

# On the Collapse of WTC7: Response to Dan

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## **Introduction**

After carefully reading a lot of material on the collapse of WTC1, WTC2 and WTC7 and the surrounding controversies, I can now address questions that have been posed as problematic to the theory that all the collapses were related to the crash of the two airplanes into the WTC buildings.

While going through the available material on the subject, one realizes is that it is not enough to question the official explanations. One also has to question the conspiracy theorists. And upon doing so, one realizes that agreeing with the conspiracy theorists' explanation requires that one makes numerous unproven assumptions. Thus as we see below, the conspiracy theory is less plausible, less parsimonious (parsimony in the sense of Occam's razor) and proceeds on leaps of logic and unobservable, unavailable evidence. We see below that the conspiracy theorists make incorrect assumptions and arguments that are spurious or downright false either because they are ignorant of certain facts, or because they engage in defective thinking.

To begin with, one has to note the following:

1. For obvious reasons (no anticipation of the attack etc), there exists no detailed record of exactly how much damage the interiors of the towers suffered as a result of the fires and the impacts. All explanations (both official and non-official) are attempts to account for the collapses based on whatever was observed from outside the buildings.
2. Because of (1) above, it is not possible to account in detail for everything that happened.
3. Because of (2) above, there are several legitimate questions that remain unanswered.
4. Alternative theories [1] have been presented that use these questions to allege government cover up and government involvement in a controlled demolition of the buildings that collapsed.
5. If we were to accept the conspiracy theories for arguments sake, the questions that abound outnumber the questions we have when we adopt the official explanations.
6. Faced with (5) and (1) above, we must apply Occam's razor to arrive at the most likely explanation about what happened. Occam's razor is a principle attributed to the 14th-century English logician and Franciscan friar William of Ockham. It states that the explanation of any phenomenon should make as few assumptions as possible, eliminating those that make no difference in the observable predictions of the explanatory hypothesis or theory [2]. Occam's razor has found application in the scientific method and is regarded as a reliable guide while seeking explanations for phenomena.

Below, I respond to questions from Dan. Most of the questions are borrowed directly from Prof, Steven E. Jones in his article, "*Why Indeed did the WTC Buildings Collapse? The Hidden History of 9-11*"[2]

Dan asks 13 questions on WTC7 collapse which appear below with my responses. The questions are quite challenging because whereas the collapses of WTC 1 and WTC 2

were tightly coupled with the crash of the two airliners into them, and thus easily explainable, WTC 7 was never hit by a plane and was hundreds of meters away from the twin towers that were hit. Yet this 47 storey building collapsed seven hours after the two towers collapsed. Why?

The answer to this question, plus questions touching on WTC 1 and WTC 2, will emerge as I respond to Dan's questions below. Because in some cases Dan cites Prof. Jones's verbatim, I indicate below when I am quoting Prof. Jones. In all cases where Dan does not cite Prof. Jones verbatim, I write Dan's name just before the quote.

**PROF JONES: 1. Molten Metal: Flowing and in Pools:**

*I maintain that these observations are consistent with the use of high-temperature cutter-charges such as thermite, HMX or RDX or some combination thereof, routinely used to melt/cut/demolish steel. Thermite is a mixture of iron oxide and aluminum powder. The end products of the thermite reaction are aluminum oxide and molten iron. So the thermite reaction generates molten iron directly, and is hot enough to melt and even evaporate steel which it contacts while reacting. Here is the thermite-reaction equation for a typical mixture of aluminum powder iron oxide powder:*



*Thermite contains its own supply of oxygen and so the reaction cannot be smothered, even with water. <http://www.checktheevidence.com/911/Thermite2.htm>*

**ALIET:** Thermite is proposed by conspiracy theorists as a weapon of choice for the alleged perpetrators because:

- (a) Its ingredients, which are aluminum and iron oxide, they say, do not require identifying tags by law thus it would have been impossible to trace them back to their manufacturers.
- (b) Perpetrators of 911, presumably, did not want to leave the explosive signature of a controlled demolition.

The Chemical equation offered above is not of much help since it does not explain the amount of thermite that would be required to bring down WTC, how it was brought in, where it was placed, when, by who and so on. What this means is that the thermite hypothesis lacks explanatory power and as we see below, raises more questions than answers.

The biggest problem Thermite proponents face is: how do you ensure that all the energy from the reaction is directed at the steel columns? The larger the coating of thermite, the bigger its surface area will be, and the more it will radiate heat away.

The assumption that Jones and like-minded people make is that that the energy released by the thermite reaction will be used to heat the steel columns. If the thermite is coated around the outside of the columns, as it most certainly would be, it may not work because

of the heat radiating out into the surroundings. Unless it was covered by an insulating layer. And an insulating layer which would have drawn attention. In any case, the calculation must account for the heat lost through radiation to the surroundings.

Secondly, when the heat reaches the steel, it would be conducted away to other parts of the structure. Steel of course, is not a good conductor of heat but the heat lost through conduction must be accounted for.

Thirdly, how was the thermite made to stick on the columns? Was it drilled in? When?

Fourth, how much thermite would be required to melt the steel columns? Again, this is not indicated.

Fifth, it is also not indicated how much time the thermite would need to burn in order to melt or destabilize the steel columns. The collapse of the buildings was tightly coupled with the airlines being crashed to the buildings. Were the thermite agents waiting for the airlines to crash then applying the thermite or did they plant the thermite way before the planes crashed into the buildings? How come nobody noticed them?

This does not mean that the thermite hypothesis is wrong: it just makes it unlikely and able to raise more questions than account for what happened.

### **On Molten Metal**

The evidence that there was molten metal flowing in pools is not good. Most of the eyewitnesses are misquoted and some like Mark Loizeaux have stated that they “didn't personally see molten steel at the World Trade Center site” (see Mark William's site linked below). Let us look at one of Prof. Jone's “evidence” of molten metal. The following photo appears in Prof. Jone's article.



He states:

We see from the photograph above that solid metal from the WTC rubble existed at salmon-to-yellow-hot temperature (approx. 1550 - 1900 °F, 845 - 1040 °C.) The temperature is well above the melting temperatures of lead, zinc and aluminum, and these metals can evidently be ruled out since they would be runny liquids at much lower (cherry-red or below) temperatures. However, the observed hot specimen could be structural steel (from the building) or iron (from a thermite reaction) or a combination of the two. Additional photographs of the hot metal could provide further information and advance the research.

[Mike Williams](#), writes regarding the above photo:

First, there's no proof here other than the caption of when and where this was taken.

Second, whatever's glowing red here clearly isn't "molten" in the sense of "melted". There may possibly be something dripping off one end, but we don't know what that is.

Third, there seems an odd lack of conduction amongst the materials being picked up. We can see that the excavator has picked up a considerable amount of nearby material that presumably was very close to the same heat source, and it looks like glowing metal, but it's completely black. There's no orange -- bright red -- dull red transition across the materials, it's just a straight orange to black. Steel isn't a good conductor of heat, it's true, but is that enough to explain the photo?

And fourth, we know there were underground fires at the site for some time. How hot could they get? Depends on the materials and the supply of oxygen, but in some cases the temperatures can be surprisingly high[5]

A blogger notes:

Jones is ridiculous. Now the story is that the buildings fell because "thermite" melted the steel floor by floor? If there was a "thermite reaction" taking place on every floor the melting would take at least a little time and the process would be creating a huge amount of smoke.

What we see is a collapse floor by floor, we don't see an enormous amount of smoke (from hundreds of theoretical thermite reactions) suddenly pouring out of the whole building. Think about it, Jones is claiming that as some point thermite reactions took place. If that were so, then where is all the increase in smoke? There would have been an enormous amount of smoke suddenly released well before the collapse as the "thermite" burns through the steel. Remember that it has to start as least some time before the crashing down of the floors. Instead we see the building burning and there is no sudden pouring out of extra smoke preceding the collapse.

This thermite theory Jones concocted blurs the idea of explosives and an incendiary reaction. The thermite theory is really as nutty as the "no planes" theory.

### **DAN: 3. Near-symmetrical collapse of WTC7**

*If one side of the WTC7 was the one exposed to the main towers collapse, and this was a 47-storey steel reinforced building, why did it collapse straight down (you've seen the videos) instead of falling away from the two main towers whose falling debris and fire caused it to fall?*

**ALIET:** First of all, notice the weaseling words employed. Does near-symmetrical mean asymmetrical or symmetrical? The word "near" can lead a reader into thinking that WTC 7 collapsed symmetrically. This is not so. Indeed, if the claimant were asked: *Did WTC 7 collapse symmetrically, or asymmetrically?*

They would have to answer *asymmetrically*. They use leading words to influence the perception of readers.

Most of the videos on the net capture the collapse from one side that make it look symmetrical, yet upon close inspection, it was not. The east side collapsed first this can still be seen from the videos which indicate the east penthouse roofline, which goes down first.

Below is the failure sequence timeline, which is available in the *NIST Response to the World Trade Center Disaster* [4].

## Failure Sequence Timeline

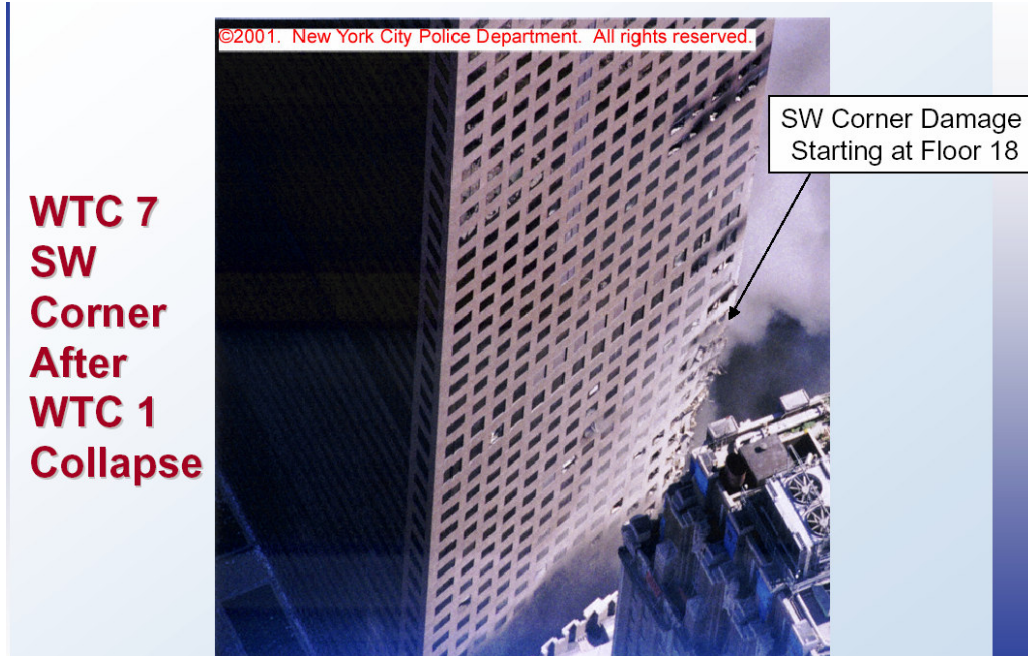
Time Interval (sec)	Total Time (sec)	Observation from CNN Net Dub 7 47.avi
0.0	0.0	<b>Movement of east penthouse</b> roofline
0.9	0.9	East penthouse kinks between columns 44 and 45 2 windows at floor 40 fail between columns 44 - 45
0.3	1.2	4 windows fail at floor 40 East penthouse submerged from view (now inside building)
0.4	1.7	3 windows break at floors 41 to 44
0.5	2.2	<b>East penthouse completely submerged</b>
1.8	4.0	Windows break along column 46 at floors 37 and 40
3.0	7.0	<b>North side of west penthouse moves</b> Movement of entire north face of WTC7 (visible above floor 21)
0.2	7.2	West end of roof starts to move
0.5	7.7	East end of roof starts to move <b>Façade kink formed</b> along column 46-47
0.1	7.9	West penthouse submerged
0.3	8.2	<b>Global collapse</b> occurs as windows fail between floors 33-39 around column 55

It is disappointing that Prof. Jones offers misleading photos of buildings that have collapsed from earthquakes as examples of what we would expect. Yet WTC 7 collapsed as a result of being hit by debris from WTC 1, which sheared off a huge block on the SW side of WTC 7. In addition, there were several fires that led to a progressive collapse of WTC 7. Earthquakes make buildings collapse by shifting of their foundations and thus they tilt over when they lose their initial center of gravity. It's a different mechanism altogether when one is considering a building whose inner structural strength has been weakened by several fires and whose side had been sheared off as we see below. Below is Prof. Jone's misleading image of a building that collapsed as a result of an earthquake.





Below is an image from the NIST paper showing damage done to WTC 7 by debris from WTC 1:



Below is an image showing fires in WTC7 that started immediately after collapse of WTC 1.



**DAN: 4. No Previous Skyscraper Collapse Due to Fires:**

*Before 911, no skyscraper of this kind had collapsed due to fires. You saw in the previous links that WTC had spray-on fireproofing. Now it collapses so neatly due to fires. Wonderful, isn't it?*

**ALIET:** This is incorrect. There have been previous collapses due to fires. But before we go to them, Sept 11 was the first time an airplane was driven into a skyscraper. There are many firsts about the WTC events and the collapses. An author notes:

In all the history of high-rise fires, not one has ever been hit with a plane traveling 500 miles an hour and had its fire proofing removed from its trusses. In all the history of high-rise fires, not one has ever had its steel beams which hold lateral load sheared off by a 757. In all the history of high-rise fires, not one has ever been a building which had its vertical load bearing beams in its core removed by an airliner. For Building 7, in all the history of high-rise fires, not one has ever been left for 6-7 hours with its bottom floors on fire. Not the Madrid/Windsor tower fire had almost 40 stories of load on its supports after being hit by another building which left a 20 story gash. Both lost I-beams from the heat. Windsor's central core was steel reinforced concrete. In all the history of high-rise fires, not one has ever been without some fire fighters fighting the fires. [6]

Thus, we can see that the first time trivia is actually self-defeating and exposes a defect in the reasoning behind the conspiracy theories being spun.

The McCormick Center in Chicago[7], which collapsed in 1967, and the Sight and Sound Theater in Pennsylvania are examples of steel structures collapsing due to fire. Thus, Dan is incorrect to regard WTC towers as the first skyscrapers that collapsed due to fire.

**DAN: 5. Squib-timing during the Collapse of WTC 7:**

*A bit technical. See: <http://www.implosionworld.com/cinema.htm>*

**ALIET:** The link shows nothing about squibs.

Secondly, the conspiracy theorists have to decide: was Thermite used or were explosives used?

Thirdly, the videos that show the collapse do not show no squibs.

Fourth, even if squibs were there, they would only indicate rapid expulsion of gas, which can be caused by a floor collapsing on another, or by explosive devices. Thus, squibs, if any, are not proof of controlled demolition.

NIST investigator Shyam Sunder notes in a Popular Mechanics article that the clouds of dust that are ejected out of windows when one floor collapses on another is a result of pancaking.

**DAN: 6. Early Drop of North Tower Antenna**

*The building stood for more than an hour and a half. Videos of the north tower's collapse appear to show that its television antenna began to drop a fraction of a second before the rest of the building. The observations suggest that the building's steel core somehow gave*



way first (Glanz and Lipton, 2002)

**ALIET:** The dipping of the TV antenna before the collapse of the rest of the building *that is visible on the video* does not by itself prove demolition and does not prove that Thermite was used. It simply points to the fact that the central steel columns may have given way first. And this does not falsify the official explanation which holds that the strength of the steel core was considerably weakened by the heat and thus it could not support the load.

**DAN: Eyewitness Accounts of Flashes and Loud Explosions:**

*Multiple loud explosions in rapid sequence were heard and reported by numerous observers in and near the WTC Towers, consistent with explosive demolition.*

**ALIET:** These accounts are not of much use because any loud sound can sound like an explosion to eyewitnesses, including debris falling on vehicles and rapid expulsions of air by the pancaking floors. What is the difference between a loud bang and an explosion to an eyewitness fleeing for dear life?

**DAN: 8. Ejection of Steel Beams and Debris-plumes from the Towers:**

*The horizontal ejection of structural steel members for hundreds of feet and the pulverization of concrete to flour-like powder, observed clearly in the collapses of the WTC towers, provide further evidence for the use of explosives as explained in <http://911research.wtc7.net/talks/towers/index.html>. (See also, Griffin, 2004, chapter 2.)*

**ALIET:** The link provided says nothing about how expulsions of dust is proof of demolition. Simple Physics indicates that the force of tons of steel pulverizing a structure that is composed of cement that has been heated for over an hour will result in explosion of dust and release of massive heat.

Regarding the alleged expulsion of materials hundreds of feet off, readers will recall that the towers were more than 1300 feet tall. Yet WTC 7 for example, was only 400 meters away.

Below is a *debris field diagram* indicating the area the debris would have hit, and actually hit [8]. By studying it, one can see that the debris from the collapse would have landed

hundreds of meters away.



**DAN: 9. Rapid Collapses and Conservation of Momentum and Energy**

*The NIST team fairly admits that their report does not actually include the structural behavior of the tower after the conditions for collapse initiation were reached. (NIST, 2005, p. 80, fn. 1; emphasis added.) Quite a confession, since much of the external evidence for explosive demolition typically comes after collapse initiation, as seen in cases of acknowledged controlled demolition. (Harris, 2000.)*

**ALIET:** This is a non-argument. The last sentence is devoid of meaning and is tantamount to saying that evidence of dead people typically comes after people are dead.

**DAN: 10. Controlled Demolition Implosions Require Skill: Terrorists would Not want it because it causes less damage:**

*FEMA, the famous emergency management agency in Aliet's list, admitted that WTC 7 collapsed onto a well-confined footprint: The collapse of WTC 7 had a small debris field as the facade was pulled downward, suggesting an internal failure and implosion. The average debris field radius was approximately 70 feet. (FEMA, 2002, chapter 5.) Evidently we agree that this was a beautifully done implosion in the collapse of WTC 7, and yet: This feat requires such skill that only a handful of demolition companies in the world will attempt it. (Harris, 2000; emphasis added.)*

**ALIET:** Terrorists would not want what? Controlled demolition? The argument here is unclear. To be sure, the "internal failure and implosion" were caused by fires which were fueled by diesel and office furnishings.

**DAN: 11. Steel Column Temperatures of 800°C Needed:**

*Bazant & Zhou say: The conflagration, caused by the aircraft fuel spilled into the structure, causes the steel of the columns to be exposed to sustained temperatures apparently exceeding 800°C (Bazant and Zhou, 2002, p. 2.). But the NIST report said: The initial jet fuel fires themselves lasted at most a few minutes and office material fires would burn out within about 20 minutes in a given location. (NIST, 2005; p. 179, emphasis added.)*

**ALIET:** Jet fuel burns at 800°C to 1500F. After the first ten minutes following the impact, the rest of the material that kept burning included rags, curtains, wooden furniture, plastics from computers, wooden partitioning, paper and other combustible material. Some pockets of fire hit 1832 F.

**DAN: 12. NIST Report of Inadequate Steel Temperatures and Tweaked Models to Justify collapse due to weakened columns.**

**ALIET:** This is an empty assertion. It requires supporting evidence for it to be of any probative value.

### **DAN: 13. NIST's Failure to Show Visualizations:**

*An article in the journal New Civil Engineering (NCE) lends support to concerns about the NIST analysis of the WTC collapses. It states: World Trade Center disaster investigators [at NIST] are refusing to show computer visualizations of the collapse of the Twin Towers despite calls from leading structural and fire engineers, NCE has learned. Visualisations of collapse mechanisms are routinely used to validate the type of finite element analysis model used by the [NIST] investigators. The collapse mechanism and the role played by the hat truss at the top of the tower has been the focus of debate since the US National Institute of Standards & Technology (NIST) published its findings For details, see:*

*<http://www.physics.byu.edu/research/energy/htm7.html>*

**ALIET:** This is empty speculation about the activities of NIST post september11 that has no bearing on the collapse, or the evidence at hand. Plus, the models NIST are using are available [9].

### **Conclusion**

As we have seen, most of the arguments made by conspiracy theory artists ignore the events that were witnessed by all and instead assume unproven motives and prefer a theory that they cannot adduce evidence for.

Until positive evidence is provided, there is no reason to assume that thermite magically entered into WTC7 and started melting the steel columns. Just because someone is capable to question another theory does not prove that they have a credible theory themselves. Until an adequate explanation can be provided regarding the amount of thermite that was used, how it was brought into the buildings, how it was made to melt the columns and why the thousands of people who used the buildings, and who survived, never detected any suspicious goings on in the buildings, when the thermite was put to effect and by who, the thermite theory has no starting point.

### **References**

- [1] [http://en.wikipedia.org/wiki/Researchers\\_questioning\\_the\\_official\\_account\\_of\\_9/11](http://en.wikipedia.org/wiki/Researchers_questioning_the_official_account_of_9/11)
- [2] [http://en.wikipedia.org/wiki/Occam's\\_razor](http://en.wikipedia.org/wiki/Occam's_razor)
- [3] <http://www.physics.byu.edu/research/energy/htm7.html>
- [4] <http://wtc.nist.gov/pubs/WTC%20Part%20IIC%20-%20WTC%207%20Collapse%20Final.pdf>
- [5] [http://www.911myths.com/html/wtc\\_molten\\_steel.html](http://www.911myths.com/html/wtc_molten_steel.html)
- [6] <http://www.geocities.com/debunking911/firsttime.htm>
- [7] [http://en.wikipedia.org/wiki/McCormick\\_Place](http://en.wikipedia.org/wiki/McCormick_Place)
- [8] <http://www.geocities.com/debunking911/pull.htm>
- [9] [http://www.fire.gov/newsletter/winter2002/page\\_one.htm](http://www.fire.gov/newsletter/winter2002/page_one.htm)