

The 9/11 Truth Movement: The Top Conspiracy Theory, a Decade Later

After ten years, the pesky 9/11 Truth movement has refined its arguments but still hasn't proved the attacks were an inside job. Their key claims are refuted on multiple grounds. The conspiracy theories started flying just days after the September 11, 2001, terrorist attacks on New York and Washington, DC. Over the decade since, several technically elaborate claims have been refined by the “9/11 Truth” movement. Do these intricate arguments—including the rapid collapses of the towers, alleged evidence of thermite usage at Ground Zero, and the collapse of World Trade Center (WTC) 7 (a forty-seven-story building damaged by the fall of WTC 1) “into its own footprint at freefall acceleration”—disprove the mainstream consensus that the September 11, 2001, attacks were the work of al-Qaeda terrorists using hijacked airplanes? In a word: No.



The Players

Dylan Avery and Jason Bermas, the creators of the low-budget documentary film *Loose Change*, did much to give the 9/11 Truth movement significant momentum in 2005 and in following years. The film, which has undergone several revisions, has been shown on many television stations but is primarily an Internet and DVD

phenomenon. Its basic claims are that Flight 77 could not have accounted for the damage at the Pentagon, that the Twin Tower fires were insufficient to cause their collapse, and that cell phone calls from the hijacked airplanes would have been impossible at the time (Avery 2009).

David Ray Griffin is a theologian whose voluminous writings on 9/11 are frequently cited by other 9/11 theorists. NASA scientist Ryan Mackey has written a very thorough critique of Griffin's claims (Mackey 2008).

Once known as Fleischmann and Pons's competitor for “cold fusion” research in Utah, Steven Jones has written several 9/11 Truth articles. His work with others (including chemist Niels Harrit of Denmark) on detecting nanothermite in WTC dust is frequently cited as “peer-reviewed research” that proves “inside job” claims.

Physics teacher David Chandler has produced several papers and Internet videos contending that high school physics easily shows that the tower collapses could not have happened from gravity alone. He claims this proves that explosives must have been used. In the past few years, architect Richard Gage's group, Architects and Engineers for 9/11 Truth (AE911 Truth), has provided “Truthers” with the ability to claim that thousands of engineering and architecture professionals demand a new investigation into the cause of the attacks. Gage travels the world giving presentations, and his group puts on news conferences and mock debates several times a year (but most often around September 11, the anniversary of the attack) (Thomas 2009; Thomas 2010c).

Hollywood stars who have publicly supported 9/11 Truth claims include Rosie O'Donnell, Charlie Sheen, and Ed Asner. Sheen often talks 9/11 with radio host Alex Jones (www.infowars.com). These celebrities frequently cite (and sometimes mangle) claims made by Truther proponents like Griffin and Gage. Former wrestler and Minnesota governor Jesse Ventura has done two 9/11 conspiracy shows on his TruTV series *Conspiracy Theory* (see [“Dave Thomas vs. Jesse Ventura: The Skeptical Smackdown”](#)).

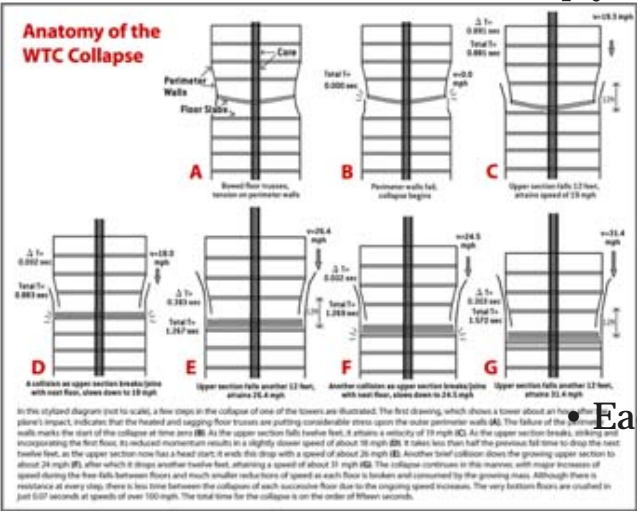
The Claims

As with any well-developed pseudoscience, literally thousands of individual arguments can be advanced in support of the proposition that the United States secretly carried out the September 11 attacks. This report will examine the most enduring and oft cited of these claims: “free fall” of the towers, reports of thermite and molten steel, and WTC 7’s curious collapse. Some of the factions that have developed (such as the “no-planers”) will also be described briefly.

Claim One:

“The Twin Towers collapsed at free-fall accelerations through the path of greatest resistance.”

Perhaps the most bizarre aspect of September 11 was the rapid destruction of both 110-story Twin Towers: after the collapses began due to cascading structural failures at the airplane impact locations, each tower fell completely in just fifteen to twenty seconds. Mainstream scientific analyses, including years of work by the National Institute of Standards and Technology (NIST), generally looked at the *cause* of each collapse: the intense fires (started by jet fuel and fed by office contents and high winds) eventually caused floor trusses to sag, pulling the perimeter walls inward until they finally snapped. At this instant, the entire upper section of each tower fell the height of one floor, initiating an inevitable, progressive, and utterly catastrophic collapse of each of the structures. While the mainstream explanation (dismissed as the “official story” by 9/11 Truthers) usually ends with the initiation of these unstoppable collapses, the 9/11 Truth movement’s attacks begin there. Gage of AE911 Truth says on that group’s website, “Destruction [of the Twin Towers] proceeds through the path of greatest resistance at *nearly* free-fall acceleration” (Gage 2011; emphasis added). Many 9/11 Truther pundits drop the “nearly” and say simply that the collapses *were* at free fall. Truthers then insist that free fall acceleration indicates a complete lack of resistance, proving that the structures were demolished with explosives. We are also told that the sheer mass of the towers, “80,000 tons of structural steel,” would simply resist collapse.



[View full-size chart.](#)

How *could* the buildings fall so quickly? It’s been explained very well in the technical literature by Northwestern’s Zdenek Bazant, PhD, and others (see, for example, Bazant 2008). I’ve developed a simpler physics model of the progressive collapses that agrees quite well with the main points of Bazant’s more rigorous results (Thomas 2010b). Here are some of my findings:

- Each floor of the towers contained over two million kilograms of mass. The gravitational potential energy of a standing tower with twelve-foot floors

extending upward 110 stories can be calculated straightforwardly; it comes to over 420 billion joules of energy, or the equivalent of 100 tons of TNT per tower. This energy, which was released completely during the collapses, is more than the energy of some of the smaller nuclear weapons in the U.S. arsenal, such as the W-48 (72 tons TNT) (Sublette 2006). This is where the energy required to break columns, pulverize concrete, and expel debris through windows came from. (Truthers often compare such expulsions of air and debris, visible several floors below the collapse fronts, to “squibs,” explosive devices often used in demolitions. However, they are readily explained by pressure changes as the towers, acting like a gigantic bicycle pump being compressed, collapsed.)

- The Twin Towers used a “tube within a tube” architectural design, which provided considerable open office space in the interiors of the Towers. Much of the structural support was provided by a dense grouping of thick central core columns in the interior and the perimeter walls on the outside. When the towers began to collapse, large parts of the inner cores (called “the Spires” in 9/11 Truth circles) were actually left standing, briefly, before they, too, toppled over. The perimeter walls were largely forced to peel outward in large sections, producing the iconic images of Ground Zero with which we’re all familiar. Between the outer perimeter and the inner core, the weight of the upper sections plowed through one floor after another, breaking the floor connection brackets and support columns, pulverizing concrete decks, and gaining momentum and mass with each additional floor failure. Had the buildings been constructed differently (the Port Authority was allowed to circumvent some existing New York buildings requirements for the Towers), the collapses might not have even happened (Young 2007).
- Even the 9/11 Truth movement’s most eminent physicists are confused about the basic principle of the difference between static and dynamic forces. A piece of paper, taped across a jar’s opening, will support a heavy coin such as a quarter indefinitely (static load). However, if the coin is dropped from just a few inches up, it will tear right through the paper (dynamic load). Given the information at hand—for example, the mass of the upper section of the north tower (fifty-eight million kilograms), the distance it fell (3.8 meters, about twelve feet), and the stiffness/rigidity of the lower structure itself, the dynamic force imparted on the lower section can be estimated as some *thirty times* the upper portion’s weight. This is many times the lower structure’s safety margin, which explains why it was quickly overwhelmed.
- Once progressive collapse began, there were decreasing time intervals of free fall (between floors), punctuated by very brief, incredibly violent collisions —*decelerations*—of the upper mass, for each floor in turn. There was resistance at every step of the collapse, as the upper section collided with and incorporated each floor below. Conservation of momentum shows that the reductions in falling speed were slight as each floor was impacted, going as the ratio of floors before to floors after (e.g. 14/15, or about 94 percent, for the first impact). Accordingly, the upper section fell from rest to about 19 mph, was slowed down to 18 mph by the first impact, continued to fall until a speed of 26 mph was reached, was then slowed down to 24 mph by another impact, and so on. While the first plunge lasted about nine-tenths of a second, the upper section took only four-tenths of a second to fall through the next floor, three-tenths of a second for the next one, and so on until the

bottom floors, which were crushed at a rate of just *seven-hundredths of a second* each, at speeds of over 100 mph. Yes, there was resistance at every step, as many tons of structural steel was demolished; yet the entire process, like an avalanche, lasted only fifteen to twenty seconds, about 50 to 100 percent longer than true “free fall” would have lasted.

- Physics teacher David Chandler’s measurements of the first seconds of the collapse of the North Tower (WTC 1) showed that it fell with increasing speed but at only *two-thirds of gravitational acceleration* (g) (Chandler 2010). Chandler argues that this means the bottom section exerted a constant *upward* force of one-third of the upper section’s weight upon its mass, and he declares that this force should have been much larger, indicating that “some sort of controlled demolition was at work.”
- Second, Chandler argues that being a Newtonian action/reaction pair, the impact force of the upper section on the lower section was *only a third of the upper part’s weight*. However, I’ve found that his estimate of the downward impact force was too low by a factor of *one hundred*. In addition, I found that the actual process—a series of twelve-foot free falls punctuated by violent and brief collisions with each floor—would have resulted in an average acceleration of *precisely* what Chandler measured for the start of the collapse of WTC 1, namely $2/3$ g. (By the end of the collapse, my calculations indicate an average acceleration of only $1/3$ g, but this can’t be measured in dust-obscured videos.)

Claim Two:

“Nano-thermite and military-grade explosives were found in dust from the towers. Tons of melted steel were found in tower debris.”



The thermite reaction is very hot, but it is also very slow compared to high explosives.

Real controlled demolitions commonly use explosives to topple large buildings. However, the hallmarks of actual demolitions (the characteristic “boom-boom-boom-boom” sounds and the flashes of high explosives) were completely absent in Manhattan on the morning of September 11, 2001. Many 9/11 Truth advocates, including architect Richard Gage, insist that high explosives *must* have been used to bring down the Twin Towers, as they say this is the only process that can possibly explain the “ejection of debris hundreds of feet from the towers.” However, they simultaneously insist that thermite or a derivative (thermate, nanothermite, etc.) was used *instead*, so as to topple the towers *quietly*. (This is but one of many instances in which 9/11 Truth claims flatly contradict each other.) Thermite itself fails as an explanation for the destruction of the Towers on many levels:

- The thermite reaction, which takes place between iron oxide (rust) and powdered aluminum, is practical for welding train tracks in the field and for destroying engines of vehicles that must be left behind during combat operations. The self-sustaining reaction, once initiated with heat, produces significant volumes of molten iron, which can melt and cut iron structures beneath it. For thermite to melt through a normally vertical steel beam, however, special high-temperature containment must be added to prevent the molten iron from simply dropping straight down uselessly. The thermite reaction is very hot, but it is also very slow compared to high explosives.

Thermite is simply not practical for carrying out a controlled demolition, and there is no documentation of it ever having been used for that purpose.

- Jesse Ventura hired New Mexico Tech to show how nanothermite can slice through a large steel beam. The experiment was a total failure—even in the optimum (horizontal) configuration, the layer of nanothermite produced lots of flame and smoke but no actual damage to the massive I-beam tested. However, Ventura's TruTV *Conspiracy Theory* show slyly passed it off as a rousing success (Thomas 2010a).
- Niels Harrit and Steven Jones, along with several coauthors, published the “peer-reviewed” paper “Active Thermitic Material Discovered in Dust from the 9/11 World Trade Center Catastrophe” in the *Bentham Open Chemical Physics Journal* (Harrit 2009). This article does not make the case for thermite use on 9/11. The paper examined “distinctive red/gray chips” found in WTC dust (unfortunately, with no chain of custody for the dust), and these were claimed to be thermitic because of their composition (iron oxides and pure aluminum) and other chemical properties. However, the presence of rust and aluminum does not prove the use of thermite, because iron oxide and aluminum are found in *many* common items that existed in the towers. Furthermore, the authors admit that their “differential scanning calorimeter” measurements of the supposed thermitic material showed results at about 450 degrees C *below* the temperature at which normal thermite reacts (Fana 2006). Finally, the scan of the red side of the “thermitic material” of Harrit/Jones is a dead-on match to material Jones himself identified as “WTC Steel Primer Paint” in his Hard Evidence Down Under Tour in November of 2009 (“Sunstealer” 2011).
- Harrit's article describes the red portion of the chips as “unreacted thermitic material.” But while thermite may be slow, it does not stop its reaction once it has begun. Because thermite supplies its own oxygen (via iron *oxides*), it can even burn underwater. Suggesting that the samples show partially reacted thermite is preposterous. Claiming that thermite would explain molten pools of steel weeks and months after the attack is equally preposterous.
- The article's publication process was so politicized and bizarre that the editor-in-chief of the *Bentham* journal that featured Jones's article, Marie-Paule Pileni, resigned in protest (Hoffman 2009).
- Thermitic demolition should have created copious pools of melted steel at Ground Zero, but nothing remotely like this was ever found. Truthers say iron microspheres found in the rubble indicate thermite; since hot fires and spot-welding do produce very tiny spheres of iron, though, these “microspheres” are not unexpected. Pictures of cranes holding red-hot materials in the rubble are said to show molten steel. Had this been the case, however, the crane rigs would have immediately seized up (Blanchard 2006). No reports of “molten steel” in the tower basements have ever been credibly verified (Roberts 2008). Some Truthers claim that a few pieces of sulfidized “eutectic” steel found in the towers proves thermate (thermite with sulfur) usage, but this occurred because sulfur, released from burned drywall, corroded the steel as it stewed in the pile for weeks (Roberts 2008).

Claim Three:

“Tower 7, which wasn't hit by a plane, collapsed neatly into its own footprint.”



The enigma of WTC 7 is becoming increasingly popular in Truther circles. We're told that it wasn't hit by a plane and was subjected to just a few "small office fires." Yet it collapsed anyway, late in the afternoon of September 11, "falling neatly into its own footprint at freefall acceleration, just like a normal controlled demolition." In particular, Truthers point to a brief period of freefall (2.25 seconds) that was confirmed by NIST in its WTC 7 final report (Sunder 2008; NIST 2010) as proving that the building was purposely imploded. However, WTC 7, too, fails to prove 9/11 was an "inside job":

- What is often conveniently left out of the story are actual reports from NYFD firefighters at the scene, which describe huge, raging, unfought fires on many floors at once and visible deformations and creaking of the building prior to its collapse (Roberts 2008). Tower 7 was not hit by an airplane; however, it *was* struck by a 110-story flaming skyscraper, the North Tower. The fires raged for hours, and they eventually caused a critical column (#79) to fail because of thermal expansion; NIST determined that this column was crucial to the building and could even be considered a design flaw. Its failure would have collapsed the building even without the other structural damage from WTC 1's collapse and the fires.
- WTC 7's brief 2.25 seconds of free fall is now the Truthers' best "smoking gun." The claim usually goes like this: "The fifty-eight perimeter columns would have resisted and slowed the collapse to much less than freefall. The 'freefall' of WTC 7, admitted to by NIST, proves it was controlled demolition." The problem is that this is a straw man argument. NIST found the collapse occurred in *three* stages. The first stage, which lasted 1.75 seconds, is when the fifty-eight perimeter columns were buckled; during this interval, the rooftop actually fell only about seven feet. This is because the breaking of columns saps speed, indeed making the collapse slower than free fall. In the second stage, which lasted 2.25 seconds, the already-buckled columns provided negligible support, and the north face of the structure free-fell about eight stories. (Try taking a plastic drinking straw and buckling it by folding it over and then pushing down on the bent straw with your hand. The crimped straw provides almost no resistance to vertical forces, and neither did the buckled columns of WTC 7.) The third stage described by NIST, which lasted 1.4 seconds, was again less-than-free fall, as the structure fell another 130 feet as it impacted more non-buckled structures toward the bottom of the building (NIST 2010).
- The other half of the equation is that WTC 7 resembles a "classic controlled demolition" because it supposedly "imploded, collapsing completely, and landed in its own footprint" (Gage 2011). In actuality, it twisted and tilted over to one side as it fell, and parts of the building severely damaged two neighboring buildings (the Verizon and Fiterman Hall structures). When challenged with the obvious fact that Tower 7 spilled far *outside* its footprint, however, Truthers will often change their tune and start saying that any resemblance to a natural collapse is *part of the cover-up*.

Factions within 9/11 Truth

Early on, it was mainly MIHOP ("Made it happen on purpose") versus LIHOP ("Let it happen on purpose"). Nowadays most serious Truthers down-pedal the "no-planers," who

say no plane hit the Pentagon or even the Towers. There is considerable friction between some groups, with certain 9/11 Truth groups attacking others as “disinformation agents.” However, 9/11 Truth is mostly a big tent. Many “serious” groups such as AE911 Truth quietly champion “no-planers” such as former pilot Dwain Deets, engineer Anders Bjorkman, and Craig Ranke of Citizen Investigation Team (CIT) (Gage 2011). Gage formally withdrew his support of CIT in February 2011, even as his website touted 9/11 articles in *Foreign Policy Journal*, an online publication notorious for its frequent forays into Holocaust denial.

Conclusion

As Ted Goertzel pointed out in his recent *Skeptical Inquirer* article “The Conspiracy Meme: Why Conspiracy Theories Appeal and Persist,” “When an alleged fact is debunked, the conspiracy meme often just replaces it with another fact” (Goertzel 2011). In another ten years, will the 9/11 Truth movement have developed new arguments, or will it stick with the polished claims discussed here? Either way, it appears this American conspiracy theory classic is here to stay.

References

- Avery, Dylan. 2009. *Loose Change 9/11: An American Coup*. Distributed by Microcinema International. Released September 22.
- Bazant, Zdenek, J. Le, F.R. Greening, and D.B. Benson. 2008. What did and did not cause collapse of World Trade Center Twin Towers in New York? *Journal of Engineering Mechanics ASCE* 13(10): 892–906. Available online at www.civil.northwestern.edu/people/bazant/PDFs/Papers/476%20WTC%20collapse.pdf.
- Blanchard, Brent 2006. A critical analysis of the collapse of WTC Towers 1, 2, and 7 from an explosives and conventional demolitions viewpoint. *Journal of Debunking 911 Conspiracy Theories* 1(2). Available online at www.jod911.com/WTC%20COLLAPSE%20STUDY%20BBBlanchard%208-8-06.pdf.
- Chandler, David. 2010. Destruction of the World Trade Center North Tower and fundamental physics. *Journal of 9/11 Studies* 28 (February). Available online at www.journalof911studies.com/volume/2010/ChandlerDownwardAccelerationOfWTC1.pdf.
- Fana, Run-Hua, Hong-Liang Lü, Kang-Ning Sun, et al. 2006. Kinetics of thermite reaction in Al-Fe₂O₃ system. *Thermochimica Acta* 440(2) (January 15): 129–31.
- Gage, Richard. 2011. Architects and Engineers for 9/11 Truth. Available online at www.ae911truth.org.
- Goertzel, Ted. 2011. The conspiracy meme: Why conspiracy theories appeal and persist. *Skeptical Inquirer* 35(1) (January/February): 28–37.
- Harrit, Niels H., Jeffrey Farrer, Steven E. Jones, et al. 2009. Active thermitic material discovered in dust from the 9/11 World Trade Center catastrophe. *Bentham Open Chemical Physics Journal* 2: 7–31. Available online at www.bentham.org/open/tocpj/articles/V002/7TOCPJ.pdf.
- Hoffman, Thomas. 2009. Bentham editor resigns over Steven Jones’ paper. Danish Science News Service (April 28). Available online at http://videnskab.dk/content/dk/naturvidenskab/chefredaktor_skrider_efter_kontroversiel. (Translation available online at <http://screwloosechange.blogspot.com/2009/04/bentham-editor-resigns-over-steven.html>.)
- Mackey, Ryan. 2008. On debunking 9/11 debunking: Examining Dr. David Ray Griffin’s

latest criticism of the NIST World Trade Center investigation. *Journal of Debunking 911 Conspiracy Theories* 1(4). Available online at www.jod911.com/drg_nist_review_2_1.pdf.
NIST. 2010. Questions and answers about the NIST WTC 7 investigation (updated September 17). Available online at www.nist.gov/public_affairs/factsheet/wtc_qa_082108.cfm.

Roberts, Mark. 2008. World Trade Center building 7 and the lies of the '9/11 Truth movement.' Available online at <http://sites.google.com/site/wtc7lies/introduction>.

Sublette, Carey. 2006. Complete list of all U.S. nuclear weapons. Nuclear Weapon Archive Organization. Available online at <http://nuclearweaponarchive.org/Usa/Weapons/Allbombs.html>.

Sunder, Shyam, Richard G. Gann, William L. Grosshandler, et al. 2008. NIST Final Report on the Collapse of World Trade Center Building 7. Available online at <http://wtc.nist.gov/NCSTAR1/PDF/NCSTAR%201A.pdf>.

"Sunstealer." 2011. The sad case of Niels Harrit. JREF forum. Available online at <http://forums.randi.org/showpost.php?p=6959549>.

Thomas, Dave. 2009. How I debated a 9/11 Truther and survived. *Skeptical Briefs* 19(4) (December). Available online at

www.csicop.org/sb/show/how_i_debated_a_9_11_truther_and_survived/.

———. 2010a: The video Jesse Ventura doesn't want the world to see! *NM Skeptic Blog* (March 24). Available online at <http://nmskeptic.blogspot.com/2010/03/video-jesse-ventura-doesnt-want-world.html>.

———. 2010b. Institute of Theoretical and Experimental 9/11 Physics 9-11 'Truth' resources. New Mexicans for Science and Reason (August). Available online at www.nmsr.org/nmsr911.htm.

———. 2010c. 9/11 truth: The *Coast-to-Coast AM* debate. *Skeptical Briefs* 20(4) (December).

Young, Jeffrey R. 2007. A Berkeley engineer searches for the truth about the Twin Towers' collapse. *Civil and Structural Engineers on WTC Collapse*. Available online at <http://911-engineers.blogspot.com/2007/06/berkeley-engineer-searches-for-truth.html>.

9/11 Internet Resources

The James Randi Educational Foundation (JREF) Forum

<http://forums.randi.org>, 9/11 Conspiracy Theory area.

If you need every single 9/11 Truth claim sliced and diced a thousand ways, this is your site.

Mark Roberts ("Gravy")

<http://sites.google.com/site/wtc7lies>

Screw Loose Change blog

<http://screwloosechange.blogspot.com>

AE911Truth.Info (Joseph Noble)

"Answering the questions of Architects and Engineers for 9/11 Truth"

<http://ae911truth.info/wordpress/>

9/11 Myths: Reading between the Lies

www.911myths.com/indexold.html

/content

Dave Thomas

Dave Thomas, a physicist and mathematician, is president of New Mexicans for Science and Reason and a fellow of the Committee for Skeptical Inquiry. He is currently a scientist/programmer at IRIS/PASSCAL in Socorro, New Mexico, and also teaches classes in physics, psychology, and critical thinking at New Mexico Tech.