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How Texas Lost the World's Largest Super Collider

The Higgs boson, a particle that has shaped the theories of modern particle physics, was discovered at a super collider in Geneva. It was a hugely significant moment for Big Science, one that received a Nobel Prize earlier this year—and it should have been discovered in Texas.

by Trevor Quirk **Mon October 21, 2013 1:15 pm**

Magnablend, a chemical blending plant, bought the shell of the abandoned SSC last year.
Photograph by Will Graham

When the discovery of the last particle in the Standard Model of physics, the Higgs boson, was announced in the spring of 2012 many physicists, afflicted by an anxiety special to their profession,

soon began hedging that same announcement. Most were reluctant to claim outright that what they'd observed at the CERN particle collider in Geneva was indeed the elusive Higgs, the subatomic particle that could explain how all matter acquires mass. Eventually their reticence suffused the name of the particle itself, as it was quickly described as a Higgs-*like* particle.

That summer, at the official announcement in Geneva, Rolf-Dieter Heuer, the stately director general of CERN, declared "I think we have it." It was an enormous scientific discovery—arguably one of the biggest of the 21st century, a claim bolstered by its recent Nobel Prize award—but the celebration, on the whole, was restrained. Mild applause ensued, a man removed his glasses and dabbed a handkerchief at his tears. The conference room then reassumed its churchlike sobriety.

Physicists are a shrewd species. History has shown them the political consequences of premature announcements. A year before, a team of physicists at CERN announced the observation of neutrinos rushing faster than the speed of light. If the phenomenon was real, almost all we knew about physics would crumble. Most physicists were incredulous, and rightfully so, as the "superluminal" neutrinos turned out to be an artifact of miswired fiber optics and a bad atomic clock. It was embarrassing; people resigned. Many physicists condemned the announcement as sensational, a swat at the hard reality of modern experimental physics, which is forevermore Big Science: a political animal of bureaucracy, real estate, diplomacy, rhetoric, and tax-based funding. People have to *trust* physicists more than ever before, a tall order considering the arcane nature of theoretical science. And yet the tools required to prove or disprove certain hypotheses often require significant amounts of money.

The international operation of CERN marked a monumental success in this respect. To prove the existence of the Higgs boson, which has been contentiously described as the "God particle," required $9 billion, ten years of study, thousands of careers, and a seventeen-mile collider ring bored out of the earth on the Franco-Swiss border. At fourteen Teraelectron-volts (TeV)*, it is the most energetic super collider ever built, and also one of the largest, most complex scientific experiments in history. Many have called it a modern-day cathedral.

And it should have been built in Texas.

Five-thousand miles southwest of Geneva, just outside Waxahachie, Texas, are the remnants of a super collider whose energy and circumference—true to American sensibility—would have dwarfed those of CERN's Large Hadron Collider. Nobody doubts that the 40 TeV Superconducting Super Collider (SSC) in Texas would have discovered the Higgs boson a decade before CERN. The collider's tunnel would have entrenched Waxahachie in a topographical oval that curved east before the southern Dallas County line, then running southwest under Bardwell Lake and curving north at Onion Creek. Since Congress canceled the project twenty years ago, on October 21, 1993, Waxahachie has witnessed the bizarre and disquieting history of its failure.

Prominent physicists have a shared tendency to mischaracterize Waxahachie as a bucolic Victorian town in the fading years of its antebellum glory, a place that would exalt the worldly benefits of a multi-billion dollar science project. Sean Carroll, in his book *The Particle at the End of the Universe*, called it a "sleepy hamlet." Even when the SSC project first broke ground, this was not the case. Waxahachie, the seat of Ellis County, was once a wealthy cotton nexus of the southwest, and today is a small blue-collar city of 30,000 that now depends on companies rooted in industrial science. You see evidence of this just outside and within the city limits: Redox Chemicals, Wesco Chemicals, Helena Chemical, Schirm Chemical, Magnablend. An industrial train engine, servicing companies like these, hauls black rotund tankers and covered hopper boxcars with more rust than paint through every part of Waxahachie. It stops traffic. It trundles under the brindled and tire-

beaten sliver of Texas Highway 77 that brings vehicles south from Dallas, marshaled by frontage roads that bracket rapacious commercial development into aisles along the old interstate. Waxahachie's historic district, with its palatial granite courthouse, Civil War monuments, renovated museum, and brick walking malls, is preserved fiercely against such development, as is the nearby neighborhood of gorgeous Victorian and Gingerbread homes—though the train runs through both areas. Past all this, on Waxahachie's fringe, you will find enormous churches and small cottages aside the capillaries of old farm-to-market roads that lead to rare patches of velour pasture among dry scrubland and blackland prairie, all under blue horizons and the skeletal tree lines of Texan winters. You can hear the train from that far out.

I was walking on the brittle grass of the old SSC campus with a few guides from the chemical blending company—Magnablend—that had recently purchased and converted the abandoned facility, nearly two decades after Congress canceled the project. I'd spend much of that tour listening to my guides trade lore about the SSC—Were these conduits for the coolant? Was this an entrance to the tunnel? Was this where they fabricated magnets?—only to watch them become sullen as we passed groups of men in PPEs with facial blast shields adjusting vat dials and pumping chemicals through recondite hoses. When we were surrounded by evidence of what this place had become they became almost self-conscious. One of my guides mentioned a book about the SSC and would spend the rest of the tour plumbing his memory for its name and author.

We walked up to the peak of a grassy hill to find a large dip, fifteen feet in diameter, filled with brambles and dead vegetation. The scene looked like hair collected at the bottom of a shower drain. Three other areas like this one lay on the property. The hill was probably a capped shaft, sunk hundreds of feet into the main tunnel where the collider's magnets would have steered the beams around the curve. Nobody knew for sure—the physicists had left with all SSC schema. The engineers and technicians of Magnablend had arrived roughly a year before with no blueprints or detailed information about the abandoned facility. With few exceptions, the buildings looked exactly as they would have: five thirty-foot hangers of plain brown corrugated siding with wide shipping bays, which, when left ajar, revealed enormous overhead cranes—five to 25 ton lifting capacity—annexed to the ceiling, original to the site. As an acronymic consolation, Magnablend even named their new facility the Specialty Services Complex.

The promise of a super collider to a small city like Waxahachie was mostly economic. The SSC would herald the creation of five to eight thousand jobs, marked improvements in local education, and the development of a technical industry that had lately engendered the state epithet "High Tex." By comparison, the appeal to the country as a whole was cryptic, vague: the promise of revolutionary spinoffs in technology. Science—especially Big Physics—commands a large degree of faith from the nations that fund it. Political axiom holds that advances in the fundamental understanding of the universe will inevitably yield practical boons for society. This is not unsound reasoning: Semiconductors, lasers, supercomputers, integrated circuits, nuclear power, nuclear weapons. The twentieth and twenty-first centuries have been textured by these technologies, and they all stem from advances in physics.

Particle physicists, though, subscribe to a more arcane enterprise. The reason particle physics has required an increasing largesse of society is quite simple. In the seventies physicists codified a theory that meant to explain the elementary architecture of the universe—the Standard Model. It accounts for three of the four known forces in nature: the electromagnetic, strong, and weak forces. The Model also posits that all observable matter is composed of two categories of particles: leptons and quarks, which act upon each other through the three forces. Theoretically, the Model holds that some leptons should be massless, when experimentally they are not. The Higgs Mechanism patches

this theoretical rift and explains how those leptons, which came into being without mass, have *acquired* it. While the mechanism is the explanatory construct, the Higgs boson is what you look for in nature.

One technical problem is that many elementary particles—including the Higgs—are extremely unstable and rarely occur. To witness them for even a moment requires a great concentration of energy. Hence particle colliders, underground rings that accelerate beams of particles to speeds near that of light, steered by superconducting magnets along miles of cable until they collide—mightily, silently—and pieces of the universe normally unseen peek through the noise and fabric.

Experimentally, the Standard Model is remarkably accurate. It is also terribly incomplete. It fails to incorporate the fourth force, gravity, and modern cosmology indicates that it only accounts for four percent of the matter and energy that were created after the Big Bang. The Higgs boson, though important, is only a part of the larger dreamscape of New Physics, of complete and unified theories.

Roy Schwitters, the former director of the SSC who is now a professor of physics at the University of Texas at Austin, explained that modern colliders were designed with this in mind. “The international community quickly figured what it would take to find a Standard Model Higgs. Of course everybody wanted to have what we call ‘Scientific Reach,’ to be able to go *beyond* the Standard Model. Our hope is that there’s physics beyond it. And the Higgs played a special role in that search. I call it a capstone. It set the standard.” Schwitters’s use of “we” and “us” invariably referred to the world’s establishment of particle physicists, which might be expected of a man who led the profession through great political tumult.

The SSC was first given serious consideration by Congress in 1985. Physicists can in fact *lobby* Congress, and they did so with regularity in the years that followed. Congress approved the project in the late eighties. Schwitters assumed two key roles, first as a member of the project’s site selection committee, which was chaired by 21 eminent American physicists, then later as the director of the SSC. The committee received applications from 43 states, and reportedly each member of the panel was responsible for assessing numerous boxes of material. The committee submitted an unranked list of eight sites that could best support the Superconducting Super Collider:

ARIZONA: Maricopa; desert plains; sedimentary bed; small amount of families displaced.

COLORADO: hilly grassland; Pierre shale; few relocations necessary.

ILLINOIS: Batavia; flat to gently rolling area; uniform bed of dolomite; complex program for relocating families.

MICHIGAN: Stockbridge; rural farmland; mix of shale, sandstone, dolomite and limestone; complex plan for acquiring 700 parcels and relocating 221 families.

NEW YORK: Rochester; moderately hilly; glacial drumlins underlain by sedimentary rocks. Committee members received substantial number of letters from dissenting residents and doubts public support.

NORTH CAROLINA: rural, forested area; volcanic and sedimentary rock; prime farmland lost in land acquisition, 100 families relocated.

TENNESSEE: hilly undeveloped rural land; Ordovician limestone; no concerns

regarding land acquisition or relocation.

TEXAS: Ellis County, rolling prairieland, “geology is excellent for construction.”; 420 landowners and 224 business displaced or otherwise affected by land acquisition plan.

Geology, geology, geology. Nearly everyone involved in the high-level planning of the SSC trumpets this as the primary reason for choosing Ellis County. I met a Waxahachie local who hefted a cube of the special Texan earth—the weight of a small child, drilled clean through its center—onto his kitchen island to make the point. Ellis County happens to lie atop the Austin Chalk, a cretaceous geological formation that mirrors the curve of the Gulf, arching from Mississippi to Mexico. It is a tunneller’s dream; easy to bore and shape without compromising stability. And considering that the SSC was one of the world’s largest tunneling projects, one that would set myriad construction records, the geological makeup was important. Another reason, one that the Dallas-Fort Worth region would provide, was what Schwitters called “excellent connectivity to the world.” Finally, Texas offered an after-the-fact incentive, a bit of lagniappe if the project landed here: a bond issue that promised at least $1 billion in state funding for the project.

Waxahachie it was.

Still, it was an arduous task, Schwitters recalled, to convince “well-ensconced” coastal academics to move anywhere near Ellis County. Instead, many young physicists—the “not-yet establishment”—took up the call and alighted upon Waxahachie along with engineers, project managers, and architects. By 1989 Schwitters had resigned from a professorship at Harvard and moved his family to the Dallas region to begin oversight.

The projected cost of construction was $6 billion and the SSC would cost roughly $600 million a year to operate. The collider would take over 16,000 acres of land with a tunnel fourteen feet in diameter and 52 miles in circumference—more than twice the distance from Waxahachie to Dallas. It would require the construction of onsite office space, laboratories, and two cavernous subterranean facilities that would house particle detectors with weights comparable to battleships. It would comprise 4,728 magnets—most 17 meters long— that amounted to 41,500 tons of iron (roughly four Eiffel towers) and would require the supercooling effect of 2 million liters of liquid helium. Plus, the people. While Schwitters was director the total staff would eclipse 1,900.

Large in size and scope, the project dissolved with surprising quickness. By the summer of 1993, after seventeen shafts had been sunk and fourteen miles of the tunnel bore out of the pliable Austin Chalk, Congress decided to stop funding the project, whose projected cost now exceeded $10 billion. They had already spent $2 billion and it would take another estimated billion to shut the project down. There are a variety of proffered reasons—most political in nature. What’s certain is that American physicists did not take it well. One physicist was distraught enough to pen a eulogy (condensed below) for the SSC. It would be circulated amongst the SSC Alumni—a society still very much alive—for decades on.

We gathered all the nation’s elite
to design and build man’s greatest feat

“Come build it for us” Congress said
“America must be at the forefront, always ahead.”

So come we did, pursuing the dream
to build the machine that collides proton beams

“It’s pork-barrel, useless, garbage” they cried.

“Off with its head” the House puffed with pride.

Our families just stare, confused and upset,
The children all innocent, the spouses with regret

“Why did I come out here?” they wonder to themselves.
“I left the home I lived in since I was just twelve.”

Little was ventured, and little was gained
Except to fill the nation’s physicists with anger and pain.

The SSC had seen the stretch of three presidencies, from Reagan, its inceptive advocate, to Bush Sr. to the less-enthusiastic Clinton. Plus the Congress that emerged from the ‘93 election had a very large contingent of freshman, many of whom shared a hip sense of fiscal austerity. The super collider, in contrast to majestic projects like the space shuttle missions or the contemporary International Space Station, couldn’t readily offer any consequences of its science. You can *see* images from a space station, see a rocket propel from the Earth. You cannot see a beam of protons collide, nor the particles which that collision reveals. Schwitters recalls this period, saying that the SSC became a “really great program that was unexplainable to the politician or common person. It made it easy to jettison.”

In roughly a year’s time, Schwitters had watched a merrily progressing SSC project shift into one that needed adamant and constant defending before Congress and the Senate. He referred to this period from ’92 to ’93 as a “firestorm,” or “maelstrom.” In 1993 he told the *New York Times*, “We should be devoting ourselves to completing this machine as rapidly and as cheaply as possible, and getting on with real science. Instead, our time and energy are being sapped by bureaucrats and politicians. The SSC is becoming a victim of the revenge of the C students.”

Per the nature of his position, Schwitters was always a common target. He assumed responsibility for what he felt he should. During construction he made a decision to change the aperture of the superconducting magnets. A change of one centimeter, it would increase the project’s overall cost by thirty percent. “That was a biggy,” he admitted. Decades of retrospection had afforded him what he called a “cosmic” picture of the ordeal. “By 1992 the Cold War was over. From the end of World War II to then, we had an existential threat from a society that was damn good at science and math. It led to the space program and physics research and education that supported us through grad school. That threat is no longer with us. And society is still deliberating how to deal with that.”

I asked him how he and other physicists had responded to the cancellation. “I’m profoundly disappointed that we didn’t finish it. I’m profoundly disappointed the world doesn’t have an SSC. Of course, I have to look at it personally…and yeah, it’s been pretty difficult. I hear a lot of nonsense on the periphery—the pseudo-analyses of what went on—which I don’t like, but there’s nothing I can do about it.”

I asked him what effect the cancellation of the SSC had on Waxahachie. He said he didn’t know, though he’d be curious to find out. He said many physicists had left the area (and the vocation) for Wall Street, “where they did very well, thank you.” He knew of a few physicists and engineers who had remained, gotten involved in ranching. I asked him what he thought the SSC had represented to the people who lived there. He said, “A savior. No question.”

Building the Superconducting Super Collider was somebody’s job. The typical HR rigmarole still applied. So, from the pool of applicants emerged a man named Joginder “Jo” Bhore, a sedulous, India-born civil engineer with a subterranean specialty. He was an expert in navigating the bird’s-eye demands of titanic projects; Bhore saw everything from way, way up. And his resume is

perhaps one of the few in the world that make for good reading.

He oversaw the construction of both Union and Wilshire stations in Los Angeles's transit system. He did the $1.1 billion modernization of Logan International Airport. The Anacostia River Crossing Tunnels—that was Bhore. Dupont Circle Station in Washington D.C.—that was Bhore. Sewer tunnels in Houston, highways in Stockton and Marysville, ventilation shafts in Boston, water tunnels in Fairfax—all Bhore. He also oversaw the renovation of the famous pink granite courthouse in Waxahachie, where he now lives.

I met with him in his commodious Colonial home. The house was white and had Corinthian columns planted at the base of a shallow porch. It was one of the reasons his family had decided to stay, and Bhore took great pleasure from it. In the foyer, he identified the burl pine buttresses and intricate hand carvings that framed the stairwell. We sat in the men's parlor, which Bhore had converted into an office, across the hall from the women's purely-decorative parlor. Bhore, 79, had a neat white mustache, wore glasses and a woolen oxford patched at the elbows. He'd retained the final cost of virtually every project entrusted to him and uttered such costs with great seriousness.

When he was first approached about the SSC in 1991 Bhore had "no interest." He had lived and been educated in three countries, had managed major projects, served in the U.S. Army during the Korean War—a "great tour" while stationed in Germany—and raised a family. He was living in California at the time, in a 5,600-square-foot house. "I was going to retire there," he told me. "But this was the biggest underground project ever conceived by anybody. To build that would be quite a thing." He consulted a close friend who agreed that the SSC would "be quite a feather in my hat."

He stood and walked over to retrieve a box of material he'd kept from the project. People involved in any capacity with the SSC keep baseball-grade memorabilia. If you let them, they will *reminisce*. While I was in Texas I watched a local politician stand pensively over a map of the SSC the size of the Oriental rug spread on the floor of his piano room. I struggled to converse with an EPA officer over the paper barricade of personal letters, promotions, posters, emails, and official SSC documents she'd lugged to lunch in a handbag. I watched a big bug crawl up the peach button-down of a retired Waxahachie physicist who was too nostalgic about his SSC days to notice it. Bhore was no exception. He too had done some personal archeology. He handed me color slides that had to be held to the afternoon light to see. They were of skeletal facilities, cluttered construction sites and the dusty maws of tunneling shafts.

When we discussed the political imbroglio that led to the cancellation, he reclined. Bhore's biggest logistical criticism was that the SSC construction was funded piecemeal, which required ever-renewing support from Congress. If the project had been built all at once with one federal purse, in his mind, then Congress could never have justified cancelling it.

"I thought about whether or not I should say this. But it was a fact: The people in charge of the project—the laboratory people, the scientists—they were a bit too arrogant toward Congress. They sort of treated them as if they didn't understand what the physicists were trying to do—a sort of why-are-you-standing-in-my-way attitude. You don't insult people you're begging for money," he said. "Scientists are brilliant people, but they're not salesman."

After the SSC was cancelled, Bhore finally decided to retire. Sort of. He kept a minimal schedule of consulting for other enormous projects, instead of managing them, and sat on dispute boards, including one he sits on today, for the Port of Miami. He did have a retirement party, though. He pointed toward two pictures on a corner table that were presented to him. One was a framed photo of a tunneling shaft, where two engineers in hardhats stood at the base, a blinding oval of light hundreds of feet overhead. The border of the photo was adorned with the variform signatures of

everyone who worked under Bhore. The other was a cartoon, depicting Bhore in a turban, triumphantly riding an elephant with a sign snagged in its trunk—SUPERCONDUCTING SUPER COLLIDER.

Per his contract, the conclusion of the SSC project entitled Bhore relocation to anywhere in the world. His family deliberated and decided to stay. Bhore received a generous check in relocation expenses—for *not* moving.

His choice word for the end of the SSC was “heartbreak.” He said he “entered a depression when they shut it down. I took a cut in salary to come here, because this was *the* job.

“It still bothers me at times to think about the super collider. You know, ‘What could have been.’ We would have had 300 of the most brilliant scientists living right here.” He paused. “We lost the science, it’s gone over seas. CERN has got most of the benefit out of it. The Japanese are doing a lot of research. But we aren’t doing anything of that magnitude. Particle physics is lost to our generation. Sometimes politics can be very regressive, so to speak. We would have had a jewel, as far as the scientific world is concerned.

“It still bothers me.”

The closing of the SSC had only mild economic impact on Waxahachie. Most of the physicists left, some for industry or academia, some for Wall Street, some for the video game sector. The jobs and development that were promised to the city simply did not happen.

After the cancellation Ellis County found itself in a predicament, having been deeded an enormous, expensive, specialized facility with fourteen miles of tunnel encircling a rural community south of Dallas. What do you do with an aborted super collider? There were many ideas. A pharmaceutical company expressed interest in using the facilities as a distribution center, but that deal dissolved last-minute. Hospitals and medical centers competed over possibly tapping into the SSC linear accelerator as a source for proton cancer therapy. But no dice. The federal government entertained converting it into an anti-terrorism training facility. Putative plans were enacted to convert the SSC into a new jail, which incited swift vituperation from the local farmers and ranchers. In 1999, a production company purchased filming rights at the facility for *Universal Soldier II*, a direct-to-video movie depicting the SSC as the home of a supercomputer that puppeteers a small legion of hostile robots. Ellis County intermittently used it as a warehouse to store, among other things, Styrofoam cups.

Salvation seemed to come in one Johnnie Bryan Hunt, an Arkansan born-again multimillionaire, who bought the complex for $6.5 million and had plans to turn it into a citadel for secure data storage—the Collider Data Center. Only six months into this promising development, Hunt slipped on ice, broke his skull, and died.

By 2011 the Hunt family still owned the property but didn’t continue Johnnie’s enthusiasm for the CDC project. In the autumn of that year, Magnablend, a company native to Waxahachie, lost its mixing plant in an enormous chemical fire. About 1,000 people were displaced, cleared from the concentric areas by the blackened rising plumes of a fire that glided along a stream of chemicals running parallel to Waxahachie’s locomotive tracks.

The inferno was tempered within the day. No one died in the fire. A ubiquitous odor lingered, though, and persisted for weeks. Residents compared it to “wrappers burning” and ammonia. In the wake of the accident Magnablend endured the media salvo you’d expect; yet if they wanted to continue business they had to find a site for another plant. In a matter of months, the deed restriction that precluded chemical industry from the SSC site was lifted and Magnablend bought the SSC

from the Hunt family for $5 million. The company made busy converting it.

All the while, this Ozymandian history was observed by the ranchers, farmers, and dairymen whose properties were separated by a weathered road from the Magnablend complex. Kars Tamminga, a local Friesian dairyman, had been there since Ellis County was first selected as the site.

Kars, a lithe towering man in his seventies, is perpetually mobile. He spends long days trucking between his dairy complex, crop fields, and home. His stride is direct and impressive. Wind howls in the sonic background of his voicemail, behind his staccato Dutch accent. We scheduled to meet at Fri-Tex Dairy—an amalgam of Friesland, where he was born into a family of cheese artisans and dairymen, and Texas, where he moved in 1984 and bought a plot of land south of Dallas. However, the day we were supposed to meet a leviathanic storm passed through Waxahachie. On the meteorological map, the system spanned mid-Texas to Michigan, moving like an arrowhead toward the Atlantic. It created a river of wind a mile overhead, reaching speeds of 100 mph, and would be felt below in the form of thunderstorm, hail, rain, gusts, the occasional tornado. My own concept of weather is wholly Northeastern—I think hail is spooky—so I called Kars hoping to reschedule. The sky in Waxahachie looked that nacreous grey I'd been warned precedes funnels. Kars told me we'd be fine. I vacillated. He told me to come on down.

The dairy's most immediate attribute—a deep and powerful smell of manure—quickly yielded the underlying malty smell of cornmeal, soymeal, and canola-meal on which the 2,500 cows of Fri-Tex fed. Kars arrived in his tan pickup soon after me. He was wiry and had long powerful arms. He wore a red knitted sweater, manure-marred loafers, tinted aviators, and blue jeans creased on the calves with red sawdust. Kars had a temperate disposition and the endearing quality of an elder who mocks his age as if it had no dominion. He laughed almost exclusively at the seamy constants of human affairs, like greed, hubris, and bureaucracy.

We toured the dairy before leaving for his nearby home to meet his wife for tea. I was surprised to see that his house was in fact closer to the Magnablend plant than his dairy. The Tammingas were a part of a concerned citizens organization of hundreds of local families living just outside the city line protesting the legality of a large chemical plant establishing itself in remote farmland. Their concerns are very much backlit by Magnablend's recent fire.

"Yeah," Kars said, smiling at the complex. "We're neighbors."

I noted the dark bloom in the northern sky and speculated we might see the storm yet.

Kars looked up, said maybe, but it didn't matter. "We're already *here*," he said, gesturing to the land.

His genial wife, Grace, brewed us a pot of Earl Grey, before retrieving a blue scrapbook of newspaper clippings, titled "The Tammingas and the SSC." It was comprehensive. All of the articles were from local or regional newspapers and usually featured the Tammingas as representative of the comparatively small number of Waxahachie families that were asked to sacrifice for the SSC project. Certain creative liberties were taken with the headlines: "COWED BY THE SUPERCOLLIDER; STANDING OUT FROM THE HERD."

When they arrived, the Tammingas—with their four children—purchased a 211-acre tract and 40 cows. By 1988 they'd had some success and built a new 6,000-square-foot stone home. In 1989 they found themselves in the path of the SSC. Grace recalls receiving a notice, which compelled them to sell their home and its environs at a price officials would determine. The Tammingas felt it was insufficient, and rejected it. They hired a lawyer, went to court, and had their own appraisal done. This legal engagement would last years, well beyond the life of the SSC, during which the

government tried to take their house through eminent domain and ordered them to leave. After a pause, both Tammingas declared, “But we didn’t.” I asked them what that meant, exactly. It wasn’t complicated. They just disobeyed the order. “We were the stubborn Dutchmen,” said Kars.

The court case involved two major contentions. The first was the value of the Tammingas home and its property. The second concerned the effect of the low-level radiation that would emanate from the tunnel, which would run directly under Fri-Tex Dairy. The Tammingas did not think the radiation would afflict their cows, which drank from two ground wells at the dairy. Kars was more concerned about the economic effect. Radiation, a byword of Cold War weaponry and nuclear energy, today still induces a degree of paranoia. Dairy farming is not a seller’s market; buyers don’t need much of a reason to stop buying, and if consumers heard that the SSC might be introducing even harmless low-level radiation into a local dairy, that could be enough to scare away business, and the dairy Kars had spent his life building would have closed.

The jury evidently agreed, and the Tammingas won. After the SSC was canceled, they bought back their land—though at a loss due to lawyer fees. Kars didn’t doubt that if the SSC wasn’t canceled they would no longer live there. “You can’t win against the government,” he said. During the ordeal, that the Tammingas would have to move was not open to debate. They could only fight for compensation.

The Tammingas elegant stone house rests beside what Kars called the “pool table felt” of a small pasture where his calves are raised. Their yard is kept by a large metal gate and a colonnade that leads the driveway under the porte cochère, beyond which lies a narrow stable and a chicken coop. Dairy farming was not all that different than trying to keep a massive, complex organ alive, one spread out for miles between his pasture, farm, home and fields, an organ composed of animals and people—which he admitted to occasionally seeing as the same. When we’d arrived at his house he left without a word to adjust something by the stable. I waited for him and stared powerlessly at the looming storm. He returned a few minutes later and led me in. The wind was ominous, hot and strong. A cluster of tiger-striped roosters crowed at the dark roil in the sky and took umbrage in his garage. That storm, though, would pass over.

Long before Magnablend purchased it, a group of physicists broke into the SSC facility. Their motive for the clandestine operation was unclear, but they did take many melancholic pictures: arrays of disused fuse boxes; huge empty buildings framed by lorne girders; rectangular pits filled with fire extinguishers and debris; endless concrete paving down empty hallways; an old rusted oil drum outside, whitely stenciled US GOVT. My guides at Magnablend liked to stress the dilapidated state of their inherited buildings. One of them pointed to a bay door on which a cluster of small holes permitted noon’s light — buckshot from the shotguns of bored locals, presumably. The facility had been gutted for wire and vandalized.

The word was there, though nobody said it. The SSC was not deserted or even haunted, it had been *desecrated*. A place of inaccessible pursuit, where men and women came to walk its halls, to spend time dry-eyed before pale monitors and Daedalean equipment, to winnow complexities that take lifetimes to understand, to speak to each other in the old languages: Greek. Latin. Of course, this priestly depiction would make most physicists shudder. The term “cathedral” was applied to modern colliders mostly to convey their baroque complexity and grandeur; to push the metaphor into sacral territory is — many physicists warn — a grievous mistake. Treating physics as a sort of secular religion invites confusion and false hope from the public, from Congress. Physicist Steven Weinberg, while giving Congressional testimony in support of the SSC, once witnessed such a confusion, when Representative Harris Fawell of Illinois queried him.

Rep. Harris Fawell: I wish sometimes we have some one word that could say it all and that is kind of impossible. I guess perhaps Dr. Weinberg, you came a little close to it and I'm not sure but I took this down. You said you suspect that it isn't all an accident that there are rules which govern matter and I jotted down, will this make us find God? I'm sure you didn't make that claim, but it certainly will enable us to understand so much more about the universe.

Rep. Don Ritter: Will the gentleman yield on that? If the gentleman would yield for a moment I would say…

Fawell: I'm not sure I want to.

Ritter: If this machine does that I'm going to come round and support it.

Though he was chastised, Fawell had unwittingly illustrated the deeper public fascination that is today's physicist's greatest fear. The public charge to reveal God in nature is perhaps a little much to ask. And yet physicists love their God talk. Whether it be Newton's biblical veneration, Einstein's "mind of God," Leon Lederman's infamous sobriquet for the Higgs boson (the "God Particle"), or Weinberg's nihilistic proclamations, physicists have never been historically silent on the issue. Especially today, prominent physicists tend to define God — if they do at all — on their own terms: a pantheistic all-encompassing disinterested deity. Nature = Divinity. This is not a new idea, though. The search for the divine in the natural world extends back at least into the Enlightenment, when Fawell's statement would have been less controversial. Not coincidentally, this was also the period when the human mind was placed at the center of creation and — one could say — worshipped. If God was in nature, the mind alone could make the discovery.

My guides at Magnablend led me to a cold hallway down which 29 overhead lights stretched for an eighth of a mile. The walls seemed straight, but if you tracked the lights you could see a slight bend in their sequence, all the way down. For some reason, the radius of the collider's 54-mile ring was felt in the architecture of the building. We had guesses, but nobody knew why. That was the nature of SSC lore — you saw its effect and guessed at its cause. In a narrow room that overlooked the facility floors was a small carpeted dais; we guessed it was for one person, an overseer, whose sole function was to stand all day on that dais, observing the floor below. The guide who'd been struggling to recall that book about the SSC resigned to forward me the information some other time. Last ditch, he canvassed the others. No one could remember the name, but everyone knew it was a novel.

**Correction: A previous version of this article misspelled Teraelectron-volt. We regret the error.*

Tags: WAXAHACHIE, SCIENCE, SUPER COLLIDER

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Join the discussion…

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    class="post-byline" Indiana Pearl • a year ago

    I have a friend, a physicist, who's worked on the Higgs boson for years. He said it would have been discovered years earlier if the Texas facility hadn't been shut down.

    You get what you pay for.

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        class="post-byline" derp Indiana Pearl • a year ago

        what did you get when they discovered the Higgs boson?

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class="post-byline" Great Primate derp • a year ago

distributed computing and cloud computing for starters but I digress to Nick

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class="post-byline" Dan Great Primate • a year ago

wasnt cloud computing and distributed computing around long before the higgs was confirmed?

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class="post-byline" raider4 Dan • a year ago

CERN scientists paved the way for cloud computing and the internet in order to store and share the massive amounts of data the collider was going to generate.

http://www.aps.org/publication...

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class="post-byline" nwkn1g raider4 • a year ago

'Cloud computing' is just a buzz word. A server is a server is a server. Magically, a server has become a 'cloud'

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class="post-byline" locotx nwkn1g • a year ago

Now now . . quit using real logic here. Marketing 101 requires new products to sell to justify all the new marketing thinggies like stress balls, logos, banner, etc... those campaigns cost money. =)

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class="post-byline" someonecares2 nwkn1g • a year ago

I think the point of cloud computing is that one can use someone else's server for free or at extremely low cost. I doubt many believe that the servers actually become clouds.

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class="post-byline" MD nwkn1g • 8 months ago

wow, just because you don't understand how cloud computing works does not magically make it the same thing as a basic server no matter how much you believe it. Belief is a measurement used by fools to understand reality.

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class="post-byline" nwkn1g MD • 8 months ago

http://bit.ly/1xQHB6U

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class="post-byline" MD nwkn1g • 8 months ago

again, simply because servers are used in cloud processing does not make it the same as simply using a server. It is a very complex algorithmic process of storing bits and pieces of information throughout the world on many different servers. I know to you that this is the same as simply using a server but it is not.

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class="post-byline" nwkn1g MD • 8 months ago

Whatever they taught you in ITT Tech or Devry is wrong. Your definition of cloud computing is really a CDN, or content delivery network. Also, cloud computing =/= distributed computing. You should stop now, you're embaraasing yourself...

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class="post-byline" MD nwkn1g • 8 months ago

I love that you feel your view of me should matter. Googling your way to confidence does not make you correct nor does having an unworthy amount of bravado. Using the infrastructure of a world wide amount of servers allows for a

computing platform not seen before cloud computing. And your cynical responses do not change the fact that I am factually correct that cloud computing is different from working with a single server and you are factually wrong.

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class="post-byline" Great Primate Dan • a year ago

Sorry didn't reply, should have typed "huge advances in" before the rest of my comment

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class="post-byline" lundwed derp • a year ago

We gained knowledge when it was discovered, we moved one step closer to understanding our universe, most of the technologies you use today are the byproducts of experiments which people at the time thought were pointless, some discoveries were not properly understood until years later.

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class="post-byline" Gnostradamus derp • a year ago

Idiots. You wouldn't be surfing the Internet right now if scientists didn't wonder if why light travels at the same speed in all directions (compared to sounds from a car in the doppler effect), which led to discovery that time is relative, which led to constant adjustments that help keep satellites in the sky, etc.

Basic science provides dividends for centuries to come. You penny-counting is why we fall behind.

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class="post-byline" MMatic Gnostradamus • 6 months ago

The bourgeoisie do not care about knowledge unless they can exploit it.

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class="post-byline" Kent Betts derp • a month ago

We got a few hundred physicists who have a better idea why matter has mass. The Standard Model of particle physics had a few gaps filled in. Direct benefit to the non-physicist was about nil.

- Reply
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class="post-byline" Arec Barrwin • a year ago

The title of this article is misleading at best. There's almost no discussion of how Texas "lost" the super collider. There's a couple of paragraphs referencing the "less than enthusiastic Clinton" and that's it. The Dallas Observer & New York Times have both done retrospectives that actually answer the question posed by the title to this article.

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class="post-byline" Kent Betts Arec Barrwin • a month ago

Good point, as regard the title not matching the article. That said, the Collider was lost because of weak marketing. I would suggest that they call it "a microscope that can see inside atoms", but they didn't.

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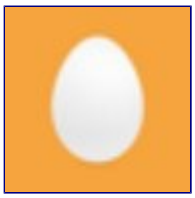

class="post-byline" Arup_2 • a year ago

I cried while reading this.... I am still crying while writing this note

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class="post-byline" X Contra • a year ago

There ought to be a reference somewhere to Kay Bailey Hutchison. I was supposed to go work at SSC. My research director (fiercely liberal Democrat) learned that Clinton cancelled it because TX elected Kay Bailey Hutchison.

But there is no mention of that ANYwhere in this article.

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    class="post-byline" someonecares2 X Contra • a year ago

    Perhaps there is no mention of the anecdote you relay because it is either untrue or absolutely insignificant/inconsequential to the concept of the project? I'd be happy to learn more about the significance if you can supply some facts or evidence.

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        X Contra
        class="post-byline" X Contra someonecares2 • a year ago

        No man, there is no recording of my conversation. :D

        And Clinton will never admit it, though perhaps NSA has his anti-Texas rant on tape. :D

        But my research director was hooked in with the D.C. bureaucracy, mostly Dept. of Energy and NASA, so I believe his statement. It is by way of being a statement against interest, so it has a presumption of being true. Cf., for example, Federal Rules of Evidence #804. His interests were: strongly liberal Democrat party and in favor of big federal $$ grants etc.

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class="post-byline" MD X Contra • 8 months ago

The lies people say online.

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class="post-byline" Kent Betts MD • a month ago

Still, strange that a fiercely liberal Democrat would try to blame something on a Republican.

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class="post-byline" Jay Konopka • a year ago

I worked on the SSC with Grumman back in 89 - Texas was the worst place for the collider, we'd get sent dead cryo circuits covered with fire ants... building in Texas was easily one of the dumbest ideas any politician had - the SSC was a horrible idea being built at the wrong time in the wrong place.

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class="post-byline" someonecares2 Jay Konopka • a year ago

Why was Texas the worst place for the collider, because of fire ants? I imagine a solution could have been found.

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class="post-byline" Jay Konopka someonecares2 • a year ago

well (now that I'm not drunk and angry thinking about that horrible project), from what I remember, huge numbers of fire ants would commit suicide by destroying the magnet & cryo circuits - some engineers thought we could hermetically seal each circuit... but that's really not the solution you want (mainly cost, but maintenance also becomes unmanageable) - I was told (but this is hearsay) that much of the land selected was crappy unsellable land that some politician got the feds to pay for... but again, that's just hearsay that engineers talk about

could these problems be fixed? sure... but the cost would have been overwhelming - even in 89 we knew the SSC wouldn't happen, it was just a matter of time

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class="post-byline" someonecares2 Jay Konopka • a year ago

Interesting. It's a shame that so many opportunities fail, public or private. Effective government can be a force for great good.

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class="post-byline" dontbeaderp • a year ago

ZOMG!! Maybe Texas can double down and be the first to spend trillions to discover what particles the Higgs boson is made of. Then people will truly understand the real benefits of these projects. Only then. I promise. Can I have your money to build it?

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class="post-byline" Gnostradamus dontbeaderp • a year ago

Almost no basic science is immediately marketable, dummy. Think of all the things you learned in science classes. But without them you'd probably be dead already from preventable or curable diseases, and ignorant even of other people because there'd be no cell phones, no Internet, no TV or even radio (because some guy who died penniless decided to imagine how electromagnetic waves would travel in empty space).

No, you wouldn't know science if you're using it.

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class="post-byline" Miles Carter • a year ago

"Five-thousand miles southwest of Geneva, just outside Waxahachie, Texas,"

I knew Texas was big, but it extends all the way to central South America?

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class="post-byline" Gary McCabe • a year ago

TEVA-Electron Volts- not "TERRA".

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class="post-byline" Bob Hawkins Gary McCabe • a year ago

No, the article is correct (except that "tera" has one "r", not two). It's just the standard metric prefix, i.e,, one TeV = one trillion electron volts. "Teva" appears in the name of the Tevatron because that accelerator was intended to reach energies of ~1 TeV.

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class="post-byline" Nathan Cook • a year ago

It was Einstein's Bridge by John G. Cramer. I won't spoil it for you, but suffice to say that it gained fresh publicity when the LHC was suffering bizarre setbacks just before it successfully began operations in late 2009.

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class="post-byline" Jake Nathan Cook • a year ago

Or maybe it was "A Hole in Texas" by Herman Wouk," published in 2004.

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class="post-byline" locotx • a year ago

Don't forget the Higgs Boson discovery and it's conflicts with conservative Christians of Texas, this too was an issue.

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class="post-byline" newsmom4968 locotx • a year ago

how could a population that believes men coexisted with dinosaurs grasp the significance of a SSC?! So sad.

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class="post-byline" Nathan Scott Daniels locotx • a year ago

Your ignorance and bigotry is startling.

- Reply
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class="post-byline" Bryan Richards Nathan Scott Daniels • 3 months ago

People that believe snakes can talk and a person can walk on water do tend to have a hard time understanding reality.

- Reply
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class="post-byline" john • a year ago

Texas is really a backward state in so many ways most educated people really would not want to put up with the poor schools and medical policies of the state government.

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class="post-byline" txmonthlyreader • a year ago

Does TM have any editors? At all?
This piece is about 2000 words too long...its title is misleading..b/c we never find out the machinations of the 'loss'....

I understand you have to have something for the interns to do, but please check their work.

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class="post-byline" cresciteundo txmonthlyreader • 8 months ago

Its easy-- it was C-L-I-N-T-O-N. It would KILL the TM editorial staff to admit it. The "austerity" congress was controlled by the Dems until '94. Ann Richards lost her second term chances although she heavily lobbied the Clinton White House to help support the project. Clinton found all kinds of reasons to raise taxes at this time, but had no time for anyone from Texas.

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class="post-byline" MD cresciteundo • 8 months ago

I am sorry but it's ridiculous to blame this on Clinton when the congress is the body which refused to fund the project. Clinton, when signing for the revocation of the authority for the project. lamented that it was a great loss for science. Yes, he was not the most enthusiastic backer of this project but it was mostly republicans in the house back ten which did not back this. Not all because there were also dems as the country was not as polarized back then and some dems back then were conservatives also. But in general, it was conservatives spurring ignorance at reality like they are doing now, only now the ALL are in the republican party.

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class="post-byline" Paul Fogel • a year ago

Why is there no mention of the exchange between Speaker Foley and the Texas representative who kept chanting "Pork, Pork Democrat Pork" so much that in a pique of frustration the Speaker said: " You don;t like pork? OK the supercollider is dead." and gavel ed the session into close. The look in the tormenter's face was priceless, but the effect has been to make us a second rate scientific source for physics. Our best and brightest have to go to France and De Switz to do their work.

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class="post-byline" JayJ Paul Fogel • a year ago

I was not aware of this. Is there a reference?

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class="post-byline" PAUL JayJ • a year ago

i Witnessed the exchange on C Span. Have not tried to find it there because the search engine on that site is unwieldy.

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class="post-byline" browninghipower • a year ago

For what it's worth....See the film "Particle Fever". It's a magnificent documentary, but the most depressing part is the snippet of the House debate that features the 1993 TX and CO reps arguing against funding the project. Their stupidity is legend and profoundly sad and enraging. The asshole from Colorado actually says Why do we need to spend billions to discover or understand the creation of the Universe when we already know it from the Bible? (I'm paraphrasing here.) Even in a small theater in the US, the groans and head-shaking and utter embarrassment were palpable. I am so ashamed of what these Fundamental anti-science morons have and are doing to my country that I long for rioting in

the streets. No wonder America is a laughingstock around the world.

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class="post-byline" CosmicSurfer • 8 months ago

Its really a damn shame because the Higgs particle could have been discovered right here in the US.

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class="post-byline" Pooua • 8 months ago

As a science enthusiast, I made it a point to make a pilgrimage to the remains of the SSC site in October 2002. I shot several photos of the empty facility, inside and out. I had seen workers on the roof when I first arrived, but when I found an open door, I could not find anyone on the premises. I would like to have explored more, but it is just as well I didn't, as I heard on the radio later that day that someone had been ticketed for trespassing in the facility.

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class="post-byline" eagleon • 7 months ago

"Most physicists were incredulous, and rightfully so, as the “superluminal” neutrinos turned out to be an artifact of miswired fiber optics and a bad atomic clock. It was embarrassing; people resigned. Many physicists condemned the announcement as sensational, a swat at the hard reality of modern experimental physics, which is forevermore Big Science: a political animal of bureaucracy, real estate, diplomacy, rhetoric, and tax-based funding. People have to trust physicists more than ever before, a tall order considering the arcane nature of theoretical science. And yet the tools required to prove or disprove certain hypotheses often require significant amounts of money."

And this right here is everything wrong with "Big Science" in a paragraph. Scientists are not, and should never be paid to be right every single time. If you are paying your scientists to be right, you are paying for them to parrot existing science. No new discovery can be made without some risk of being wrong.

The team reported their observations. The team themselves were skeptical, but their equipment was to blame for its failure, not the fact that they reported it. The media sensationalism roaring into the scene blew the situation out of all proportion to reality - the development of science into what it is today is built on every single mistake that has ever fouled an experiment, not the successes of proven method, and expecting results and methodology to be perfect to exacting detail ignores the fact that we do not and cannot possibly know what that methodology must be before putting it to the test many, many times.

I'm disappointed to hear that the leaders behind these observations have resigned. Another blow against progress dealt by this ridiculous idea from the public that scientists should be infallible prophets, because after all, we gave them loads of money!

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class="post-byline" MMatic eagleon • 7 months ago

Yes, there is a lot of things wrong in modern exact sciences, but compared to everything in society they are practically flawless.

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class="post-byline" eagleon MMatic • 7 months ago

What is that even saying? "Compared to Jupiter, Mt. Everest is practically a grain of sand." Mt. Everest is not a grain of sand. Academia is not flawless. Something is either flawed or it's not, ignoring those flaws because there are bigger flaws in something completely unrelated is just stupid and self-destructive when the resources exist within the system itself to correct them.

http://en.wikipedia.org/wiki/F...
http://en.wikipedia.org/wiki/T...

I don't often downvote comments, especially in response to my own, but yours is such a bland platitude that it's earned it. Congratulations.

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class="post-byline" MMatic eagleon • 7 months ago

First off all, I didn't say academia I said exact sciences, and by that I mean the natural and technical sciences, mathematics and similar things not "science" like psychology or whatever.
And yes, if let's say all the countries in the world were Sweden and a hundred Somalia-like countries then even there is a point in criticizing Sweden instead of all of these other screwy countries, you should remember the context of the larger picture of society. There is no fallacy if you are criticizing the exact sciences for problems which are far more pronounced everywhere else.
So that's how it goes.

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class="post-byline" eagleon MMatic • 7 months ago

http://en.wikipedia.org/wiki/F... again. The problems in academia/"exact sciences" cannot be solved by feeding Somalia. Because there are problems elsewhere in the world does not invalidate attention to the 'smaller' ones that can be fixed by people that have nothing to do with feeding Somalia.

Is this going to be an internet knife fight?

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class="post-byline" MMatic eagleon • 6 months ago

I just meant that if you want to solve problems in academia that you shouldn't start with by far the least offender, that is the exact sciences.

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class="post-byline" eagleon MMatic • 6 months ago

This -is- a problem with "non-exact sciences," whatever that means. Also, to clear up your confusion, psychology and sociology run by the exact same rules for scientific observation as physics - we simply have fewer tools to make mathematically precise observations outside of statistics, but that does not invalidate the use of these observations until we have better, such as BMIs and multiple connectomes diving into the equivalent area for the brain that genetics is in now. Moreover, saying that physics is an "exact science" is akin to saying that we had nothing left to learn about flight after the Wright brothers. We simply do not know how far the rabbit hole goes, and thus how imprecise our understanding of the universe is. Science is not exact and can never be validated as such. We will continue to have experimental error until we stop doing science.

The journal system, the political gaming against the lives of researchers in cutting-edge fields that do not yet have experimental grounding fully developed, and the role of media in warping the image of science is exactly the same in all fields I have examined.

You have "scandal" where, instead of releasing your observations and gaining the insight of other research groups into how their experiment

might have gone wrong, researchers are forced to resign because they were wrong. Do you not see this as an incredible waste of talent and insight in a field starved of new blood?

You have journals that, despite being published for pennies on the web, reviewed by volunteering research leaders out of the need for new data, and staffed by maybe a dozen people moderating the group, still provide reading access and citation rights in the range of hundreds or thousands of dollars -per article-. When we could be gaining the data and insight of an enormously expanded group of independent researchers, the journal system closes science off to the internet and the modern world in the form of PDF flat-files that are correlated and referenced like books instead of digital objects that can be given whatever self-describing powers we can program.

Then you have the media taking up fights they have no part in, in order to draw the casual consumer of scientism, the singularitarians, the technophiles, and the odd kid that may actually be interested in science. Then they turn it into something like Jerry, to be consumed like a tabloid piece, utterly twisting the public perception of science and unfortunately masking these and other real problems from real efforts to solve them. It's not exciting to hear that scientific journals are hard to get to. It's much more exciting to pretend that these researchers were the followers of some sort of false FTL Neutrino God.

Some people don't even know what a scientific paper is or what it looks like - I know someone that assumed that scientists communicated through the press, The idea that he could contribute to science was alien to him. He doesn't have a particle collider, never mind that we could build more of them. He isn't a 'genius' never mind that almost no one is in science either, just like almost no one in the world is a genius. There is too much science being done for it to all be done by geniuses, and yet it was some prestigious, almost holy place to him. As if collecting water samples is some monumental task beyond his puny sub-human brain.

So yes, there are other problems in academia. But it's ridiculous to assume that physics is somehow exempt from them and 'exacter' because it's using more electricity.

see more

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class="post-byline" MMatic eagleon • 6 months ago

I agree with much of your points, however physics is exact, whereas psychology and sociology is pseudoscience. And I am one of a growing number of actual scientists, working in an actual science where (at least most) people care about intellectual integrity, who are tired of pretending that know-nothing pseudo-intellectual "psychologists" and their ilk are our peers. Whereas we do not consider any empirical data as serious evidence without at least 5 sigma certainty, you drool over 2-3 sigma. Whereas we have mathematical theorems founded on pure logic, you have correlations and statistical methods most of you do not understand.
You are part of the problem you mention. You give the wrong idea of what science is. And you have the arrogance to say that physics, which gave you the entire modern world and the very computer you are using, is only difference because it uses more electricity. Physics and the related sciences accomplished everything worth mentioning in science, whereas

psychology and sociology accomplished nothing and they will never accomplish anything because they are a worthless waste of time and should be purged from Academia along with every other bourgeois ideological pseudoscience.

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class="post-byline" MMatic • 7 months ago

The cancellation of the SCSC is an example of one of the reasons the notion of bourgeoisie democracy will fail.

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class="post-byline" Sojourner Lady • 3 months ago

http://www.pbs.org/wgbh/nova/p...

Seems as though they're getting ready to re-open this project again THIS YEAR, 2015! See the above PBS NOVA link, above.

In the beginning, some 30 or 40 years or so ago, if I remember correctly, they were calling it the Super Collider.

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class="post-byline" Samuel Elliott • a month ago

A Hole in Texas by Herman Wouk

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