

Disasters, Arrogance and Greed: From The Titanic to Fukushima (and the one person who could have made a difference)

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May 31, 2011



The wounds

suffered by the survivors and shown by the bodies of the dead are of a shocking description. In some cases the flesh is torn in shreds, exposing the bones beneath; in others the eyes are forced from their sockets; in others the victim looks as though he has been plunged into boiling water and almost every body shows purple spots as if it had been forcibly pelted with fragments of stone and iron.

—An unsigned description of the 1896 tsunami that hit north-Eastern Japan with a 110-foot wall

of water, killing more than 28,000.

Accidents are rarely accidental. Paradoxically, there is almost always one person who could have spoken up courageously and prevented a catastrophe. This article explores why they didn't do that. The tragic and avoidable accidents from recent history, that I describe here, are the result of various combinations of cost-cutting for profit, risk-taking for fame, or ignorance of the complexities of modern systems.

In his wonderful book

The Black Swan, Nissam Taleb vigorously points out that leaders and planners tend to underestimate and neglect the potentially devastating calamities that can occur as the result of highly improbable events until *they finally do occur*. Today we are seeing the entire country of Japan brought to its knees because some planner didn't take account of the *possible* occurrence of giant tsunami

waves that do occur, but less often than once in a century. Anyone who has lived as long as I have

has learned to create an internal "payoff matrix" before he leaps to the next great opportunity. This is a statistical tool that is useful in keeping you alive. You estimate "what is the worse thing and the best thing that could happen" in this situation. And then multiply each by the probability of its occurrence. For example, the upside might be an unbelievably exotic and romantic adventure with a new and desirable partner! And the downside might be the remote possibility of AIDS. The analyst learns to avoid attractive opportunities like this, in which the payoff matrix contains a +++ in one of the squares, and a "minus-infinity" (death) in the other square — even if the probability is really pretty small. If the payoff is national destruction and calamity, we don't build the nuclear power plant eighteen feet above high-tide, even though the twenty-foot tsunami comes only once a century. And above all. We don't put the back-up generator in the basement!

The story I present here is about a world of calamitous accidents, all of which could have been avoided. They represent a grisly and unnecessary loss of life in addition to the loss of many billions of dollars. Perhaps you recall that, before he resigned — under pressure — George W. Bush's Attorney General Alberto Gonzales told Congress that "**mistakes were made**" in the firing of U.S. Attorneys. Senator John McCain used the same locution in describing the conduct of the war in Iraq. The idea that "mistakes were made and lies were told" is a popular distancing device—a Nixon-era political contrivance to indicate that something went terribly wrong, but "It wasn't me.

I didn't do it." (This last quotation appears on tee-shirts available from your local bail bondsman.) In the tragedies I will describe here, the mistakes and the lies belong to the rich and powerful. The dismaying result is that none of the perpetrators went to prison—which differs from the case of the bondsman's usual customer, who tends to be poor and disenfranchised.

I am well aware of the problems faced by men and women in the trenches, who see something going wrong, but cannot get a hearing for their concerns. Karen Silkwood at the Kerr-McGee nuclear plant comes to mind. You will remember that she was mysteriously murdered as she was on her way to a press conference to talk about negligence at the nuclear plant. So this is serious business.

As a physicist with a professional career spanning forty-five years in research, development, production and aerospace, I am aware of the dangers in high-level undertakings. I began work as a researcher and pioneer in the development of the laser in the late 1950s — recruited out of graduate school at Columbia University to work on the exciting laser project while it was still unfolding in the mind of Gordon Gould, its creator. In my last industrial job, I was a project manager standing on the tarmac at Kennedy Space Center measuring the winds along the space shuttle's trajectory — using a high-power laser system I developed with my team at Lockheed Missiles & Space. So this is a high-risk world I understand. Since 1962 I have ridden my motorcycle through the foothills and potholes of Silicon Valley, while working for Sylvania, Lockheed and Stanford Research Institute.

There is a category of mishaps called "normal accidents," in which a tightly-coupled complex system experiences multiple unexpected component failures. The initial phases of the catastrophic failure of Three Mile Island nuclear power plant was of this type. It wasn't until the operators made some bad decisions that the situation became hopeless. In the end, even with clueless operators, a total meltdown was avoided. With modern technology and massive redundancy, these types of accidents are mercifully rare. In aerospace we have an expression that I have heard many times, "We can make the system foolproof. But we can't make it damn-fool proof." For example, if a modern airplane's electrical or hydraulic system fails, the backup systems will usually come to the rescue even for such a major systems breakdown. However, if the pilot is intoxicated, or has a stewardess on his lap (as in one of our examples), the situation is usually beyond repair. I hear you saying, "A thing like that could never happen." But we are talking here about world-class accidents that did in fact

occur. They require world-class stupidity or arrogance for their occurrence. (Just think, if Monica Lewinsky had chosen to have her now famous blue dress dry-cleaned to remove all traces of the president's DNA, the forty-third President of the United States would have been Al Gore instead of George W. Bush, and the world would be a vastly different place than it is today — no war in Iraq, etc.)

I will briefly summarize the ten cases I have chosen to present, illustrating the extent to which greed and ignorance are sufficient to bring down even the largest edifice or most foolproof contraption. It does not require an earthquake nor a bolt of lightning.

Icebergs

and Arrogance: One of the most famous disasters of our time is the 1912 sinking of the ocean liner Titanic during a moonless midnight race to set a trans-Atlantic speed record. The ship roared at its top speed through the icebergs of the North Atlantic, while other nearby ships waited for sunrise to reveal the iceberg hazards. Meanwhile, six warnings were received by the Titanic's radio operator, but the captain was too busy entertaining high society passengers to get the message. The ship struck the iceberg just before midnight, with the loss of fifteen-hundred lives in the freezing water. The calamity was exacerbated by the fact that the ship had only the minimum allowable number of lifeboats, to allow dancing on the top (lifeboat) deck! (Interestingly, the entire event was foretold fourteen years earlier by Morgan Robertson's 1898 book *The Wreck of the Titan, Or Futility*. Robertson, an American writer, correctly prophesied the length, displacement, number of waterproof compartments and ultimate fate of the then unconceived and unbuilt ship.)

Molasses

in January: To my mind the most bizarre of the calamities fitting my greed and ignorance model is the great two-million gallon Boston Molasses Catastrophe of 1919. The fifty-foot high, ninety foot diameter tank filled with molasses was designed by Mr. Arthur Jell, the chief *accountant* of the U.S. Industrial Alcohol Company (USIA), and built in one of Boston's most crowded slums. There was no building inspection conducted, because the Boston building department was convinced that this enormous structure shouldn't be considered a building. Its continual leakage of molasses from all its plates was dealt with by a coat of molasses-colored paint. Finally, in a rush for one more shipment of molasses to the rum makers before Prohibition became the law of the land, the tank was filled to capacity. Although there is nothing as slow as molasses in January, the tank collapsed at noon, flooding the streets of Boston's North End with a twenty foot wave of sticky, gooey death — killing twenty, injuring more than a

hundred, and taking down the elevated railroad tracks. After six years of litigation, USIA was found guilty of negligence and fined \$600,000, equivalent to about \$30 million today.

Tragic Weakness in the Chain of

Command: One of the events with which I had some personal concern was the explosion of Space Shuttle Challenger, launched with its attendant rockets on a clear cold morning of January 28, 1986. It was the 25th shuttle into space—the tenth flight of Orbiter Challenger. This was one of the most publicized launches because it was the first time that a civilian — a school teacher, Christa McAuliffe — was going into space and she was invited to speak *live* during President Reagan's state of the Union address. The launch of Challenger had been delayed five times due to bad subfreezing weather at the Cape. And January 28 was by fifteen degrees the coldest day on which NASA had ever launched. Not surprisingly this launch was decried beforehand by all the experts. The Lockheed engineers measured the temperature of the O-rings and found them too cold to contain the hot exhaust gas. *They would not give NASA a variance to launch.* Neither would the design engineer, Roger Boisjoly (now a celebrated whistleblower), at Morton Thiokol who designed the rocket and containment system. Finally, under considerable pressure, NASA's administrator William Graham (presidential campaign advisor to Reagan who appointed him to NASA) called the president of Thiokol and ordered him to provide a variance to launch, or risk losing their billion dollar contract. In the conflagration that followed, the Challenger's seven crew members were all killed when the ship exploded at thirty-five thousand feet. The flames burned through the frozen O-ring, while the forces of a surprising and unseen 100-knot windshear ripped the craft apart. My job became the investigation of the part windshear played in the crash.

The

Culture of NASA: Similarly, the disintegration of Space Shuttle Columbia, on February 1, 2003 was probably an avoidable tragedy. Politics and NASA's head-in-the-sand approach trumped obtaining launch damage data from classified Air Force spy satellites. A suitcase-sized piece of insulation foam had been photographed as it fell from the fuel tank and hit the wing of the shuttle at launch. But the extent of the damage from this five pound missile traveling at five-hundred miles per hour was never assessed. We all recall that Columbia broke up fourteen days later upon re-entry, as super-heated plasma entered a hole in the left wing punched by the falling foam, killing its seven astronaut crew. If a damage assessment had been made in a timely fashion, as was

desperately attempted by one NASA engineer, investigators believe that the ship might have been repaired in flight by the crew, or rescued by another shuttle that was on the pad almost ready for launch. But that was not the top-down NASA culture at the time. The engineer was not allowed to send his info up the line.

Silkwood:

The nuclear melt-down movie *The China Syndrome* was released just before the accident at the Three Mile Island nuclear power plant, which occurred at 4AM, on March 31, 1979. The Karen Silkwood case is one of the sources for the movie. Silkwood had discovered evidence of falsified quality control data at the Kerr-McGee plant near Crescent, Oklahoma where she worked as a technician, and like Hector in the movie, she fell victim to a supposed accident as someone rammed her car off the road from behind while she was on her way to deliver the evidence to the press. I saw the film the day before the accident. And when I heard of the disaster on the radio the next morning, I thought it was a movie trailer. (These things always happen on the graveyard shift — in the industry there is a phenomenon known as "wide awake at 3AM," after a book of the same name.) The near melt-down of this 850-megawatt power reactor outside Harrisburg, Pennsylvania was contained by the thick steel containment vessel (unlike Chernobyl). The reactor spontaneously shut itself down ("scrammed") in response to spurious internal signals — which also disastrously shut down the cooling water pumps. Many books, and tens of thousands of pages of findings have been written on this immensely complicated accident which released 43,000 curies of radioactive krypton into the atmosphere — luckily with no fatalities. From my point of view, the principle cause of the accident was not the inappropriate action of the two sleepy operators who closed off the cooling water when they should have opened it up. It was that they simply didn't know how to respond to two pressure gauges giving contradictory readings. In my opinion they just guessed wrong, although the *President's Report* blames them. The other contributing factor in play here was a *major cost-cutting operation to reduce maintenance costs* by Metropolitan Edison, who was the owner and operator of the plant. For unknown reasons the two large valves that control the back-up cooling water had been manually closed two days before the accident, and evidently nobody noticed! If the valves had been properly inspected and opened *there would have been no calamity*, even with the accidental shut down. Obviously, the technicians operating the system could also have been better trained. As with most accidents, there were numerous factors-and

numerous mistakes. Unfortunately, reactor operators save lots of money by eliminating inspections. But here we are thirty years later.

*New
York Times, May 8, 2011*

NUCLEAR AGENCY BESET BY LAPSES

Critics Say Watchdog Is Too Close To Industry

In the fall of 2007, workers at the Byron nuclear power plant in Illinois (just outside Chicago) were using a wire brush to clean a badly corroded steel pipe—one in a series that circulate cooling water to essential emergency equipment — when something unexpected happened: the brush poked through. The resulting leak caused a 12-day shutdown of the two reactors for repairs. The plant's owner, the Exelon Corporation, had long known that corrosion was thinning most of these pipes. But rather than fix them, it repeatedly lowered the minimum thickness it deemed safe. By the time the pipe broke, Exelon had declared that pipe walls just *three-hundredths of an inch thick* — less than one-tenth the original minimum thickness — would be good enough. [This is also not an "accident."]

Pass the

Vodka: Several years after Three-Mile Island, on April 26, 1986, at 1:30 AM reactor number four at the Chernobyl power plant in the northern Ukraine exploded releasing into the midnight air four-hundred times more radiation than the atomic bomb dropped on Hiroshima. It would require the resettlement of more than 300,000 people, and is thought to have caused 4000 additional cancer deaths. The explosion blew the 2000-ton concrete top off the intensely hot reactor, spreading debris over hundreds of miles-*because there was no containment vessel of any kind for the reactor!*

(Who needs a expensive steel containment for a well tested reactor?) A safety test had been planned for the reactor the previous day, but it could not be concluded before the next shift. To briefly summarize the Chernobyl Reactor disaster: Late that night two technicians decided to do the safety test themselves, which involved carefully *reducing the cooling water* to the reactor — always a delicate operation. Next, one must *even more carefully* withdraw two of the control rods while monitoring the reactor power. (Incidentally, this reactor was three times the size of Three Mile Island-several gigawatts.) As the two techs huddled over the still-surviving scribbled notes that had been left for them, the reactor

violently spiked in energy and heated up so exponentially that the control rods could not be pushed back into place. Thus the core overheated, melted and went critical. Once again, wide awake at 3AM — this time at 1:30AM. We know the tragic end. (In my experience, over several years in various Russian labs, nothing happened without a couple glasses of vodka-although that doesn't usually appear in the accident report.)

The

Unfortunate Nearsighted Telescope: The \$2.5 billion Hubble Space Telescope was carried into orbit by the Space Shuttle Discovery in April, 1990. Hubble's position outside the Earth's atmosphere allows it to take extremely sharp images with almost no background light. The mirror and optical systems of the telescope were the most crucial and complex part, and were designed to exacting specifications. Construction of the eight-foot mirror by the highly regarded optical company, Perkin-Elmer began in 1979, starting with an optical blank manufactured by Corning from their ultra-low expansion glass. Within weeks of the 1990 launch of the telescope, the returned images showed that there was a serious problem with the focusing of the optical system. Analysis of the flawed images showed that the cause of the problem was that the primary mirror had been ground to the wrong shape.

A commission
headed by Lew

Allen, director of the Jet Propulsion Laboratory, was established to determine how the error could have arisen. The Allen Commission found that the main null corrector lens — a device used to measure the exact shape of the mirror, had been assembled incorrectly by the optical shop at P&E fabricating the giant mirror. But luckily the Quality Assurance department had its own precision test lens to evaluate the mirror. When the mirror got to QA it failed to show the proper curvature. From this point on, we can say "mistakes were made": Perkin-Elmer was way behind schedule and over budget on the mirror. So, rather than try to reconcile the two discrepant measurements they said-you guessed it-"let's go with the guys who made the mirror. To hell with QA." Thus the nearsighted Hubble Space Telescope mirror was shipped to Lockheed for assembly and integration into the space craft module.

Lockheed's

optical shop performed their integration and proposed to test the telescope from end-to-end. NASA's cost cutting management said, "Don't test it, just launch it," even though the mirror failed some of the maker's tests! Lockheed's optical shop eventually had to design corrective lenses for the Hubble, which

now allows it to take the beautiful and inspiring pictures we have been looking at for the past decade. My Lockheed colleague Paul Robb, was head of the Optics Department at that time, and he was able to fill me in on the gory details.

Doomed

to Crash: I joined Lockheed Research and Development Laboratory in September 1985, with the intention of investigating the use of lasers to detect windshear in front of aircraft to prevent crashes from that source. In August 1995 a Lockheed L-1011 crashed at Dallas-Fort Worth airport due to windshear, killing 130 on board. The last words from the pilot as he headed into the torrential down-burst were, "I guess we're going to get the plane washed." So, Lockheed and NASA were both very supportive of my recently proposed (1986) *premonitory*

detection program. While building my laser wind sensor hardware, I had also carefully examined several windshear plane crashes. The karmic crash of Northwest Flight 255 on August 16, 1987, which killed all but one of its 156 passengers, was one of the most shocking to me.

I call this crash *karmic* because

of the very large number of factors all contributing to the tragic event. (In Buddhism, one of the understandings of karma, is the immutable law of cause and effect. If one makes bad decisions his whole life, then he is going to suffer.)

The McDonnell-Douglas MD-82 had been scheduled to fly from Detroit to Los Angeles with a layover in Phoenix. It was 8:00 in the evening and the totally-filled aircraft was sitting on the tarmac where the temperature was still eighty-five degrees. (A full aircraft and hot weather both require extra energy and lift to get off the ground.) But, unfortunately the aircraft was ordered to move from the longest runway to a shorter runway, due to crowding. As the plane taxied to the new runway, the pilot and a stewardess who was also in the cockpit were engaged in an energetic hopeful conversation about their forthcoming layover at Sky Harbor airport in Phoenix. Apparently, to get rid of the annoying annunciator voice which kept calling out "Flaps. Flaps" the pilot tripped the circuit breaker which controlled the system that alerts the pilot to the fact that he is taxiing without flaps, which are of course essential for takeoff. So enthralling was their *rendezvous* conversation, that the pilot neglected to perform the checklist before take off, nor did he remember to set the flaps. The reason that I was reading this fateful cockpit voice-recorded transcript (later sanitized in the published NTSB version), was because there had been a twenty knot windshear at the end of the runway, which further contributed to the crash. I am sorry to say that the happy couple in the cockpit, along with all but one of the passengers and other crew were dead forty-five seconds after the last of their giggles.

The

Apogee of Greed and Arrogance: Enron's iconic fifty-story oval glass headquarters in Houston is emblematic of the house of cards that Enron comprised. It was a virtual company with virtual profits, featuring fictitious *special purpose entities* (SPEs)

generally located off shore. I'm sure you are aware that it was the Enron scandal has led to the revival of the term "Ponzi Scheme." They managed to control vast amounts of U.S. energy generation capacity, causing unnecessary brown-outs in California, and the subsequent recall and dismissal of its governor, Gray Davis. Without Enron, *there would have been no Governor Schwarzenegger*. The Directors of Enron have been accused by members of the US Congress and others of operating a vast fraud where the primary return to the upper management was from recruiting and inventing new businesses rather than from the sale of a product or making a profit. This kind of pyramid strategy is often referred to as a *Ponzi Scheme*-named after Charles Ponzi,

an immigrant to Boston in 1919, who made millions in the 1920's before he was sent to prison. The distinguishing feature of a Ponzi type pyramid is that old investors are paid back with funds received from new victims. As long as the fraud continues to grow, the investors are not usually aware that their money has been misappropriated. Most Ponzi schemes are uncovered when new "investors" can no longer be located. In the case of Enron, obvious mistakes were made, and lies were told. The whole massively unstable edifice came catastrophically tumbling down when it became known to the share holders that there were *no actual profits* at

Enron. The corporation collapsed just like a nuclear power plant suddenly going critical. It eventually became clear that the whole thing was an illusion.

Enron was a fifteen-year adventure with a huge and complex organization based on greed and corruption. The company lost \$50 billion in its last month and went bankrupt in 2000-causing tragic financial losses to its thousands of workers whose pensions had become worthless. It also destroyed the esteemed accounting firm of Arthur Anderson, who had used its prestige to endorse Enron's lies.

Who

Didn't know It Was A Bubble?: Perhaps closest in memory is the Great Crash of 2008. After 150 years of distinguished service Lehman Brothers went bankrupt while trying to entice customers to invest in the exciting \$45 trillion worldwide opportunity of *credit default swaps-betting against their worthless bonds*. Financial guru Alan Greenspan recently said before Congress:

"I have made a mistake... I have found a flaw in my fundamental ideology, markets don't correct themselves. Those of us who have looked to the self-interest of lending institutions to protect shareholders' equity, myself included, are in a state of shocked disbelief!"

By implication,

Ayn Rand, Greenspan's mentor, was wrong about the desirability of totally free markets. In 1958, I was deeply engrossed in the mid-Manhattan salon of the Russian-born novelist and Libertarian philosopher Ayn Rand — which was held in her luxurious apartment. Alan Greenspan was also a regular — and cranky — attendee, already clad in his ubiquitous pin-striped suit. In a letter to the editor of the *New York Times* about her just-published, mammoth novel of capitalism, he wrote, "*Atlas Shrugged* is a celebration of life and happiness. Justice is unrelenting. Creative individuals and undeviating purpose and rationality achieve joy and fulfillment. *Parasites who persistently avoid either purpose or reason perish as they should.*"

Traditionally, banks lend money to homeowners for their mortgages and retain the risk of default, called credit risk. However, due to twenty-first century financial innovations, banks can now sell *rights* to the mortgage payments and pass-on related credit risk to other banks and securities dealers through a process called securitization. Until 2000, the Roosevelt era *Glass-Steagall Act* prohibited banks from offering investment, commercial banking, or insurance services. But the Republican driven *Gramm-Leach-Bliley Act* of 1999 allows commercial and investment banks to consolidate and *create securities* out of their junk mortgages. That is, your local bank can now wrap up hundreds of worthless home loans in tinfoil, tie them with a ribbon, and call them securities. A bank no longer cares whether or not the borrower will ever pay back the loan, because it will soon be bundled and sold to someone else. These are called "ninja" loans — *no income, no job, no assets*. This new "originate to distribute" banking model means credit risk has been distributed broadly to investors around the world, with a series of consequential impacts. Economists have criticized Texas senator Phil Gramm's deregulation Act as a principal contribution to the on-going subprime mortgage financial crisis, arguing that the "bail out" amounts to corporate welfare for financial institutions and a moral hazard that will make taxpayers pay dearly—\$700 billion so far. Banks used to hold their loans, and therefore made sure that they were backed by collateral and the borrower's ability to pay the mortgage. It is especially

interesting to note that in the financial meltdown of 2008, the U.S. Treasury Secretary, Henry Paulson decided to give several billion dollars to his old firm, Goldman-Sacks, while letting his old adversary Lehman Brothers go bankrupt with no financial aid what-so-ever. The men who sold the worthless bonds, called the transactions IBG/YBG trades-I'll be gone/you'll be gone! Such is the kingdom of heaven. But disasters have always been with us.

The Hundred-Year Black Swan: One final disaster flashback. Consider the 1896 tsunami that swept into and destroyed a good part of North-eastern Japan in 1896, with 28,000+ fatalities. This 100-foot high wall of water blasted the harbor at a 100 miles per hour and swept many miles inland. As I was completing this article, we have been greeted with the March 11, 2011 disastrous breaching of the seawall at Japan's Fukushima-Daiichi nuclear plant in North Eastern Japan. Not far from the 1896 disaster just described.

The Fukushima

reactor was built five-and-a-half meters above sea level in a location whose average tsunami had been eight meters high for the past thousand years. And of course the generators to supply cooling water were installed in the basement. It's known that Japan's nuclear regulators and the operator of the crippled Fukushima reactors were warned that a tsunami could overwhelm the plant's defenses, but they failed to acknowledge the threat. The minutes from a government committee show that the Trade Ministry dismissed evidence two years before the disaster from geologists that the power station's stretch of coast was overdue for a giant wave. Tokyo Electric Power Co. engineers didn't heed lessons from the 2004 tsunami off Indonesia that swamped a reactor 2,000 kilometers away in India, even as they advised the nuclear industry on coping with the dangers.

Tokyo

Electric's Dai-Ichi plant successfully withstood the impact of Japan's record March 11 earthquake, only for a wall of water to knock out generators needed to keep its reactors cool. The cost of the miscalculation is still mounting as explosions and fires at the plant cause radiation leaks that force the evacuation of more than 200,000 people and contaminated drinking water and food supplies.

Underscoring

the Japanese government's failure to foresee the risk posed by tsunamis to nuclear power plants is the country's national report on nuclear safety, filed with the International Atomic Energy Agency in September 2010. The 194-page

document discusses detailed earthquake mitigation measures 74 times. Tsunamis are mentioned twice, both times in reference to a working group studying the issue. Furthermore Tokyo Electric's sea-wall defenses for the Dai-Ichi plant were built under the assumption that the coastline on which it sat wasn't prone to tsunamis higher than 5.5 meters, said Yoshimi Hitosugi, a Tokyo-based company spokesman.

As an historical precedent an 8-meter tsunami that hit Japan's northeast in the year 869 swept as far as four kilometers inland at Sendai Bay, stretching south toward the Dai-Ichi plant. "A repeat could occur soon," because sediment samples showed the tsunami had a pattern of recurring every 800 to 1,000 years, according to a 2001 report by a research team funded by the government's Science Ministry.

Minutes of a committee meeting held by the Trade Ministry to assess reactor safety on June 24, 2009, show that Yukinobu Okamura, who heads the government-funded Active Fault and Earthquake Research Center, asked Tokyo Electric why it hadn't taken on board evidence of the tsunami risk. "We didn't think the damage would be that significant," replied Isao Nishimura, a manager at Tokyo Electric's nuclear earthquake resistance technology center. When will we ever learn?

Update: ANEYOSHI,
Japan -The April 20, 2011 New York Times writes:

"The stone tablet has stood on this forested hillside since before they were born, but the villagers have faithfully obeyed the stark warning carved on its weathered face: Do not build your homes below this point!' Residents say this injunction from their ancestors kept their tiny village of 11 households safely out of reach of the deadly tsunami last month that wiped out hundreds of miles of Japanese coast and rose to record heights near here. The waves stopped just 300 feet below the stone, and the village beyond it."

Like most of the terrible events described in this article, this most recent one described above, was not at all improbable. In fact it was almost certain to occur, only its time of occurrence was uncertain. And a stone marker showed where one must never build. The take-home message is that greed and arrogance is the cause of most of our suffering — both personal and institutional — and will always get us in the end.

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