

IN THE BELLY OF THE BEAST

The Titans, in the stories of the ancient Greeks, were un-earthly giants with heroic strength who ruled the universe from the dawn of time. Their parents were heaven and earth, and their children were the gods. These children squabbled and started a horrific, fiery war to take over ruling the universe.

A more modern legend goes this way: The Titans were giant missiles with atomic warheads. The Pentagon set them in neat circles around chosen American cities, and there they kept us safe and free for twenty-two years.

In the 1980s they were decommissioned. But one of the mummified giants, at least, was enshrined for public inspection. A Titan silo—a hole in the ground where an atomic bomb waited all its life to be launched—is now a missile museum just south of Tucson. When I first heard of it I was dismayed, then curious.

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What could a person possibly learn from driving down the interstate on a sunny afternoon and descending into the ground to peruse the technology of nuclear warfare?

Eventually I went. And now I know.

The Titan who sleeps in his sleek, deep burrow is surrounded with ugliness. The museum compound, enclosed by an unkind-looking fence, is set against a lifeless backdrop of mine tailings. The grounds are gravel flatlands. The front office is blank except for a glass display case of souvenirs: plastic hard hats, model missile kits for the kids, a Titan-missile golf shirt. I bought my ticket and was ushered with a few dozen others into a carpeted auditorium. The walls bore mementoes of this silo's years of active duty, including a missile-shaped silver trophy for special achievement at a Strategic Air Command combat competition. The lights dimmed and a gargly voice rose up against high-drama music as the film projector stuttered, then found its stride and began our orientation. A ring of Titan II missiles, we were told, encircled Tucson from 1962 until 1984. The Titan II was "conceived" in 1960 and hammered together in very short order with the help of General Motors, General Electric, Martin Marietta, and other contractors. The launch sites are below ground—"safely protected from a nuclear blast." The missile stands 103 feet tall, 10 feet in diameter, and weighs 150 tons. A fatherly-sounding narrator informed us, "Titan II can be up and out of its silo in less than a minute, hurling its payload at speeds of over 15,000 miles per hour nearly halfway around the world. This ICBM waits quietly underground, its retaliatory potential available on a moment's notice."

The film went on to describe the typical day of a missile crew, and the many tasks required to keep a Titan in a state of constant readiness. Finally we were told sternly, "Little remains

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to remind people that for 22 years a select group of men stood guard 24 hours a day, seven days a week, protecting the rights and freedom we enjoy in these United States." Day and night the vigilant crew monitored calls from their command post, "Waiting..." (a theatrical pause) "for a message that never came."

We filed out of the auditorium and stood in the hostile light of the gravel compound. Dave, our volunteer guide, explained about reinforced antennas that could go on transmitting during an attack (nuclear war disturbs radio transmissions, among other things). One small, cone-shaped antenna sat out in the open where anyone could trip over it. Dave told us a joke: they used to tell the rookies to watch out, this was the warhead. My mind roamed. What sort of person would volunteer to be a bomb-museum docent? The answer: he used to be a commander here. Now, semiretired, he trained cruise-missile operators.

It was still inconceivable that a missile stood erect under our feet, but there was its lid, an enormous concrete door on sliding tracks. Grate-covered holes in the ground bore a stenciled warning: TOXIC VAPORS. During accidents or miscalculations, deadly fuel would escape through these vents. I wondered if the folks living in the retirement community just downhill, with the excruciatingly ironic name of Green Valley, ever knew about this. Dave pointed to a government-issue weathervane, explaining that it would predict which way the poisonous gases would blow. What a relief.

We waited by the silo entry port while a Boy Scout troop emerged. I scanned the little boys' faces for signs of what I might be in for. Astonishment? Boredom? Our group then descended the cool stairwell into the silo. Just like a real missile crew, we put on hard hats to protect ourselves from low-hanging conduits and

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sharp edges. Signs warned us to watch for rattlesnakes. The hazards of snakes and bumped heads struck me as nearly comic against the steel-reinforced backdrop of potential holocaust. Or, put another way, being protected against these lesser hazards made the larger one seem improbable.

A series of blast doors, each thicker than my body, were all propped open to let us pass. In the old days, you would have had to wait for security clearance at every door in turn before it would admit you and then heave shut, locking behind you. If you turned out to be an unauthorized intruder, Dave explained, you'd get a quick tour of the complex with your face very near the gravel.

Some forty steps down in the silo's bowels, we entered the "No Lone Zone," where at least two people stood guard at all times. This was the control room. Compared with my expectations, undoubtedly influenced by Hollywood, it seemed unsophisticated. The Titan control room was run on cathode-ray tubes and transistor technology. For all the world, it had the look of those fifties spaceship movies, where men in crewcuts and skinny ties dash around trying to figure out what went wrong. No modern computers here, no special effects. The Titan system was built, Dave said, with "we-need-it-now technology." I tried to get my mind around the notion of slapping together some little old thing that could blow up a city.

Dave was already moving on, showing us the chair where the missile commander sat. It looks exactly like a La-z-boy recliner. The commander and one designated enlisted man would have the responsibility of simultaneously turning two keys and engaging the missile, if that call came through. All of us stared mutely at the little holes where those keys would go in.

A changeable wooden sign—similar to the ones the Forest

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Service uses to warn that the fire danger today is MEDIUM—hung above the controls to announce the day's STRATEGIC FORCES READINESS CONDITION. You might suppose it went to ultimate-red-alert (or whatever it's called) only a few times in history. Not since the Cuban missile crisis, maybe. You would be wrong. Our guide explained that red-alerts come up all the time, sometimes triggered by a false blip on a radar, and sometimes (unbeknownst to crew members) as a test, checking their mental steadiness. Are they truly sane enough to turn that key and strike up nuclear holocaust? For twenty-two years, every activity and every dollar spent here was aimed toward that exact end, and no other.

"But only the President can issue that order," Dave said. I believe he meant this to be reassuring.

We walked deeper into the artificially lit cave of the silo, down a long green catwalk suspended from above. The entire control chamber hangs on springs like huge shock absorbers. No matter what rocked and raged above, the men here would not be jostled.

On the catwalk we passed an eyewash facility, an outfit resembling a space suit, and a shower in case of mishaps involving toxic missile-fuel vapors. At its terminus the catwalk circled the immense cylindrical hole where the missile stood. We peered through a window into the shaft. Sure enough it was in there, hulking like a huge, dumb killer dog waiting for orders.

This particular missile, of course, is impotent. It has been relieved of its nuclear warhead. Now that the Titans have been decommissioned, they're being used as launch missiles for satellites. A man in our group piped up, "Wasn't it a Titan that blew up a few

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weeks ago, when they were trying to launch a weather satellite?"

Dave said yes, it was, and he made an interesting face. No one pursued this line of thought, although questions certainly hammered against the roof of my mouth. "What if it'd been headed out of here carrying a payload of death and destruction, Dave, for keeping Tucson safe and free? What then?"

Like compliant children on a field trip, all of us silently examined a metal hatch opening into the missile shaft, through which service mechanics would gain access to the missile itself. A sign on the hatch reminds mechanics not to use their walkie-talkies while inside. I asked what would happen if they did, and Dave said it would totally screw up the missile's guidance system. Again, I felt strangely inhibited from asking very obvious questions: What does this mean, to "totally screw up the missile's guidance system"? That the bomb might then land, for example, on Seattle?

The Pentagon has never discussed it, but the Titan missiles surrounding Tucson were decommissioned, ostensibly, because of technical obsolescence. This announcement came in 1980, almost a decade before the fall of the Berlin Wall; it had nothing to do with letting down the nation's nuclear guard. Make no mistake about this: in 1994 the U.S. sank \$11.9 billion into the production and maintenance of nuclear missiles, submarines, and warheads. A separately allocated \$2.8 billion was spent on the so-called Star Wars weapons research system. The U.S. government document providing budget authority for fiscal year 1996 states, "Although nuclear forces no longer play as prominent a role in our defense capability as they once did, they remain an important part of our overall defense posture." It's hard to see exactly how these forces are on the wane, as the same document goes on to project outlays of roughly \$10 billion for the nuclear war enter-

prise again the following year, and more than \$9 billion every year after that, right on through the end of the century. In Nevada, New Mexico, Utah, Texas, the Great Plains, and many places we aren't allowed to know about, real live atomic bombs stand ready. Our leaders are hard-pressed to pretend some foreign power might invade us, but we are investing furiously in the tools of invasion.

The Pentagon was forced to decommission the Titans because, in plain English, the Titans may have presented one of the most stupendous hazards to the U.S. public we've ever had visited upon us. In the 1960s a group of civilian physicists at the University of Arizona worked out that an explosion at any one of the silos surrounding Tucson would set up a chain reaction among the other Titans that would instantly cremate the city. I learned about this in the late seventies, through one of the scientists who authored the extremely unpopular Titan report. I had months of bad dreams. It was not the first or last time I was floored by our great American capacity for denying objective reality in favor of defense mythology. When I was a child in grade school we had "duck and cover" drills, fully trusting that leaping into a ditch and throwing an Orion sweater over our heads would save us from nuclear fallout. The Extension Service produced cheerful illustrated pamphlets for our mothers, showing exactly how to stash away in the basement enough canned goods to see the family through the inhospitable aftermath of nuclear war. Now we can pass these pamphlets around at parties, or see the quaint documentary *Atomic Café*, and laugh at the antique charm of such naïveté. And still we go on living in towns surrounded by nuclear choke chains. It is our persistent willingness to believe in ludicrous safety measures that is probably going to kill us.

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I tried to exorcise my nightmares in a poem about the Titans, which began:

When God was a child
and the vampire fled from the sign of the cross,
belief was possible.
Survival was this simple.
But the savior clutched in the pocket
encouraged vampires to prosper
in the forest.

The mistake
was to carry the cross,
the rabbit's foot,
the spare tire,
St. Christopher who presides
over the wrecks:
steel cauliflowers
proliferating in junkyard gardens.
And finally
to believe in the fallout shelter.

Now we are left in cities ringed with giants.

Our tour finished, we clattered up the metal stairs and stood once again in the reassuring Arizona sun. Mine tailings on one side of the valley, the pine-crowned Santa Rita mountains on the other side, all still there; beneath us, the specter of hell.

Dave opened the floor for questions. Someone asked about the accident at a Titan silo in Little Rock, Arkansas, where some

guy dropped a wrench on the missile and it blew up. Dave wished to point out several things. First, it wasn't a wrench, it was a ratchet. Second, it was a crew of rookies who had been sent in to service the missile. But yes, the unfortunate rookie did drop a tool. It bounced and hit the missile's sheet-metal skin, which is only a quarter of an inch thick. And which doesn't *house* the fuel tank—it is the fuel tank. The Titan silo's "blast-proof" concrete lid weighs 740 tons. It was blown 300 yards through the air into a Little Rock cornfield.

Dave wanted us to know something else about this accident: the guys in the shock-absorber-suspended control room had been evacuated prior to the ill-fated servicing. One of them had been drinking a Coke. When they returned they were amazed to see how well the suspension system had worked. The Coke didn't spill.

We crossed the compound to a window where we could look straight down on the missile's nose from above. A woman near me gasped a little. A man asked where this particular missile had been headed for, back in the days when it was loaded, and Dave explained that it varied, and would depend on how much fuel it contained at any given time. Somewhere in the Soviet Union is all he could say for sure. The sight of these two people calmly discussing the specifics of fuel load and destination suddenly scared the living daylights out of me. Discussing that event like something that could really happen. They almost seemed disappointed that it never had.

For years I have wondered how anyone could willingly compete in a hundred-yard dash toward oblivion, and I believe I caught sight of an answer in the Titan museum—in faces that lit up when they discussed targets and suspension systems and megatons. I saw it in eyes and minds so enraptured with technol-

ogy that they saw before them an engineering spectacle, not a machine designed for the sole purpose of reducing civilizations to rubble.

Throughout the tour I kept looking, foolishly I suppose, for what was missing in this picture: some evidence that the people who ran this outfit were aware of the potential effects of their 150-ton cause. A hint of reluctance, a suggestion of death. In the absence of this, it's easy to get caught up in the internal logic of fuel capacities, circuitry, and chemical reactions. One could even develop an itch to see if this amazing equipment really works, and to measure success in purely technical terms.

The Coke didn't spill.

Outside the silo after the tour, I sat and listened to a young man regaling his girlfriend with further details about the Little Rock disaster. She asked him, "But that guy who dropped the, whatever it was. Did he die?"

The man laughed. "Are you kidding? That door on top was built to withstand a nuclear attack, and it got blown sky-high. Seven hundred and forty tons. That should tell you what happened to the guys inside."

She was quiet for a while, and then asked him, "You really get into that, don't you?"

"Well, sure," he said. "I love machines. It fascinates me what man is capable of designing."

Since that day, I've had the chance to visit another bomb museum of a different kind: the one that stands in Hiroshima. A serene building set in a garden, it is strangely quiet inside, with hushed viewers and hushed exhibits. Neither ideological nor histrionic, the displays stand entirely without editorial comment.

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They are simply artifacts, labeled: china saki cups melted together in a stack. A brass Buddha with his hands relaxed into molten pools and a hole where his face used to be. Dozens of melted watches, all stopped at exactly eight-fifteen. A white eyelet petticoat with great, brown-rimmed holes burned in the left side, stained with black rain, worn by a schoolgirl named Oshita-chan. She was half a mile from the hypocenter of the nuclear blast, wearing also a blue short-sleeved blouse, which was incinerated except for its collar, and a blue metal pin with a small white heart, which melted. Oshita-chan lived for approximately twelve hours after the bomb.

On that August morning, more than six thousand schoolchildren were working or playing in the immediate vicinity of the blast. Of most of them not even shreds of clothing remain. Everyone within a kilometer of the hypocenter received more than 1,000 rads and died quickly—though for most of them it was surely not quick enough. Hundreds of thousands of others died slower deaths; many would not know they were dying until two years later, when keloid scars would begin to creep across their bodies.

Every wooden building within two kilometers was annihilated, along with most of the earthquake-proof concrete ones, and within sixteen kilometers every window was smashed. Only concrete chimneys and other cylindrical things were left standing. Fire storms burned all day, creating howling winds and unmeasurable heat. Black rain fell, bringing down radioactive ash, staining walls with long black streaks, poisoning the water, killing fish. I can recite this story but I didn't, somehow, believe it until I looked at things a human being can understand: great handfuls of hair that fell from the head of Hiroko Yamashita, while she sat in her house eight hundred meters from the hypocenter. The pink

dress of a girl named Egi-chan, whose blackened pocket held a train ticket out of the city. The charred apron of Mrs. Sato, who was nursing her baby.

The one bizarre, incongruous thing in the museum at Hiroshima, it seemed to me, was a replica of the bomb itself. Dark green, longer than a man, strangely knobbed and finned—it looks like some invention that has nothing to do with people. Nothing at all.

What they left out of the Titan Missile Museum was in plain sight in Hiroshima. Not a sound track with a politically balanced point of view. Just the rest of the facts, those that lie beyond suspension systems and fuel capacity. A missile museum, it seems to me, ought to be horrifying. It had better shake us, if only for a day, out of the illusion of predictability and control that cradles the whole of our quotidian lives. Most of us—nearly all, I would say—live by this illusion. We walk through our days with our minds on schedule—work, kids, getting the roof patched before the rainy season. We do not live as though literally everything we have, including a history and a future, could be erased by two keys turning simultaneously in a lock.

How could we? How even to pay our monthly bills, if we held in mind the fact that we are camped on top of a technological powder keg? Or to use Carl Sagan's more eloquent analogy: we are all locked together in a room filled with gasoline vapors, insisting that because *they* have two hundred matches, *we* won't be safe until we have *three* hundred.

The Cold War is widely supposed to have ended. But preparations for nuclear war have not ended. The Titan museum's orientation film is still telling the story we have heard so many times

that it sounds, like all ultra-familiar stories, true. The story is that *they* would gladly drop bombs on us, if they weren't so scared by the sheer toughness of our big missiles. *They* are the aggressors. *We* are practicing "a commitment to deterrence."

Imagine you have never heard that story before. Look it in the eye and see what it is. How do strategic-games trophies and Titan-missile golf shirts stack up against a charred eyelet petticoat and handfuls of hair? The United States is the only nation that has ever used an atomic bomb. Dropped it, on men and women and schoolchildren and gardens and pets and museums, two whole cities of quotidian life. We did it, the story goes, to hasten the end of the war and bring our soldiers home. Not such an obvious choice for Oshita-chan. "To protect the rights and freedoms we enjoy" is a grotesque euphemism. Every nuclear weapon ever constructed was built for the purpose of ending life, in a manner so horrific it is nearly impossible to contemplate. And U.S. nuclear science has moved steadily and firmly, from the moment of its birth, toward first-strike capacity.

If the Titan in Green Valley had ever been allowed to do the job for which it was designed, the fire storm wouldn't have ended a world away. Surely all of us, even missile docent Dave, understand that. Why, then, were we all so polite about avoiding the obvious questions? How is it that a waving flag can create an electromagnetic no-back-talk zone? In 1994, half a century after the bombing of Hiroshima, we spent \$150 billion on the business and technology of war—nearly a tenth of it specifically on nuclear-weapons systems. Any talk of closing down a military base raises defensive and reverent ire, no matter how wasteful an installment it might be. And yet, public debate dickers and rages over our obligation to fund the welfare system—a contribution of about \$25 a year from each taxpayer on average, for keeping

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the poorest among us alive. How can we haggle over the size of this meager life preserver, while shiploads of money for death sail by unchallenged? What religion of humankind could bless the travesty that is the U.S. federal budget?

Why did I not scream at the top of my lungs down in that hole?

I didn't, so I'll have to do it now, to anyone with the power to legislate or listen: one match in a gasoline-filled room is too many. I don't care a fig who is holding it.

I donned the hard hat and entered the belly of the beast, and I came away with the feeling of something poisonous on my skin. The specter of that beast could paralyze a person with despair. But only if you accept it as inevitable. And it's only inevitable if you are too paralyzed with despair to talk back. If a missile museum can do no more than stop up our mouths, with either patriotic silence or desperation, it's a monument the living can't afford. I say slam its doors for good. Tip a cement truck to the silo's gullet and seal in the evil pharaoh. If humanity survives long enough to understand what he really was, they can dig him up and put on display the grandiose depravity of the twentieth century.

I left, drove down into the innocent palm-shaded condominiums of Green Valley, and then, unexpectedly, headed up the other side of the valley into the mountains. When I reached the plateau of junipers and oaks I pulled off the road, hiked into the woods, and sat for a long time on a boulder in the middle of a creek. Water flowed away from me on either side. A canopy of sycamore leaves whispered above my head, while they waited for night, the close of one more day in which the world did not end.

In a poem called "Trinity," Sy Margaret Baldwin explained

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why she would never go down to the site of the first atomic-bomb explosion, which is opened to the public every year:

...I would come face to face with my sorrow, I would feel
hope slipping from me and be afraid the changed earth
would turn over and speak the truth to the thin black
ribbons of my ribs.