

Why Are NIST's 9/11 WTC Reports False and Unscientific?

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Transcribed by Sarah Brand

Julian Charles: Hello everybody. Julian Charles here of TheMindRenewed.com, podcasting to you as usual from the depths of the Lancashire countryside here in the UK.

Today is the 14th of August 2014, and it's my great pleasure yet again to be speaking to Kevin Ryan, who many of you will remember joined us earlier this year to talk about his book *Another Nineteen : Investigating Legitimate 9/11 Suspects*. Today of course we're going to be speaking about a different area of 9/11 research, but just before we get on to that, let me remind listeners about Kevin. Kevin Ryan is one of the most widely respected 9/11 researchers. In 2004 he was fired from his position as Site Manager for Environmental Testing Division of Underwriters Laboratories for asking questions about that company's testing of the World Trade Center construction materials, as well as that company's involvement in the WTC investigation being conducted by the National Institute of Standards and Technology. Since being fired for asking questions, he has held prominent positions with many scholarly 9/11 research groups, co-authored several books and many peer-reviewed scientific articles on the subject, and he continues to give many presentations and interviews. Kevin, it's great to be speaking with you again. Thanks very much for joining us on The Mind Renewed.

Kevin Ryan: Thank you Julian. It's great to be with you.

JC: Now, today I want to ask you about the reports by the US National Institute of Standards and Technology (commonly known as NIST), on its own investigations into the World Trade Center disaster of 2001. I understand that these investigations were commissioned by the US Government in 2002 with the express purpose of (and I'm quoting here): "determining why and how WTC 1 and WTC 2 collapsed following the initial impacts of the aircraft, and why and how WTC 7 collapsed." The final report on the Twin Towers came out in 2005, and the final report on building 7 came out in 2008. And I expect that most people would think that such an august institution as NIST would have explained exactly why and how those high-rise buildings collapsed in such a way that would neatly fit with the official story of 9/11. However, in 2011 you gave, I think, a startling presentation at the Toronto Hearings on 9/11 at Ryerson University in Toronto, in which you made, I think, some really quite compelling arguments that NIST had failed in its mission; and, worse than that, you gave the impression that you thought it had been even fraudulent in its work in some respects. So I thought that it would be great if you would come on the show to share with us your reasons

for this. We'll proceed with that in a moment or two, but first, for the sake of listeners who might not have heard you before, could you tell us why you got into this business of questioning the NIST reports, and why did you started questioning the official version of 9/11 at all?

KR: Yes, I'd be glad to. My investigation into 9/11 began simply as a series of questions about things that were happening in my country, the United States, in 2003. It was born of the justification for the original Iraq invasion – the Iraq War – in 2003. It was clear to me that the justification for that invasion was based on false premises. The Niger Document about yellow cake, the aluminium tubes – these were coming out as false, even at the time when my Government was using them to justify a war. So I wondered when that sort of deception began; and it made me recall some comments made by the CEO of the company where I worked, Underwriters Laboratories, who had told us when he visited our location that the company had tested and certified the steel used to build the World Trade Center Towers. That got me interested in the story of what happened on 9/11, because 9/11 was really the driving force behind this new War on Terror that was doing so much to change our values, and doing so much in general around the world. So I began looking more into the events of 9/11 and learned that there were really quite a lot of serious questions about how the three building – three skyscrapers at Ground Zero in Manhattan – had fallen.

I began to ask more questions about that testing that our CEO had referred to. It would have been testing done forty years earlier when the buildings were constructed to ensure what's called fire resistance. This is a kind of testing in which floor assemblies and column assemblies are put into a big testing furnace, and they're tested per a standard called ASTM E119, which rates the components for a certain amount of fire resistance. In the case of the WTC Towers they were tested to the 1968 New York City code which required that the floors would withstand two hours of intense fire in the furnace, and that the columns would withstand three hours of fire in the furnace. One of the big contradictions with the facts of 9/11 is that one of the Twin Towers completely collapsed in only 56 minutes which, given that the official account was a fire, contradicted the facts of what happened. So after a year of questioning my company, I ended up writing to the Government agency NIST (the National Institute of Standards and Technology), asking them about the investigation that they were conducting and that my company was helping with, and asking them to clarify some of these contradictions. I was fired from my job for having done that. I went on from there to become a researcher into 9/11 in my spare time. I spent the next ten years (almost ten years so far) going into great detail into the events of 9/11 – not just at the World Trade Center, but otherwise as well.

JC: Were you questioning what Underwriters Laboratories was actually doing themselves for NIST?

KR: Yes, I was. At the time I was trying to be really helpful. I felt I was trying to protect my company's reputation, actually; although I was increasingly suspicious that something was going on that was not above board. So I asked about things like the Pancake Theory, which was at the time the leading theory for how the Towers actually collapsed (that the floors could not withstand their load due to the fire, the floors collapsed after sagging, and then the columns were just simply unsupported and they collapsed as well). Unfortunately for that theory in August of 2004, just before I wrote to the Government agency, my company had done testing that disproved that Pancake Theory. They built models of exact replicas of the floor assemblies from the WTC Towers; put them in the furnaces and did testing, stripping off all of the fire-proofing for the most part (basically no fire-proofing); they loaded

the floors with twice the load known to have existed in the WTC Towers; they raised the temperatures well beyond what would have been seen in the WTC Towers; and yet still the floors did not fail to hold their load. The Pancake Theory really at that time was defeated, and it took years before everyone admitted that. But it was clear in August of 2004 that the Pancake Theory was no longer viable. So I asked about that and other tests that NIST was doing.

JC: Is it right that the Pancake Theory is not actually part of the NIST report on the Twin Towers, because that went beyond their remit?

KR: They performed the tests and show in detail the test results, but they don't come out and call it the Pancake Theory and that this is what they were trying to do. The earlier investigation, which was conducted by the Federal Emergency Management Administration (FEMA) and ASCE, the American Society of Civil Engineers, did define the Pancake Theory, but NIST did not support it later. That's probably because they could not support it with their physical testing.

JC: Would that be true of the Pile Driver Theory as well?

KR: Well, the fact is NIST ultimately did not live up to their charter. You stated the charter of the NIST investigation at the beginning of the programme: they were to explain how and why all three buildings collapsed. What they actually did was to provide what they call the "collapse initiation sequence". They failed to explain the actual dynamics of the collapse. So what they provided ultimately was a sequence that led up to what they proposed was an inevitable collapse of each building. What I did in my Toronto Hearings presentation was to look in detail at that collapse initiation sequence for the Towers, and examine whether or not each of the steps for that sequence was valid.

JC: Let's turn to some of those specific steps. I'm going to list the seven steps that you mention and then ask you to comment on each in turn. You said that this is what NIST claims:

- 1/ a number of columns were severed by aircraft impact;
- 2/ loads were redistributed to the remaining columns;
- 3/ fireproofing was widely dislodged;
- 4/ columns and floor assemblies were softened by high temperatures;
- 5/ softened floor assemblies began to sag;
- 6/ sagging floors pulled the exterior columns inwards causing columns to buckle, and
- 7/ instability then spread around the exterior of the building.

You have disagreement with each of those points, so let me start with the columns and the loads: "a number of columns were severed by aircraft impact, and loads were redistributed to the remaining columns." What problem do you have with this?

KR: Well, let me step back just for a second and mention that this was the only time in history that any building had ever collapsed completely from fire. On that day three

instances – the only instances ever – occurred. That’s why we’re looking at the evidence that the Government would present for this explanation that would support the political policies; and we’re looking in detail.

So, to begin with the columns being severed: NIST did admit that only a small percentage of the columns were severed. It was 14% of the columns in the First Tower, and 15% in the Second Tower. (When we talk about columns in the Towers, we’re talking about 47 core columns – very supermassive core columns – and then over 200 perimeter columns.) So when 14% were severed, that left far more capacity of the building to support its own load. This was made clear by the design claims from the original engineering design, and reported in the Engineering News Record back at the time when the buildings were constructed. The original design claims included that one could cut away all the first story columns on one side of the building and part way from the corners of perpendicular sides, and the building would still withstand its loads in a 100-mile-per-hour wind from any direction. That really puts this 14% and 15% column loss in perspective. The design claims show that 25% of the columns could be lost without problem.

JC: Let me throw in here something I mentioned to you before the interview. Bažant and Verdure wrote an article in 2007 called Mechanics of Progressive Collapse, in which they looked at the Twin Towers collapses. In it, they say that 13% of the total 287 columns were severed, but they also say: “...and many more were significantly deflected.” What that means I’m not quite sure, but then they say: “This caused stress redistribution, which significantly increased the load of some columns, attaining or nearing the load capacity for some of them.” So they’re giving the impression there that there was this extra deflection of columns, which goes beyond this 13/14/15% that you’ve just talked about.

KR: Yes, so that does highlight an issue that independent researchers have had over the years. We’re given a number of different and conflicting official explanations through the Government agencies FEMA and NIST, and we wait patiently for those explanations to come out. That’s what we did in the case of the NIST Report. Then we also have either media, or other official story supporters like professor Bažant, coming up with additional information that’s not supported, or not cited by the official investigation. You gave an example there: this idea of a much greater percentage of columns being deflected or weakened in some way was not part of the official investigation, or its explanation for what happened. So we don’t necessarily look to try to answer every possible theory that could be put out there, but try to focus on the official investigation itself. So if professor Bažant could give more detail on exactly what the load reduction capacity was in specific quantitative detail, then perhaps NIST could look at that and say: “Yes, we agree with that, or No”; but I don’t believe that’s happened.

JC: You quote from one article – written, I think, by those who were actually involved in the design work in the first place back in the 1960s – that these loads on some of the perimeter columns could be increased by more than 2000% before failure occurs.

KR: That’s right. That was part of the Engineering News Record reports as well. One thing to remember is what the people who designed the building said. In 1993 (after the 1993 bombing of the WTC Towers), John Skilling, who was Lead Engineer for the design of the buildings, said that, given the exact occurrence of a jet airliner impacting the Towers (even though a lot of people would die because of the jet fuel fires), the Towers would easily withstand an airliner impact. So the people who designed the Towers did not think that an airliner impact would bring the Towers down. The loads, as you said, would be redistributed,

given the loss of columns, [but] the safety factor – the over-design of the building – was so great that column loads could be increased more than 2000% according to the Engineering News Record. So far, these first two steps – and I think NIST agrees – are not the critical factors that NIST gave for the collapse of the buildings. At this point in our discussion there's nothing that would lead us to believe that the Towers would be the first instances of total global collapse from fire.

JC: Things really start to kick in with their third point, on fireproofing, which they say was “widely dislodged”. On the surface, that looks reasonable: If a large Boeing 767 were to plough into a building, one might expect something like fireproofing – which one might imagine to be quite flimsy – to be stripped away, such that the fire would have a chance to do its real damage. But what kind of evidence did NIST produce to suggest that that really happened?

KR: Well, originally the NIST group did not present any evidence for that; they just stated that. Back in 2004 when I originally questioned NIST directly, their draft report – which is all that they had put out at the time – presented no physical evidence that fireproofing would have been widely dislodged. They said that the Towers would not have collapsed given the impact and the loss of columns and so forth if the insulation had not been widely dislodged. (They say “insulation” when they mean fireproofing.) So some of us asked them: “Well, where's your physical evidence for this? Where's the testing?”

They did insert a twelve-page appendix in the 2005 final report, describing a test that they performed using a shotgun. It's a modified shotgun, as if you'd bought it from Walmart or something. They modified it to use different projectiles, and they loaded it with nuts and bolts and so forth. Their test amounted to 15 shots from this shotgun at materials that were placed in a plywood box. They show the pictures in this appendix, and it doesn't look like the fireproofing has been sheared very significantly in the photographs. But, more important, it turns out that the energy required for this was simply not present. All of the available kinetic energy was consumed in severing the columns and destroying the aircraft as it hit the building. So, what would have been needed to shear off the fireproofing was another megajoule of energy per square metre, and shotguns pointed in every direction with these tiny little projectiles. Their evidence really isn't there for that sort of effect; so we're not convinced at all that that's what happened.

JC: Is there academic research that backs up this claim that there isn't enough kinetic energy to produce this effect?

KR: Yes, I cited calculations done by engineers at MIT. They had done very detailed calculations earlier, before the NIST report came out, showing where the kinetic energy was consumed in the impact, how the aircraft was torn apart, and how the columns were severed. All that made sense at the time. But then when the NIST report came out, and they added this additional appendix, they had an energy deficit. There was no extra energy for all of the shotgun blasts. Frankly, they would have had to strip the fireproofing from huge section of this acre-wide building – five floors worth of building.

JC: Does NIST acknowledge the energy deficit in the report?

KR: They do not. As I said, they did not even really put the shotgun test in their draft report; they inserted it in the final report, and never really mentioned the energy requirements.

JC: Has the MIT article been refuted?

KR: No, that article from MIT was not really mentioned either; they glossed over really the entire question.

JC: You say that it's not convincing that a Boeing 767 could transform into this mass of parts and become like a shotgun blast. But when I spoke to Dr. Frank Legge a while ago about the hit at the Pentagon, he described an experiment with an F4 Phantom aircraft which was flown directly at a resistant object, and he said that that was indeed completely fragmented. So, I'm just wondering whether that kind of effect could have produced something analogous to shotgun blasts here, and removed the fireproofing?

KR: Yes, I think I know what Dr. Legge was referring to, and I believe I've seen the video of the test he mentioned. When we talk about the 767 slamming into the Towers, we're talking about a plane coming through this perimeter wall, and it has a lot of area to work on, right? In order to support the official story it has to sever the columns; as it's severing the columns and also moving between the columns, it has to be converted into tiny projectiles (I assume people know what shotgun pellets look like); and then it has to move across a wide area of the building, and from multiple directions be able to shear off fireproofing using shearing forces. So, at this point, it is certainly not proven by any means. But there is a video from Purdue University - another group connected to the official accounts - that shows an animation of what happened, in which it's very clear (from their perspective) that the debris particles that were created were rather large; they were not small and pellet-sized at all.

JC: Let's turn to step 4, which is the softening and the sagging. This is where the explanation suggests that the floors themselves began to sag due to the extreme heat. They did something called a "paint deformation test" to establish this. What was that test? Can you describe what they did with that?

KR: Yes, this is one of the first things that I questioned when I wrote to the Government agency NIST. They had done what is basically a paint-cracking test. They had built a calibration curve by taking steel samples - some of the few steel samples that were saved from the Towers - and they had painted them with WTC primer paint that would have been used on the columns. They exposed those pieces to a range of temperatures, and therefore built this calibration curve with which they could compare the actual materials that were found. They found that the samples that were saved - that had been exposed to the actual fires in the WTC Towers - had seen a temperature of only about 250° centigrade, or Celsius. That's quite low given the kinds of temperature effects that NIST implies. (250° Celsius is about 480° degrees Fahrenheit.) None of the temperatures reached the 600° Celsius which has frequently been cited as a point at which steel loses half of its strength. (That's not critical, given that the design of the Towers allowed this huge safety factor as we discussed before.) None of the steel samples reached even the point at which half of the strength would have been lost. When we're talking about what steel they took and did this comparison with, NIST said it was selecting samples from an enormous amount of steel, and that they were looking at regions of impact and fire damage in that sample selection process. So, given the low temperature result, the 4th step of this collapse initiation sequence - that these temperatures weakened the columns and the floors - doesn't hold up in terms of examination of the evidence.

JC: Could you tell us at what kind of temperature the sagging phenomenon starts to take

place?

KR: Well, in their floor test the sagging started to occur at temperatures above 1000° Celsius; and that makes some sense. The maximum temperatures that NIST cited in their report were gas temperatures of about 1000° Celsius. But we're talking about the steel; that steel temperature will lag behind the gas temperature. What they actually showed in the floor model test that UL helped them with was that, if they put the floor models in the furnace and tested per ASTM E119, the temperature would rise, and after about 45 minutes the sagging would begin, but only about 3 inches of sagging would occur at that temperature. If they let it go farther it would sag a bit more, but not nearly up to the point that they reported in their computer model, (which they ended up resorting to, because these physical tests were not really supporting their predetermined conclusions).

So, it's a strange question: To what temperature would it have to rise to meet the predetermined objective of NIST? The fact is, the floors in these test models did not do what NIST was implying they might do. You could see in the pictures that after 45 minutes, and even after the tests were finished, the floors had barely sagged at all.

JC: And yet, when I turn back to that article by Bažant and Verdure, they say that "[b]ecause a significant amount of steel insulation was stripped" - (they make that claim) - "many structural steel members heated up to 600°C". They then go on to say that "at 600°C" "about 85%" of the yield strength is lost. So they're claiming that many structural steel members did in fact get up to that temperature.

KR: Yes, as we see in the NIST Report - the NCSTAR1-3C and NCSTAR1-3E reports - the physical tests show that none of the steel samples taken from the Towers reached a temperature of 600°Celsius. So there is absolutely no evidence for what professor Bažant is contending. None of the steel recovered from the WTC Towers and tested by NIST reached the temperature of 600° Celsius; there is simply no physical evidence for that contention.

JC: Well, it's amazing that you say that, because that quote actually references the NIST study. It says, "NIST 2005" : "many structural steel members heated up to 600° C, as confirmed by annealing studies of steel debris (NIST 2005)".

KR: Yes, so it's clear there's a problem there. They make it very clear in their report that they did this paint deformation test, and also a steel microstructure test. A steel microstructure test shows very clearly that if anything had reached 600° C, it would have formed what are called spheroids; there would have been a steel microstructure effect called spheroidisation. None of the steel samples from the WTC showed that; therefore none of those samples had reached a temperature of 600° Celsius.

JC: And yet, in their next step, NIST says that whatever sagging of floor assemblies did take place, this was sufficient to pull the exterior columns inwards. Bažant and Verdure say this was due to "catenary action" (a lateral force produced by the chain-like curvature of the steel that was able to pull the sides inwards). Do you buy that?

KR: No, I don't buy it, because I'm looking at the direct evidence, not at hypothetical statements as Bažant and company are doing. If you look at the actual physical evidence - again, from the tests that my Company, UL, did on behalf of NIST for their investigation - you see that, when the floor assemblies were put in the furnaces and tested for the standard test, the sagging of the floors was only about 3 inches in the middle of the 35-foot-

long span of floor assembly. This was with basically all the fireproofing removed. They had a series of models made with decreasing amounts of fireproofing applied, and even the one that basically had no fireproofing on it only sagged about 3 inches in the middle, and the major joist parts did not sag at all.

The problem with the NIST report is that, with all these physical tests failing to support their contentions, they turn to a computer model. (By the way, NIST is not willing to share that with the public.) They show these computer model images in their report, and they turn this 3 inches of sagging into a dramatic 42 inches of sagging, with the joists bending down severely. At this point, it really begins to show that NIST was more political science than physical science; people begin to believe that they were intending simply to support the political policy of their bosses. They reported directly to the Department of Commerce, and to the President, so it's not terribly surprising to some people that they would do this sort of thing. To turn away from the physical evidence and create a computer model that contradicts the physical evidence (and which they're not willing to share with the public) - that's where we begin to believe that we are looking at scientific fraud.

JC: I said to you before the interview that I checked out the computer scenario that you're referencing. Is it "DBARE" in the NCSTAR 1-6, Chapter 4?

KR: Yes, that's one of the cases in the computer model.

JC: I did notice that they ran this model with no insulation, at 598° centigrade, for a massive 90 minutes. Do you think that's all quite unreasonable?

KR: I really do, and obviously as we stated there's no physical evidence that the fireproofing was stripped off. Even if it had been, the floor models test show that the floors would not have sagged as much as the computer showed they did. The steel temperatures did not reach 600° Celsius per the steel temperature tests, so obviously that's incorrect. And the 90 minutes is twice as long as - according to the NIST Report - the areas of failure could have seen. The fires in the WTC Towers had to migrate around the core of the building in order to reach the areas where initial failure was said to have occurred. So, in the North Tower for example, the plane hit the north side of the building and had to migrate around to the south face of the building where the initial failure - according to NIST - occurred. That migration time would have allowed for only about 45 minutes of fire at the failure zone. So, to expose their computer-generated segments to 90 minutes of fire, which is twice as long, at temperatures that far exceeded what the physical evidence showed, and stripping off all the fireproofing when there's no evidence for that, is quite unbelievable. It gets worse than that, as I think you might have seen.

JC: You mention disconnecting the floors and then applying an imaginary pull-in force. What's that?

KR: Yes, if you look at this report NCSTAR1-6, the computer model that justified the NIST contentions was based on these segments of wall assembly that were ultimately disconnected from the floors. So that raises the alarming question that NIST's sequence of events is dependent on the floors pulling this wall inward, and of course if they're disconnected that can't possibly happen in the real world. So one might wonder: Why would they do that? And the reason, I believe, is that the wall assemblies were this incredible grid of supported structure; if a floor had sagged - it didn't, but if it did - it would have had a limited ability to pull in a floor, because the floors and the walls formed this interconnected

grid. All of the floors would have had to sag. Had that happened, there would still have been support from the surrounding structure. So, I think they had to disconnect the floor models to give even an indication that the wall might have pulled in (using a force that frankly did not exist if the floors were not connected).

JC: So, is the idea that the sagging pulled in the sides, and then a disconnection phenomenon happened almost instantaneously in order to allow the collapse to take place?

KR: Well, in order for the inward pull of the wall to occur, the floors would have had to be connected. Unfortunately, in the model, the disconnection occurred before the inward pull was applied, so that's an indication of just blatant fraud in my opinion.

JC: And is the scenario that they rely upon for their explanation?

KR: That's right. That's right.

JC: And yet we have Bažant and Verdure saying that these were "meticulous, exhaustive and very realistic computer simulations".

KR: Well, those are impressive adjectives, but what we really need is evidence in order to support this critical story – this explanation that drives all public policy, or did at the time, in all of the wars. We really need evidence, and we need to be objective.

JC: Then we have this final step where the claim is that "instability spread around the building". My immediate reaction to that is: If it was happening all the way around the building, you might have this uniform symmetrical collapse, but wouldn't that have to happen almost instantaneously?

KR: That's right. I considered myself how quickly this instability would have had to spread, so I gave the example of the North Tower. If, on the south face of the Tower, the columns began to be pulled inward and therefore the building began to collapse on one side, then in order to see the uniform collapse that we saw – perfectly vertical, uniform collapse – that instability would have had to spread around the other walls of the building in approximately half a second, or less, of the ten-second fall time that we saw. Now, that's twice or several times the speed of sound; it doesn't make sense that that sort of physical deformation would be able to travel at that speed.

JC: Then we're left with this phrase: "global collapse ensued". That looks like 'no further questions asked'.

KR: Yes, that gets us back to the fact that many of the questions are left unanswered. The buildings' fall time itself, approximately 10 to 12 seconds according to NIST, seems to defy the idea of the resistance that would have come from the floors below. If each of the floors had caused a hesitation of just half a second, we would need another 40 seconds for the buildings to have collapsed. There should have been some sort of deceleration given the massive structure below, but we didn't see that. Neither was there any mention of the things people call 'squibs', these cannon-like bursts of material that appear to be explosive effects that were occurring 10 to 30 floors below the collapse front. There's no mention of the molten metal that was pouring from the building, or the rubble piles; and a lot of other evidence was just ignored by NIST simply not addressing the collapse dynamics.

JC: Do you feel they only went so far with their investigation because they realised there

were so many problems?

KR: Yes, I think that's what happened. That's my guess.

JC: Let's turn to WTC Building No. 7. Just before we get to this 2008 Final Report, I believe I'm right in saying that the earlier investigation into the collapse of Building 7 considered the role of diesel tanks fuelling the fires in the building, and there was the suggestion that debris from WTC 1 had significantly weakened the structure. But that was all abandoned by NIST, was it not, in its final report?

KR: Yes, that's exactly right. The earlier investigation by FEMA suggested that diesel fuel fires from diesel fuel tanks below the building had a significant effect in causing fire that would burn for a long time and cause the destruction of this third skyscraper, Building 7. It needed to be an unusual explanation because this building was not hit by a plane. It was 47 stories tall, and it fell in basically 7 seconds into its own footprint, so there really needed to be a very solid and convincing case. Thus we saw the diesel fuel fire hypothesis: that damage from the falling North Tower initiated fires, and then somehow initiated the uniform collapse of this third building. We [also] heard that the design of the building over the Con. Ed. substation was somehow impactful. But, as you just mentioned, NIST abandoned, and clearly they took the opposite position on, all three of these early hypotheses. They said that none of those things played a significant role in the collapse of this building. They ultimately said it was basically an office fire. They didn't make it really clear how the office fire began, but they did say that it was an office fire that brought this building down.

JC: What was their investigative approach like with Building 7? Did they concentrate on physical testing and use photographic evidence, or did they again mostly rely on computer modelling?

KR: They did rely on computer modelling; in fact they did no additional physical testing. We talked about the report for the Towers that came out in September of 2005. It was after yet another three years, September of 2008, that the report for Building 7 came out. They had disconnected that report from their investigation. They were clearly having trouble with it. In 2006 the lead investigator was reported saying that they had trouble getting a handle on Building No. 7. They didn't know what had occurred as of 2006, which was very surprising given that in 2008 they knew exactly what happened in their final report.

JC: Something that always sticks in my mind is a quote by David Coburn of Popular Mechanics. In the BBC's Conspiracy Theory program on 9/11 (in 2007, I think), the presenter says, "But it does look exactly like a controlled demolition, to which David Coburn replies: "I understand why people might think that. I see what they're saying, but when you learn the facts about the way the building was built, and about the way it supported itself, and the damage that was done from the collapsing towers that preceded it, the idea that it was a demolition just holds no water." So, he was giving the impression that he really did completely understand how that building came down, but you're saying that at that time, in 2007, NIST itself wasn't sure.

KR: That's right. Shyam Sunder, who was the lead investigator for NIST, was interviewed for New York Magazine in 2006, and he stated they really didn't know what happened to Building 7. Yet, a year later, you're saying that a media representative - who I would assume is much less technically competent - was very well-versed on exactly what happened. This is the field of play that those of us interested in getting to the truth of the

matter have to deal with: we've had the official investigations, and yet also these media representatives lobbying various competing and, in some cases, conflicting ideas to the public; and people trying to deal with all of that at the same time.

JC: Yes. OK, I want to give an impression of NIST's basic narrative for Building 7. I shall list what you said in your Toronto presentation and then ask you to flesh it out a little. You said that they say: "Thermal expansion of the floor system surrounding Column 79 led to the collapse of Floor 13, which triggered a cascade of floor failures. In this case, the floor beams on the north-east corner of the building expanded enough that they pushed the girder spanning between Column 79 to 44 to the West on the 13th Floor. This movement was enough for the girder to walk off its support at Column 79." Now, there's a lot to take in there. Could you flesh that out and give us a clearer picture of what they're saying?

KR: Yes. After abandoning those earlier hypotheses, NIST began to look at what might have been the initiating event, so again they went back to what they felt initiated the event. So, looking at videos and photographs, at least at the beginning, NIST noticed that there was a kink in the building at the east side, which appeared to be underneath one of the core columns, or some of the core columns of the building. They hypothesised that this would have been around Column 79. (Each column in the building had a number.) Column 79 is one of the core columns, not in the middle but towards the east side of the building. [So, they reasoned], if you see the building kinking, that point must have been where the failure occurred. (Looking at the video [though], you have to notice the perfect symmetry – other than this minor kinking on the east side of the building – coming down looking exactly like a controlled demolition as cited by almost everyone who sees it.)

NIST came up with something based on what we call linear thermal expansion. Materials like steel expand, if you heat them up, and they expand linearly (in the sense of axially) according to the length of the column. That's what's happening in their hypothesis. In each of the floors there are massive beams that hold up the concrete in the floor pans in the building. NIST has hypothesised that there was a fire that occurred on Floor 12, which heated up the floor of Floor 13; that caused these floor beams to expand a few inches along their 53-foot length; and when doing that these beams butted up against what's called a girder (which is another structural component in the floor). The idea is that a few inches of expansion broke some bolts and pushed this one girder off its seat, and that caused this critical Column 79 to be unsupported in some way; the column then buckled and failed; and that led to complete collapse of the building in seven seconds. Now, that's a stretch to believe in itself. But we have to investigate, because we're trying to be objective and look at the evidence: Is it possible that that would have occurred? That's what I tried to do in my presentation.

JC: Yes, I'll ask you about the details in a moment. Let me first ask: Is their idea in the report that the internal structure failed and fell ahead of the external structure, falling such that you could have this free fall?

KR: They do imply that, yes. They suggest that it was like an empty box with all the internal structure not really connected to the outside of the box. I mean, they had to explain how this building could have come down so quickly, and they did imply in the report that all the internal guts of the building just collapsed, and then the empty box around it collapsed. Of course, that doesn't make sense either, because the columns were all connected together; everything was connected to the exterior of the building. There was no internal building

within an external shell, so that doesn't really hold up either. But we have to keep going back to exactly what they're saying to see if any of it supports itself. So far, with the Towers, we've seen that it didn't, and I believe that's what I showed as well with Building 7.

JC: OK, now one of the points that you make is that their fire theory actually contradicted what was known about the fire resistance plan for the building.

KR: Yes, my company, Underwriters Laboratories, is cited directly in the NIST WTC 7 Report as having performed the fire resistance testing for the steel components in the building. According to the New York City Code, the building should have withstood hours of fire, and yet we're given this failure-caused-by- thermal-expansion-due-to-fire hypothesis that contradicts that fire resistant certification. There are additional complications too. The NIST Group, in their interim meetings, stated clearly that in a given area of the building there was only 20-minutes worth of fire load. So the fire had to migrate throughout the building. But in a given area, for example near Column 79 on Floor 12, there was only approximately 20-minutes worth of fuel for the fire to consume. So, if we're talking about hours of fire resistance and 20 minutes of fire load, they directly contradict each other.

JC: And all the fireproofing presumably was intact?

KR: That's exactly right. NIST does not contend that fireproofing loss occurred in Building 7, so these are fully fireproofed steel components that somehow failed due to fire.

JC: And you say somewhere that, although the sprinkler system apparently wasn't working, that system did actually allow for an external water source to be added in an emergency. And the fire crews were around; they could have added that.

KR: Yes, they don't go into a great deal of detail on that. A lot of people have said that the sprinkler system in the building was not functioning, but it's clear that there was a possibility of making it functional. That was just not done.

JC: Let's concentrate on this thermal expansion, and discuss the shear studs as well. Could you explain how important these shear studs are to this whole study? Why did NIST say one thing at one time, and then seem to change its mind about it?

KR: shear studs are basically large bolts that are set in the floors. They connect the floor assemblies, the pans, to the floor beams. NIST originally stated that most of the beams and girders were made composite with the floor slabs, so there were shear studs. In 2004 they said they did exist, and then in 2008, when NIST put out their final report, they contradicted themselves saying shear studs were not installed on the girders. The point here is that, if this linear thermal expansion occurred, it would have had to be what's called differential linear thermal expansion for it to have any effect; that is, the floor beam and the floor slab would have had to expand at different rates, and the shear studs prevented that, so they made them composite. They made them as one piece. It's kind of technical, but the fact is that NIST contradicted itself on these shear studs. They also contradicted an academic report made by a man named Salvorinus who was Project Manager for the engineering company that built the buildings. His diagram and his academic paper made it clear that these girders did in fact have shear studs on them. The point is that NIST, as it went on, was trying to get closer and closer to some possibility that this linear thermal expansion could cause even this beginning, initiating event, and they were having trouble and having to contradict themselves to do it.

JC: You're saying that they had to get rid of the shear studs in order for this phenomenon of differential thermal expansion to account for the collapse?

KR: That's right. They had to get rid of the shear studs. Frankly, they had to ignore a lot of other connections, because when we talk about this girder moving off its seat, it was bolted and welded to the seat. So, this linear thermal expansion had to create enough force to break all these shear studs and the bolts that were on the seat, and the welding points on the steel. It had to break all of that in order for this critical girder to move off of its seat and fall to the floor.

JC: This differential thermal expansion between the steel and the concrete was necessary to produce this effect.

KR: That's right, because the floors were all composite. We're talking about a huge floor slab, right? It would resist the linear thermal expansion of the individual floor beams. The floor slab is this huge concrete and steel pan structure, so if it was connected to the floor beams it would have resisted that; and in fact for the linear thermal expansion to occur by just a few inches, it would have had to break those shear studs off.

JC: Is it true that the concrete and the steel have quite a difference in the rate of expansion under heat?

KR: That's exactly right. There are differences in the expansion capacity of the different materials. That would have created problems for the steel expanding differentially and causing the effect that NIST said that it did. There's one other thing: there was some input to the NIST report after it came out from some professors in Australia who had actually tested the exact linear thermal expansion effect that NIST was citing; and they came out clearly saying that that was not their experience in their testing. They had done actual physical tests – the kinds of tests that NIST should have done – to see if this linear thermal expansion would have occurred; and it would not have occurred according to these professors from Victoria University in Australia.

JC: That's interesting. I'm trying to understand this. So they're saying that that phenomenon did not occur under their testing, and yet you say this differential expansion does generally happen. I don't understand how that works.

KR: Well, no I don't necessarily say... Linear thermal expansion is not a new effect. It is something that can occur. All materials expand when they're heated, but I'm not contending that that did occur in WTC Building 7 – certainly not from 20 minutes worth of fire, and not on fireproof steel components. I believe that it did not occur. But even if it had, the idea is that these beams composite with the floor would be susceptible to failure is something that these professors from Australia are challenging. There are certain restraints that do occur when these things are connected. It may be too complicated for us to get into in this interview, but basically the linear thermal expansion would not ever occur due to this restraining force from the floor slab.

But what makes it even more difficult to believe is that, in the computer model, NIST actually didn't heat the floor slab. We've got a composite structure that's connected with shear studs, and what NIST does in its computer is to heat simply part of the structure: the beams below. Again, they heat to temperatures that are not supported by any physical evidence, but they don't heat the concrete floor slab above. That's what they feel causes

the differential linear thermal expansion at a greater degree. But, of course, if you don't heat the floor slab you're not really reflecting anything realistic.

JC: Yes, I was just thinking that. Is there any way in which the fire could have heated just the steel without heating the concrete?

KR: Well, it would have had to heat the steel beams, but not the steel pans upon which the floor slab was lying. But they're right next to each other, so it would need to have been some sort of torch effect that doesn't make a lot of sense given the effects of a normal office fire.

JC: Now that NIST has its results, has it issued any recommendations to the building industry? Have these been taken up by the architects and engineers?

KR: I wrote a paper on that a year or two ago called Are Tall Buildings Safer as a Result of the NIST WTC Reports? It's a very good question. If the NIST World Trade Center reports are in fact legitimate, then we have a problem: any tall building that experiences an office fire, as World Trade 7 did, can collapse in a matter of seconds; thus we have a critical safety problem. We would need to retrofit around the world.

The NIST Group did make a number of recommendations related to what happened with the WTC collapse: from the evacuation to the elevators, and all sorts of things. [But] our greatest interest must be in the things that led to the supposed collapse of the building: thermal differential expansion, for example. [But] when we look at the municipal codes, and what building professionals have adopted, they have not adopted any of the recommendations related to the supposed collapse initiation of either the Towers or Building 7. That is an indication that the building community is not taking the NIST WTC reports seriously. That goes for the recommendations for the Towers, as well as for things like increasing fireproofing, bond strengths, or anything like that that might have some relation to what happened to the Towers. The building community has not adopted any recommendations related to those things. So that's an indication. There are a lot of reasons why we can't believe NIST's report. They've ignored previous findings; they didn't do any physical test to confirm the explanation of the Building 7; the fire hypothesis is contradicted by the fire-resistance plan that existed; based entirely on computer simulations that we can't see, and that are not based on evidence, and so forth and so on. It's just really completely unbelievable.

JC: You say it's not possible to get hold of the data that they used for their computer modelling. Was this the request that was made, to which NIST responded by saying: We're not going to give you this information because it might "jeopardize public safety"? Is that the one?

KR: That's the one, yes. Structural engineer Ron Brookman, a fellow board director of mine at Architects & Engineers for 9/11 Truth, had made a Freedom of Information Act (FOIA) request to NIST in 2009. He asked for all the calculations and the analysis related to this central claim of NIST that the girder walked off its seat. NIST ultimately responded to Ron Brookman saying that they're going to withhold the thousands of files related to that because the NIST Director had determined that the data might jeopardise public safety.

JC: I don't quite see how that could possibly jeopardise public safety. In fact it seems to me to be quite the opposite really.

KR: Yes, that's what I would think: this is all about safety, and people need to know so that this sort of thing doesn't happen again. Instead, what we're finding is that they're concealing the information that leads to their conclusions, because for some reason that information itself might jeopardise the public safety.

JC: Is it right that with Building 7 they didn't actually look at the possibility of thermite being used? I understand that Steven E. Jones had identified the residues of thermite before NIST's final report on Building 7 came out. But I understand that they didn't consider that.

KR: That's true. They were forced to make some statement in what they call a FAQ response. They made a kind of weak hand-waving statement about thermite, saying that if thermite had been used, their hypothesis was that it would have been used in one gigantic bomb placed right next to Column 79; and that would have been too much thermite for anybody to have brought into the building without anybody noticing. To me, that's a kind of diversionary statement; it's more a straw man argument.

There's great evidence for thermite at the WTC: molten metal; all of the witnesses to molten metal; the photographic evidence; the fact that the fires could not be put out for five months; the many witnesses to the air being filled with hot burning particles; the numerous vehicles in the area that were scorched by something; and a lot of other evidence, including peer-reviewed scientific research that I've helped to produce along with professor Jones. All this leads to the conclusion that thermite – highly-explosive potential – and also incendiary material was present at the WTC.

JC: Niels Harrit and his group claimed to have identified nanothermite, a very sophisticated form of thermite, in 2009. But I understand that in 2011 James Millette also looked at dust samples from the WTC collapses, and drew the conclusion that there was actually no evidence for nanothermite.

KR: Yes, I've heard of this and had some reactions with one or two people on it. James Millette, it turns out, was well-known for having helped create the official reports on the analysis of WTC dust. He had created a form that was used to pre-screen all the materials in the dust (that means selecting some things for analysis and ignoring other things). Then, after the report from Harrit et al came out citing red/grey chips in the dust, Millette was prompted to do a few studies based on some samples he had in his possession. (Because he was one of the official investigators, he had some of this dust.) He did claim that he finally found these red/grey chips, which he had not reported before. He did not cite any of the iron-rich spheres, which essentially every other researcher has identified in the WTC dust. But he did now finally say that he'd found these red/grey chips.

What he did was an interesting sort of series of tests that had very little to do with the Harrit paper. The Harrit paper cites approximately ten specific tests that were performed on these red/grey chips; and Millette performed one of those ten tests. Then, something that was very indicative to me, he put them basically in a muffle furnace and ashed them; he brought them up to 400° Celsius and they turned to ash. One of the critical aspects of the red/grey chip analysis was that these chips ignite above 400° Celsius; so at 400° Celsius they would not have turned to ash, according to Harrit, at all. Then, at about 430 degrees Celsius, they would ignite and form these iron-rich spheres, that would form right out of the material itself. That's an indication of a thermitic reaction, because one of the major products of thermite reaction is molten iron. Millette ignored all of that by putting his materials in a muffle furnace. Then he said they ashed at a temperature below what should have been the

ignition temperature. So there's a lot of questions about these series of tests that Millette did. It has not been peer-reviewed, and it hasn't been published years later. People cite this unreviewed paper all the time, but what would be better for scientific progress (as with Harrit's and Jones's academic papers, that are peer-reviewed and published) would be for a published and peer-reviewed response to be forthcoming in future which actually does replicate the study, and doesn't do this sort of thing, which doesn't seem to be very helpful.

JC: So I'm getting the impression from everything you've said today about NIST that really it's more of a political organisation than most people would suppose. We tend to think of it as the epitome of science, but the impression I'm getting is that it is compromised politically.

KR: That does seem to be the case. Certainly the NIST WTC reports suggest that the NIST scientists – at least with this investigation – were led and directed by political interests.

JC: Just before we end, I want to ask you a general question about what you think the state of play is now with the call for 9/11 Truth. Do you think that you, and others who are researching this, are getting to the point now where there's so much evidence that we really should be seeing a proper investigation? And, if that's the case, are we actually getting any closer to a proper investigation?

KR: Well, I think that people are more open to questions about 9/11 given that it's been thirteen years since those events. As time passes, wounds heal, and people are not as invested in questions that might contradict their worldview from that long ago. Yes, I do believe we have an opportunity, even this year, to see a legitimate investigation. There's an initiative in New York City called The High-Rise Safety Initiative in which citizens of New York City have submitted 60,000 signatures on a petition to the City Council of New York to call for the investigation of any high-rise collapse in the city; and this would go back to the events of 2001 – particularly Building 7. They've been challenged, because there are politicians in the New York City Council who are trying to reject that petition – to throw out more than half of the signatures obtained; right now there's a battle going on. People can find the website for High Rise Safety Initiative just by searching on the Internet, and I think there are ways to help.

JC: You say there's a possibility that this might actually go forward this year.

KR: Yes, they're going to court now with the City Council, and if they win, then there will be a vote in November for this new law, which would require investigation going back to the events of Building 7.

JC: If this does go ahead, do you have the hope that it would be a fair investigation, or do you think that the political forces would again come and compromise even that?

KR: It would be a chance; it would be an opportunity to do a fair investigation – a legitimate investigation.

JC: Well, Kevin, thank you ever so much for coming again on the programme. You've provided, as you did last time, a wealth of information for us. I think you've given us reason enough at least to question the work of NIST in this area; I think you've cast a shadow of significant doubt over the idea that the collapses have been satisfactorily explained according to the official story of 9/11. So, I do thank you very much indeed for sharing all

this with us, and for coming on the programme again. It's been good to speak to you.

KR: Well, you're welcome. And thank you for your efforts to get the word out on subject such as this.

JC: Thank you ever so much.

KR: Thanks Julian.

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