gov/bill/118th-congress/senate-bill/1751/text) **would cover people who were alive when these bombs were built and tested, from 1944 to 1962, and who have been diagnosed with one of 14 radiogenic cancers. It gives their families $150,000 dollars in restitution and the patients access to free government health insurance.**

**Tina herself grew up in the shadow of the bomb and was diagnosed with thyroid cancer when she was in her late thirties.**

**Tina Cordova:** *the very first thing they asked me when they diagnosed me was When were you exposed to radiation? Did you work in a lab with nuclear, with radioactive isotopes or nuclear material? Did you ever have lots of x rays? You know, And I said, No, no, no. But I lived in a community that's 45 miles away. The Crows fly from the Trinity site.*

**Nate Hegyi: She was the fourth generation in her family to get cancer since 1945. So this is all personal for her.**

**She’s testified in front of the Senate and House. And the amendment has been introduced *sixteen* times in Congress. But it never passes.**

*Tina Cordova: When you hear this history and you understand what this history means and you remain complacent, then you're complicit in the idea that it's okay to harm people and just walk away from the harm that's done.*

**Nate Hegyi: So why hasn’t this bill passed?**

**One reason might be that it can be really hard to definititevly link certain kinds of cancer to specific radiation events.**

**It’s not like asbestos, which is linked to a specific type of cancer called mesothelioma.**

**MUX**

**But there may be another reason why this bill hasn’t caught on.**

**Nate Hegyi:** *Hey, Senator. How are you?*

*Ben Ray Lujan:  I am wonderful today. How are you doing, sir?*

**Nate Hegyi: That’s New Mexico Democratic Senator Ben Ray Lujan. He’s the one who sponsored the bill. He’s in his early 50’s, grew up in Santa Fe. his dad was a politician too. So Lujan knows how the sausage is made. And this is actually the pushback he says he gets on the bill.**

*Ben Ray Lujan:  Many of my colleagues that do not support these efforts say that it's it costs too much money. It's too expensive.*

**Nate Hegyi: I mean… the amendment is expensive. A government report found the amendment would cost about $5 billion dollars a year. But Lujan and the downwinders want people to put that into perspective.**

**The United States spends ten times that just maintaining our nuclear arsenal every year.**

*Ben Ray Lujan:  what I'll tell them is go look at our constituents in the eyes and tell them that their lives or their parents lives or kids lives don't matter and that it's too expensive to care for them.*

**Nate Hegyi: I think there’s something deeper, too. The federal government just has kind of a crappy track record of taking care of the people it has hurt or sent into danger. It took nearly two decades to get help for veterans who were exposed to Agent Orange in Vietnam. Fifteen years to help Iraq war veterans who worked near toxic burn pits.**

**And then there was the fight to get compensation for 9/11 first responders. That took Jon Stewart testifying on the hill… multiple times… to get a bill passed.**

**And in all these situations… as Congress stalls… people continue to get sick and die.**

**MUX**

*Paul Pino: A lot of. Folk music because you could you didn't have to play like Jimmy Page or something, you know? It's folk music. It's authentic. It's just us people playing some music.*

*Nate Hegyi: Yeah you can kind of hammer on the the strings and not worry about it.*

*Paul Pino: And so you don't have to be so slick.*

**Nate Hegyi: Back at the Pino Ranch near Carrizozo, Paul was sitting at the kitchen table, surrounded by  pictures of his family and holding a nylon guitar. He wanted to play me a song written by another downwinder, Louisa Lopez.**

*Paul Pino: Her husband, Ricardo, is a friend of mine. He helped us with the downwinders for years, and he died of cancer a couple of years ago. And so she wrote this song.*

*“Out there on the hornada, they bombed the land to hell.”*

*“They said it doesn’t matter, acqui no one is living - we won’t cause any problems.”*

*“Then we started dying from cancer y tu mores.”   
  
“Now we are buried, underneath the flores.”*