



# 9-11: Why Did the Towers Fall?

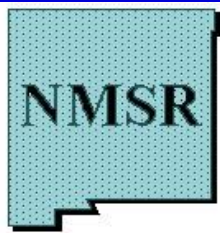
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**Dave Thomas**

**NMSR Meeting**

**May 19th, 2010**

**This version updated May 20<sup>th</sup>, 2010**



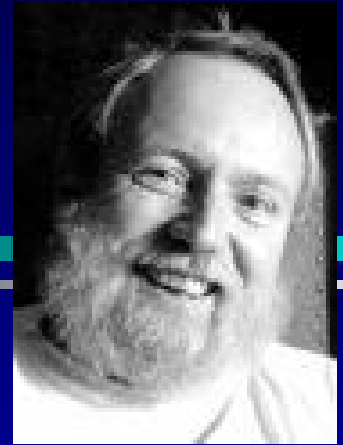
New Mexicans  
for Science and Reason

<http://www.nmsr.org>



# Thought of the Day

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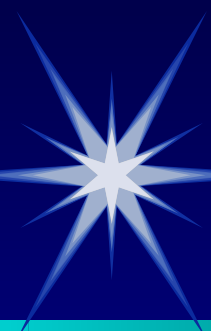
**Opposition to evolution is cultural. It isn't because people are laying awake at night worrying about gaps in the fossil record.**

**Michael Ruse**



# 9-11: a Conspiracy on Steroids

**“Sheasie!” writes “Dear Dave,  
I was recently introduced to your post as  
an example of someone with a brain who  
actually believes the 'official story'.  
To be clear... do you believe the 'official  
story'? (A bit of a loaded question,  
perhaps, but a fair one, I believe.)”**



# 9-11: a Conspiracy on Steroids

**My response:**

**“I accept the overwhelming evidence that the towers and pentagon were attacked by Muslim terrorists using hijacked planes.”**



# 9-11: a Conspiracy on Steroids

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**Sheasie! counters:**

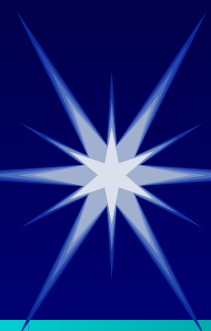
**“I sense a 'hedge'. Is my perception accurate? In other words, why not a simple, 'yes'?...”**



# 9-11: a Conspiracy on Steroids

**Sheasie! adds:**

**“And if I may rephrase: You believe that 19 desert-trained cave-dweller muslims circumvented the most advanced and reinforced national security system in human history... and using nothing but box cutters, successfully executed a coordinated series of precision attacks...”**



# 9-11: a Conspiracy on Steroids

**My reply: “I don't think it was the 'desert-trained cave-dweller Muslims' who successfully carried out the attacks, I think it was the US/Europe-trained city-dwelling muslims who attended universities (i.e. Harburg Technical University in Hamburg), flight training classes (at Huffman Aviation School in Venice, Florida), etc. who pulled it off. THOSE Muslims - not the guys in caves.”**

# Maturation of “9-11 Truth”



[www.ae911truth.org](http://www.ae911truth.org)



**Debate at NMTech,  
10-24-09**

# AE911 Truth Arguments

## – Twin Towers



**“This is not a 'collapse', it is an explosion!”**

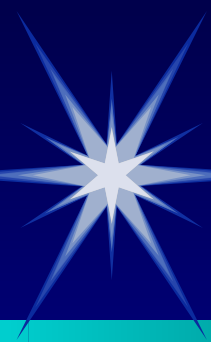


# AE911 Truth Arguments

## – Twin Towers

**“As seen in this revealing photo, the Twin Towers' destruction exhibited all of the characteristics of destruction by explosives: (and some non-standard characteristics) ”**

- 1. Destruction proceeds through the path of greatest resistance at nearly free-fall acceleration**
- 2. Improbable symmetry of debris distribution**



# AE911 Truth Arguments

## – Twin Towers

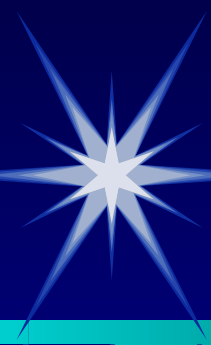
3. Extremely rapid onset of destruction
4. Over 100 first responders reported explosions and flashes
5. Multi-ton steel sections ejected laterally 600 ft at 60 mph
6. Mid-air pulverization of 90,000 tons of concrete & metal decking
7. Massive volume of expanding pyroclastic-like clouds



# AE911 Truth Arguments

## – Twin Towers

- 9. Isolated explosive ejections 20 – 40 stories below demolition front**
- 10. Total building destruction: dismemberment of steel frame**
- 11. Several tons of molten metal found under all 3 high-rises**
- 12. Evidence of thermite incendiaries found by FEMA in steel samples**



# AE911 Truth Arguments

## – Twin Towers

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**13. Evidence of explosives found in dust samples**

**14. No precedent for steel-framed high-rise collapse due to fire**



# Answers!

**Do the Collapses look like Controlled Demolitions? NO!**

**Controlled Demolitions are always concentrated on the lowest floors of high rises, to let gravity do the work.**

**The Towers clearly began collapsing on the same floors as the planes struck ...**

**Lower floors didn't fail until “piledriver” reached them...**

# A Controlled Demolition – Seattle's Kingdome





# Flashes, Puffs of Smoke...

**“Over 100 first responders reported explosions and flashes”**

**There are many causes of loud noises besides explosions: car crashes, rockslides, etc.**

**Expulsion of air inside the tower floors produces puffs of smoke resembling “squibs”**



# Flying Beams...

**“Flying steel beams, pyroclastic clouds”**

**These are NOT typical of controlled demolitions. The collapse of so much weight (300 to 500 thousand *tons* of material) had enough energy to pulverize concrete, fling beams, and more.**

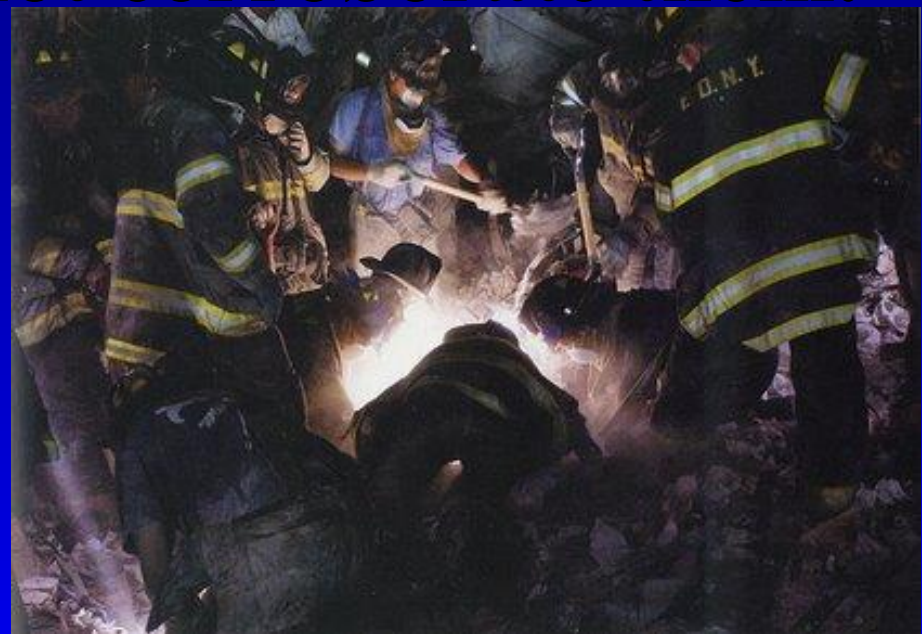
# Molten Metal...

**“Molten pools of metal...”**

**Stories of molten steel are anecdotal;  
experts on scene did not corroborate them.**



**Steven Jones, “Why  
Indeed” Paper**



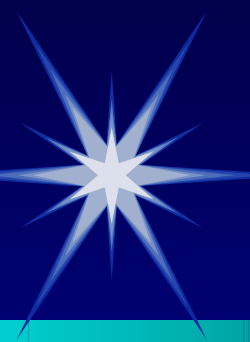
**Original Photograph  
(it's *lights!*)**



# Thermite?

**“Thermite was used”**

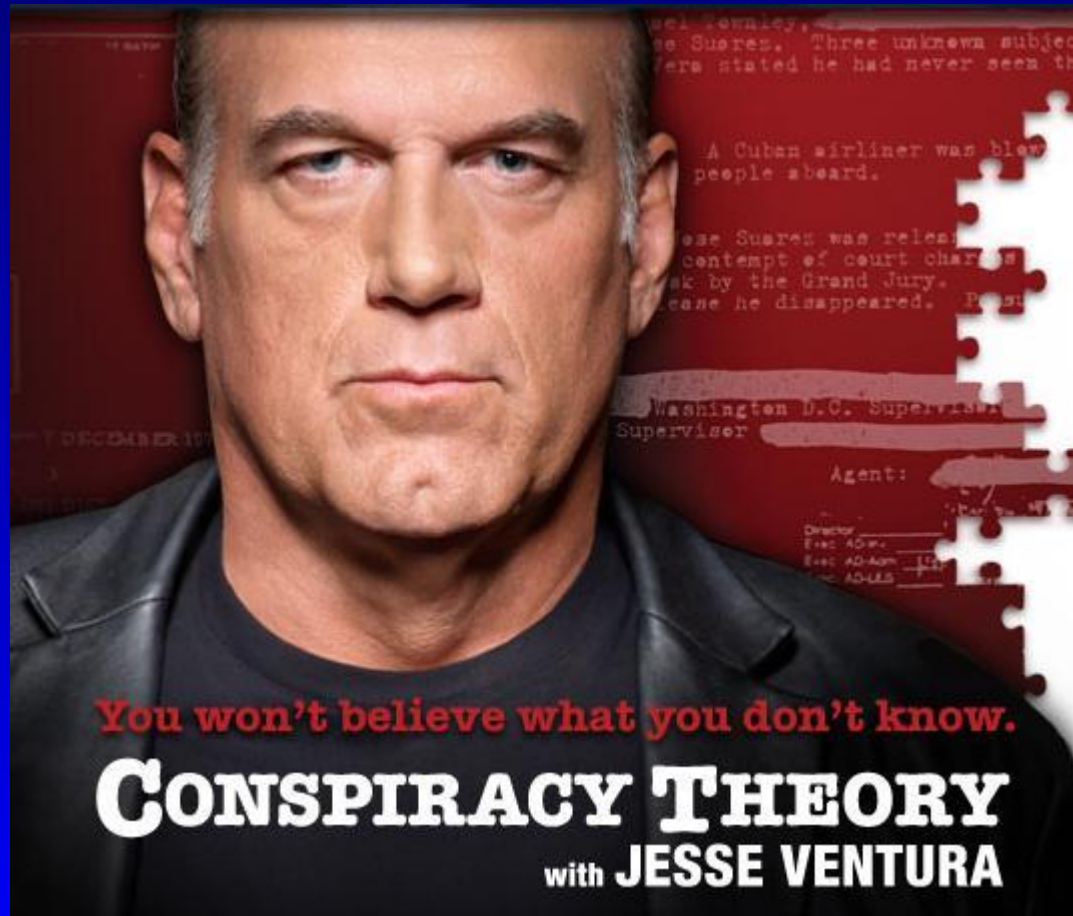
**Much is made of a “peer-reviewed” paper by Jones et. al. (“Active Thermitic Material Discovered in Dust from the 9/11 World Trade Center Catastrophe,” by Niels H. Harrit, et al.). But, this was published in an obscure journal, and the methods of getting it accepted were so over-the-top that the journal editor felt compelled to resign.**



# Bentham Journal Statement

Marie-Paule Pileni, the editor in chief of Bentham Open Chemical Physics Journal, resigned after publication of the paper, saying *“I cannot accept that this topic is published in my journal. The article has nothing to do with physical chemistry or chemical physics, and I could well believe that there is a political viewpoint behind its publication. If anyone had asked me, I would say that the article should never have been published in this journal. Period.”*

# The Jesse Ventura Connection



**NM Tech,  
EMRTC tested  
thermite on  
beams for the  
Jesse Ventura  
reality show  
“Conspiracy  
Theory”.**



# Thermite Test at NM Tech





# “Conspiracy Theory” filming

Two beams were tested – one without thermite, one with. NM Tech's Van Romero was quoted saying the non-thermite test had no effect on the beam; he then asked if the thermite test *would* have an effect.

The second thermite test was shown without comment; Ventura simply says “Any questions?” What was left out was that there was **NO STRUCTURAL FAILURE** with the thermite.

# Ventura Video

## Unsecured Coins Quickie - Jesse Ventura

<http://www.youtube.com/watch?v=nrGxzsxSqMk>



# The Romero “Retraction”



On Saturday October 24th, the much-anticipated presentation at **New Mexico Institute of Mining and Technology (New Mexico Tech)** in Socorro, NM took a few twists. **Kathy McGrade**, an alumna of New Mexico Tech specializing in metallurgy, arranged a *9/11: Blueprint for Truth* live multimedia presentation during the school's annual 49ers Celebration and Alumni Homecoming Weekend. Mr. Gage and Ms. McGrade were to make a joint presentation immediately after the alumni luncheon. A decision was made by **Van Romero**, Vice President for Research and Economic Development at NM Tech, to allow a half hour for Dave Thomas, another alumnus of NM Tech, to present an opposing viewpoint after Mr. Gage's presentation. Romero is notable for his **retraction** of his initial agreement with many observers that the Twin Towers' destruction must have been accomplished with explosives. This change of opinion has not been explained satisfactorily. An attempt to call Mr. Romero for comment failed when the phone number provided on the **web site** proved out of service.





# The Romero “Retraction” at AE911 Truth

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“Romero is notable for his retraction of his initial agreement with many observers that the Twin Towers' destruction must have been accomplished with explosives. This change of opinion has not been explained satisfactorily. An attempt to call Mr. Romero for comment failed when the phone number provided on the web site proved out of service.”



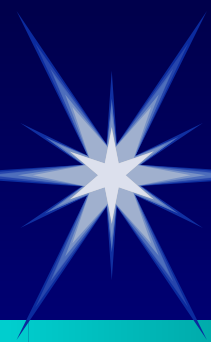
# The Romero “Retraction”

Richard Gage: “That retraction might or might not be associated with a sizable federal grant to the Institute. EMRTC was recently featured in the National Geographic Channel program 9/11: Science and Conspiracy, in which it created a series of three dubious experiments designed to support the official story.”

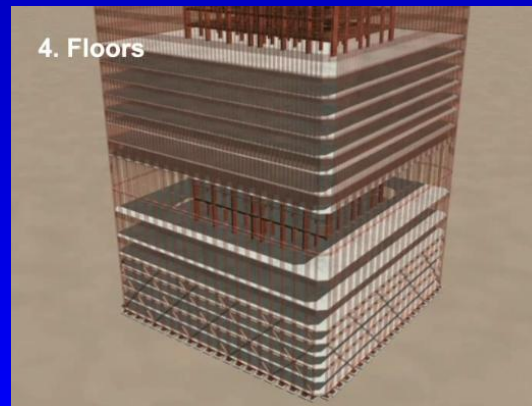
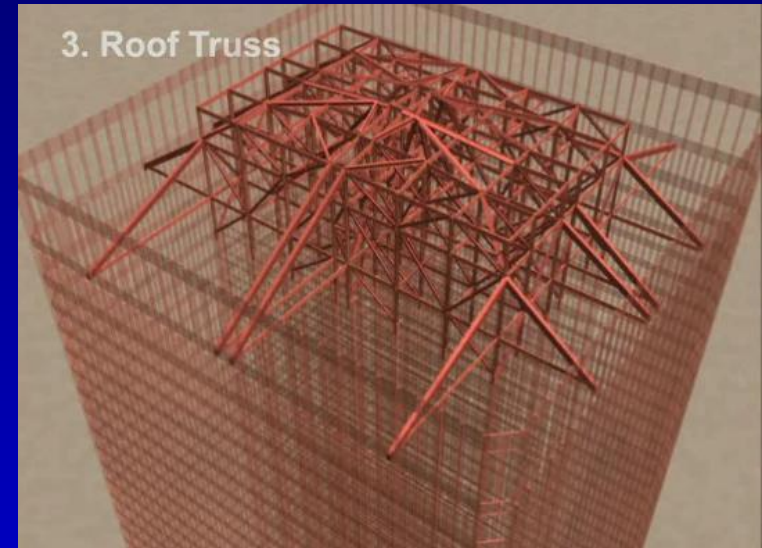
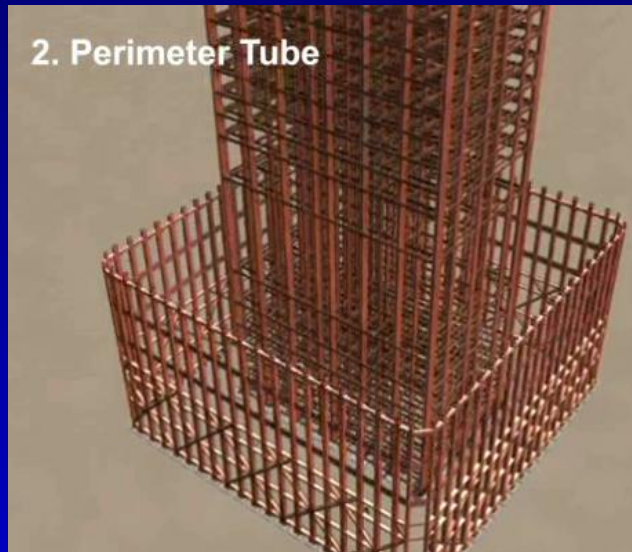
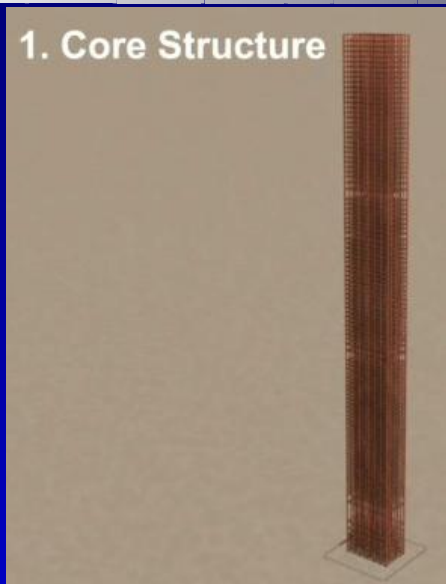
# Romero's “Retraction”

Feb 4, 2010: Dave Thomas interviews  
Van Romero on the “Retraction”





# Tower Structure, Failure Sequence



Video 1

Video 2



# Big Problem for Thermite

The “Spires” - core columns that were *not* cut by thermite.



Is that wimpy thermite, or what?



CD?

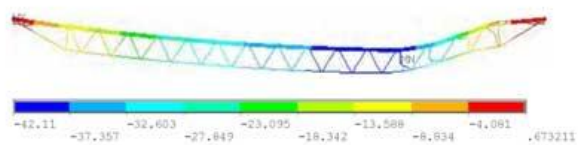
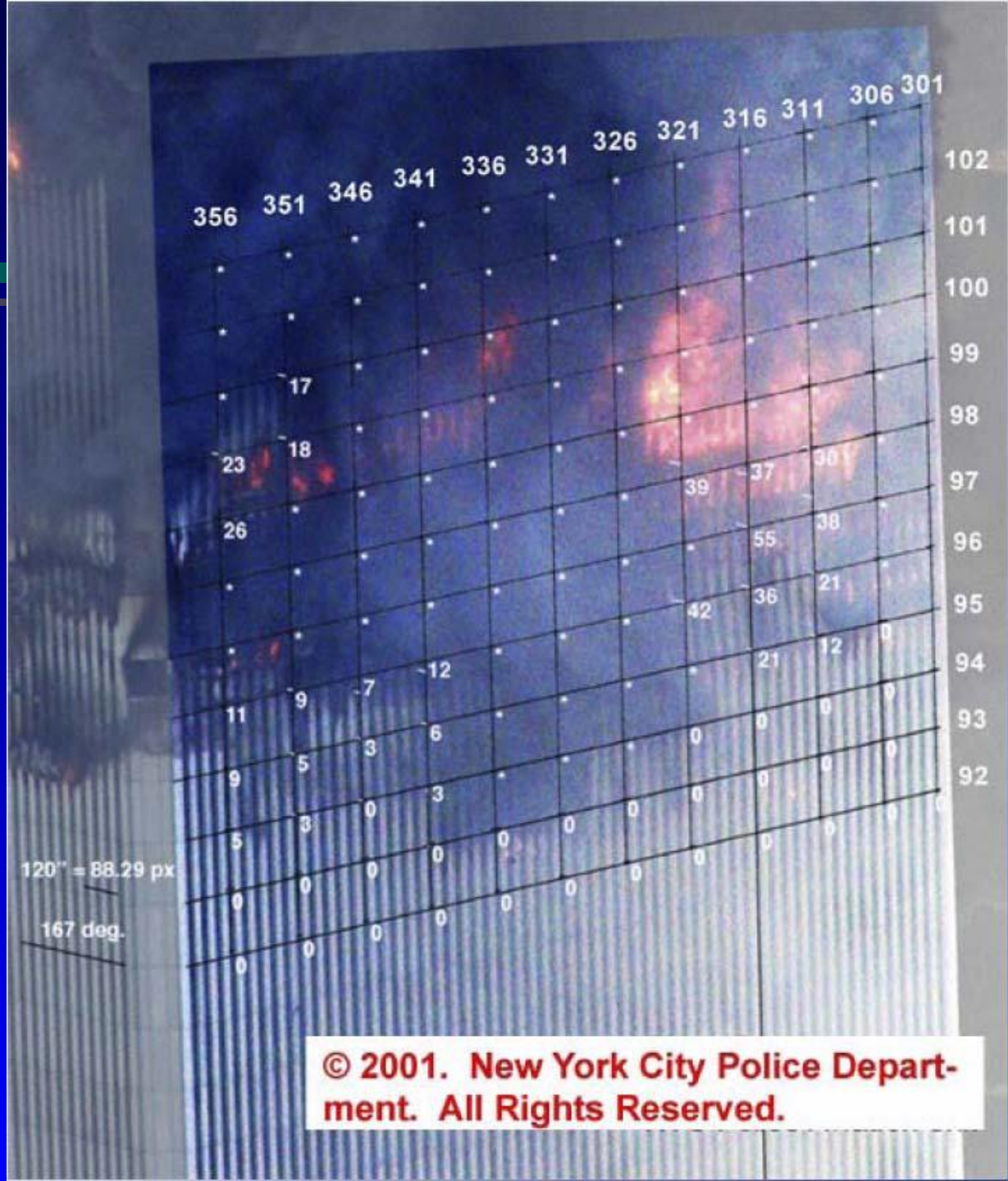
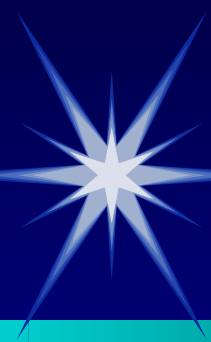


Figure 6-11. Vertical displacement at 700 °C.

Bowing of  
Perimeter  
Columns: once  
these snapped,  
collapse began.



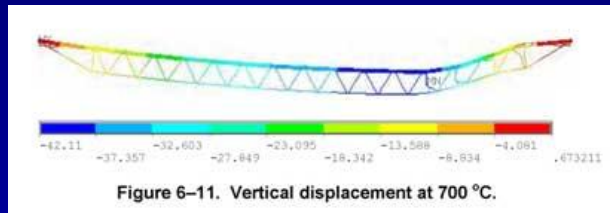


# CD? Bowing of Perimeter Columns

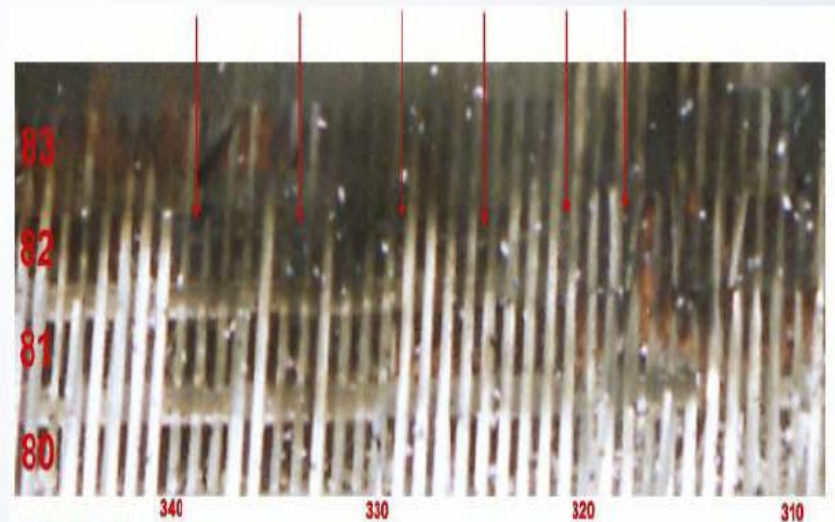


CD?

## Photographic Evidence of Hanging Floor Slab

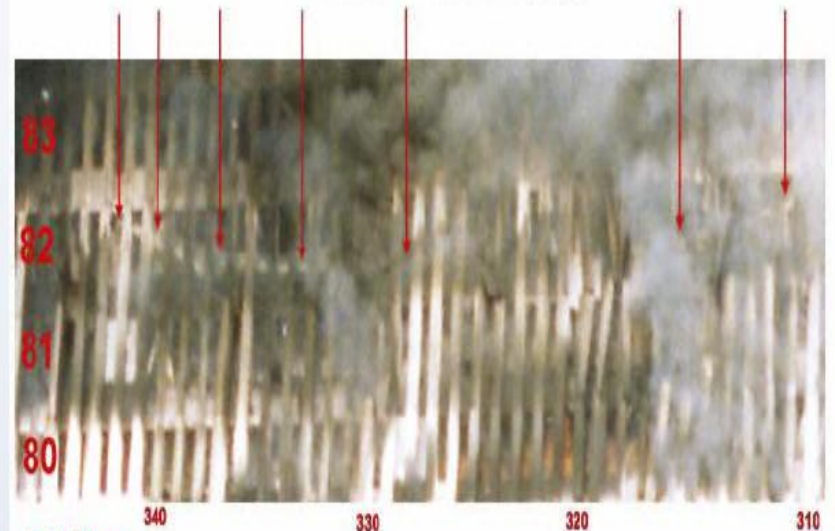


Bowing of  
Perimeter  
Columns:  
caused by  
sagging  
trusses.



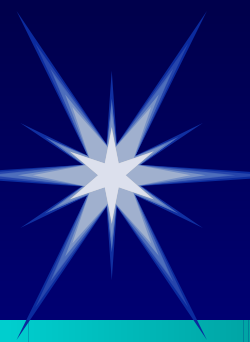
9:03:39 a.m.

© 2001 Mark Stetler



9:55:04 a.m.

Amount and extent of floor sag increased over the 51 minute period.



# The Central Argument:

**“Destruction proceeds through the path of greatest resistance at nearly free-fall acceleration” ?**

**Government reports take it to the initiation of collapse, and say it's inevitable after that. Still, the rapid collapse post-initiation needs an adequate explanation.**

# Free Fall?

## Debunking 911

Conspiracy Theories

Exploding the myths

Home

Osama Bin Laden

First Time in History

The Fires

The Twin Towers

World Trade Center 7

The Free Fall Fallacy

Molten Steel Explained

Rethinking Thermite

Squelching "Squibs"

Sounds of Explosions

The Fireman's Quotes

Civil Engineer's Quotes

Peer Reviewed Paper

Prof Steven E Jones

Massive Conspiracy

The Real Conspiracy

The towers did not fall at or below free fall speeds...



In every photo and every video, you can see columns far outpacing the collapse of the building. Not only are the columns falling faster than the building but they are also falling faster than the debris cloud which is

# Freefall?

**Richard Gage**  
**AE911 Truth**



**Gage: “The one that had no resistance under it falls at freefall speed .... The one that has 80,000 tons of structural steel on it - it doesn’t even give. It resists. As met by an equal and opposite reaction known as the conservation of momentum. It doesn’t fall.”**

# Free Fall? Anders Björkman

## BlogTalkRadio Interview

November 2, 2007

Richard Gage makes an intelligent and passionate case for a new independent investigation into the so called collapses of all three World Trade buildings. Richard has been a licensed architect for over 20 years and heads [ae911truth.org](http://ae911truth.org).



Video: WTC Construction, 1970



Video INN World Report-  
September 18, 2007 Richard  
Gage AIA (14:55 minutes into  
broadcast)

Audio 14MB MP3

9/11 Blueprint: The Architecture of  
Destruction

[read more...](#)

Mar 18, 2010

## What did and did not Cause Collapse of WTC Twin Towers in New York

— Anders Bjorkman

*The below Discussion to Paper was submitted to ASCE - Journal of Engineering Mechanics on 3 February 2009 and approved for publication 3 June 2009, apparently awaiting a reply or Closure by Messrs. Bazant, Le, Greening and Benson, that has not come forward 15 December 2009. The illustrations, figures 1-8 did not form part of the original submission to ASCE-JEM but are added here for easy verification of observations. As ASCE/JEM are delaying publication, I have decided to publish it here today. Comments are always welcome at [anders.bjorkman@wanadoo.fr](mailto:anders.bjorkman@wanadoo.fr)*

## Discussion to Paper (3 February, 2009 - final 3 June, 2009)

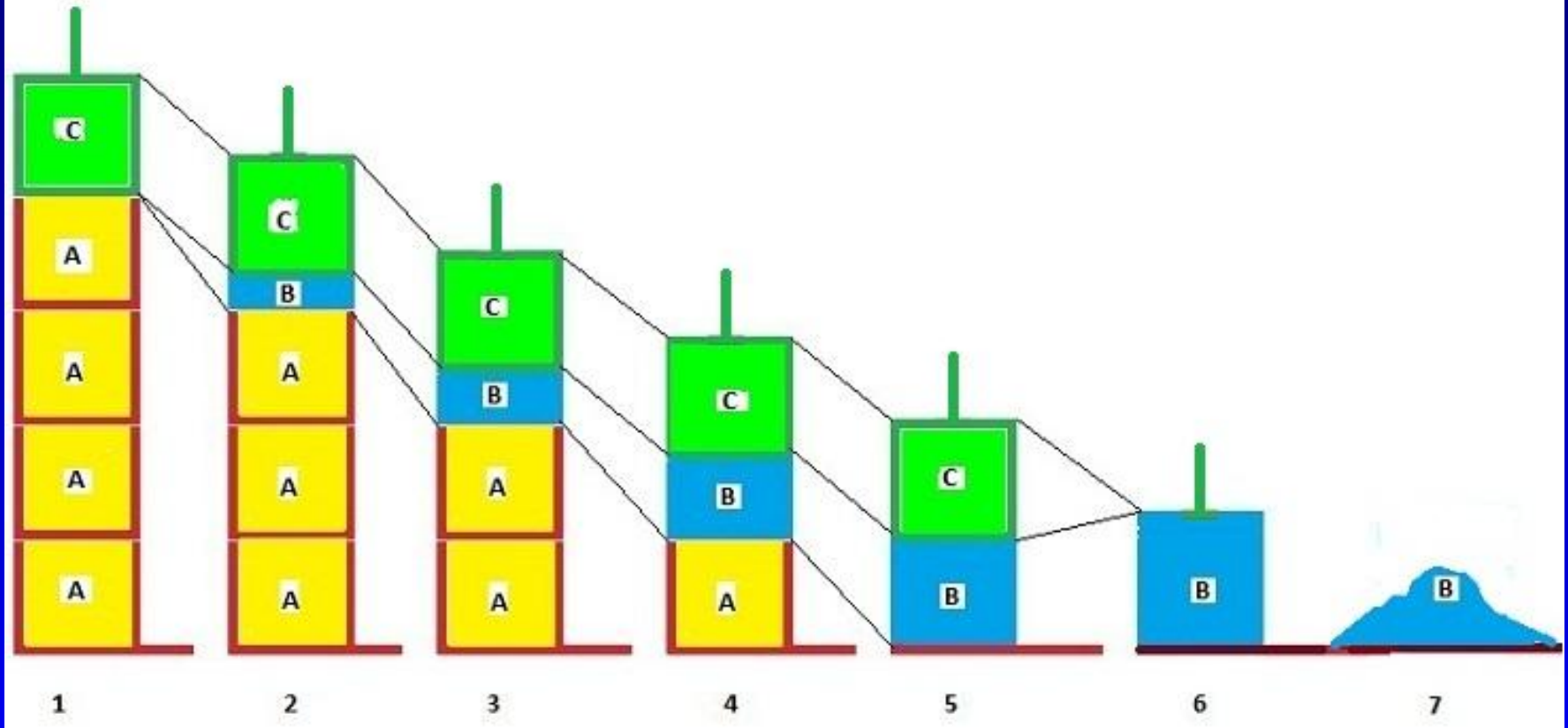
(Also as **Power Point presentation** + nice figures)

Discussion of "What Did and Did not Cause Collapse of WTC Twin Towers in New York" by Bazant, Le, Greening and Benson, Journal of Engineering Mechanics, ASCE, Vol. 134 (2008), [1]

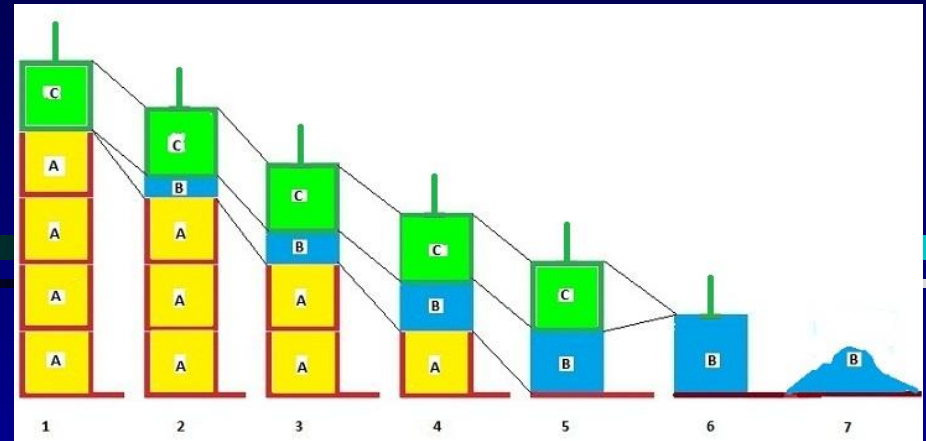
*I have read subject article by Bazant, Le, Greening and Benson (BLGB) with great interest and would like to make the following observations:*

# From AE911 Truth

# Free Fall, according to Bjorkman



# Free Fall?



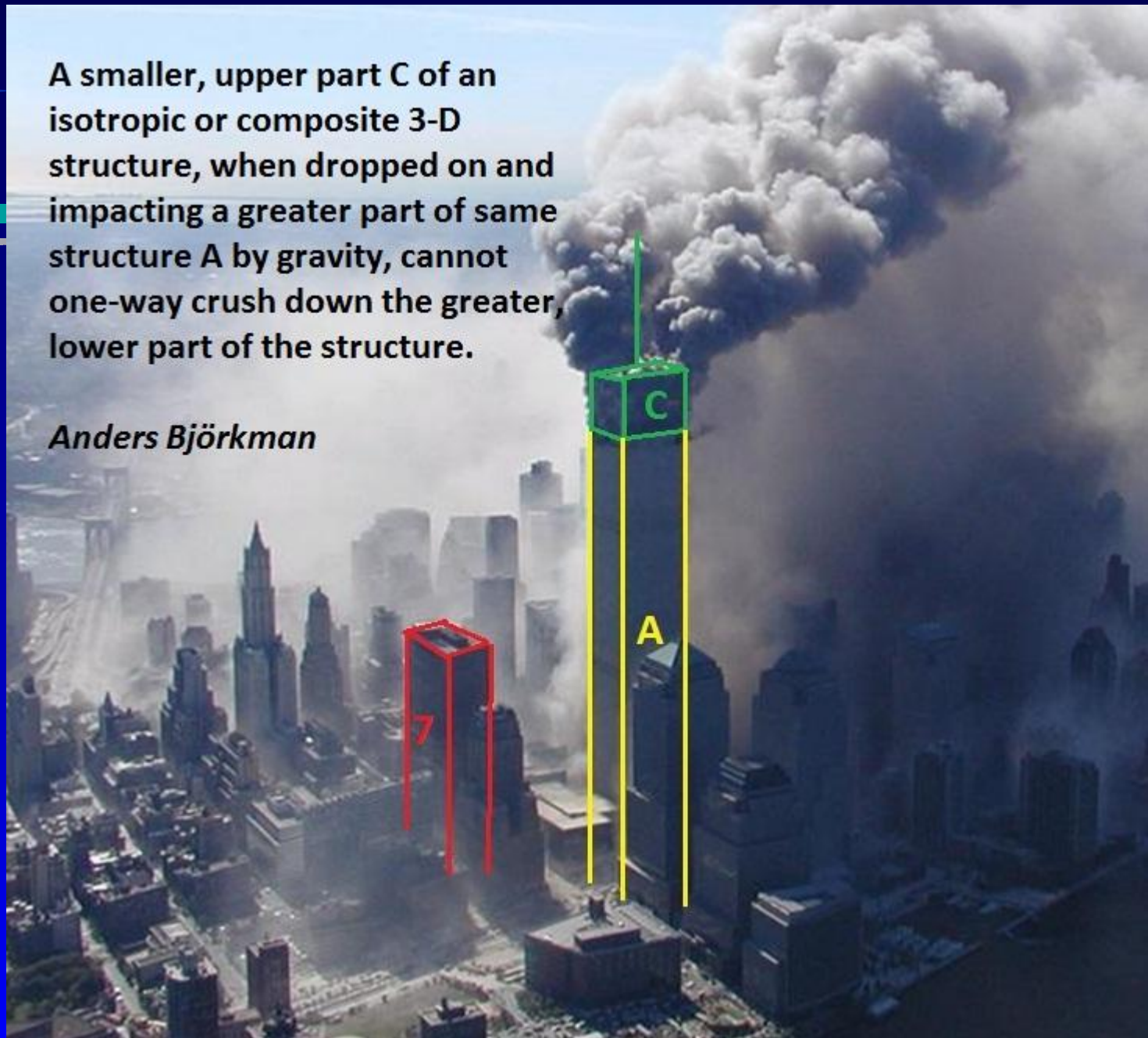
**“When top part C is smaller than bottom part A, top part C is always relatively more affected than A. Little top C can never crush down A below from above by gravity.”**

**Anders Björkman, March 21, 2010**



A smaller, upper part C of an isotropic or composite 3-D structure, when dropped on and impacting a greater part of same structure A by gravity, cannot one-way crush down the greater, lower part of the structure.

*Anders Björkman*





# Anders Björkman and AE911 Truth

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**Additional Info: During the Q&A, I was criticized for saying that the architects and engineers who support AE911Truth are incompetent. I still say any purported architect/engineer who supports AE911Truth is incompetent.**

**The Proof is offered on the next slide.**



# Incompetence, Anders Björkman and AE911 Truth: Proof

AE911Truth is Proud of / Links to Björkman:

<http://www.ae911truth.org/info/46>

<http://www.ae911truth.org/info/198>

→ <http://heiwaco.tripod.com/blgb.htm>

Björkman's posts show his incompetence:

<http://heiwaco.tripod.com/Never.jpg>

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

Björkman even confuses *weight* with *mass*:

<http://forums.randi.org/showthread.php?p=4280640>

*Therefore, architectural/engineering professionals supporting AE911Truth are incompetent.*



# Static vs. Dynamic Loads

## Demo, Calculation (Inspired by Dave Burton)

<http://www.burtonsys.com/staticvdyn/>

“Suppose that you can hold up a 50 lb weight with little difficulty. Do you suppose that you could survive a 50 lb weight falling on you from a height of 12 feet - i.e., at 19 mph? (Warning: Do not try this!)”



# Estimating Acceleration

$$F = ma = mg$$

$$F = ma = m \frac{(\Delta v)}{(\Delta t)}$$

**From REST**

$$H = \frac{1}{2} g t^2$$

$$g = 9.8 \frac{m}{sec^2}$$

$$\Delta t \text{ to fall } H=3.8m = \sqrt{\frac{2H}{g}} \approx 0.88 \text{ sec}, v = g \Delta t \approx 8.3 \frac{m}{sec} = 19.3 \text{ mph}$$



# Estimating Acceleration

$$F = ma = mg$$

$$F = ma = m \frac{(\Delta v)}{(\Delta t)}$$

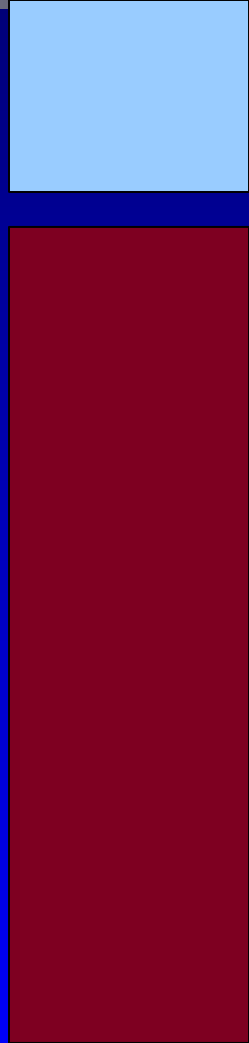
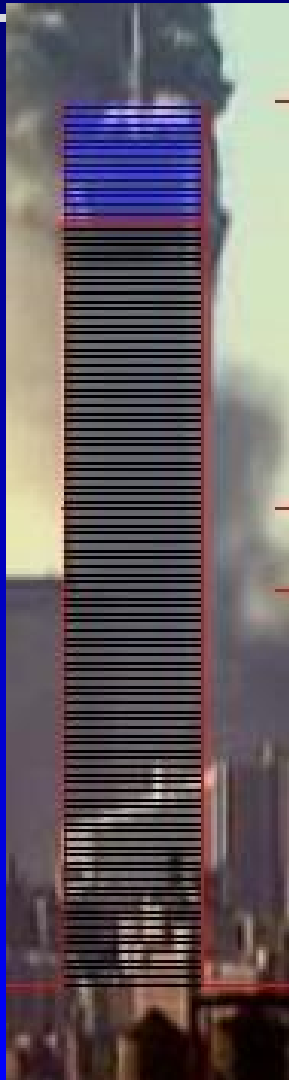
**In structural engineering, dynamic load sometimes estimated as  $\sim 3$  x static load.**

$$\Delta v \approx 8.3 \frac{m}{sec}, \Delta t \approx \frac{1}{8} sec \text{ (for a fall of 1 meter, } \approx \frac{1}{4} H \text{)}$$

$$\frac{\Delta v}{\Delta t} \approx 64 \frac{m}{sec^2} \approx 6g \gg 3g$$

**The chunk of building at 19 mph exceeds load bearing capability!**

# Now, Why Collapse < Free Fall



Let  $M$  = mass of one floor. Before 19-mph impact,  $14M$  at  $v=8.3$  m/s;

Crushes/Joins with next floor, slowed by impact, how much?

$$14M * 8.3 \text{ m/s} = 15M * ?? \text{ m/s}$$

$$?? = 8.05 \text{ m/s or } 18 \text{ mph}$$

# And the Next Floor, and the next

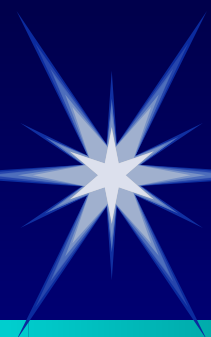
$$H - H_0 = h = v_0 t + \frac{g}{2} t^2$$

$$v = v_0 + g t$$

$$t = \frac{-v_0}{g} + \frac{\sqrt{v_0^2 + 2gh}}{g}$$

$$M_1 v_1 = M_2 v_2$$

Floor No.	$v_0$	$\Delta T$ to fall 3.8m	Mass Fraction	Momentum-based new $v_0$
96	0.0m/s	0.88s	14/15	8.63->8.05 m/s
95	8.05m/s	0.38s	15/16	11.81->11.07 m/s
94	11.07m/s	0.30s	16/17	14.03->13.21 m/s
...	...	...	...	...
1	51.61m/s	0.07s	109/110	52.3->51.9 m/s



# Results

**WTC1: 11.86 - 12.83 sec total**

**WTC2: 9.74 - 11.94 sec**

**Bottom Floor crush time: 0.07 sec**

**Bottom Floor Velocity: ~ 50 m/sec ~115 mph**

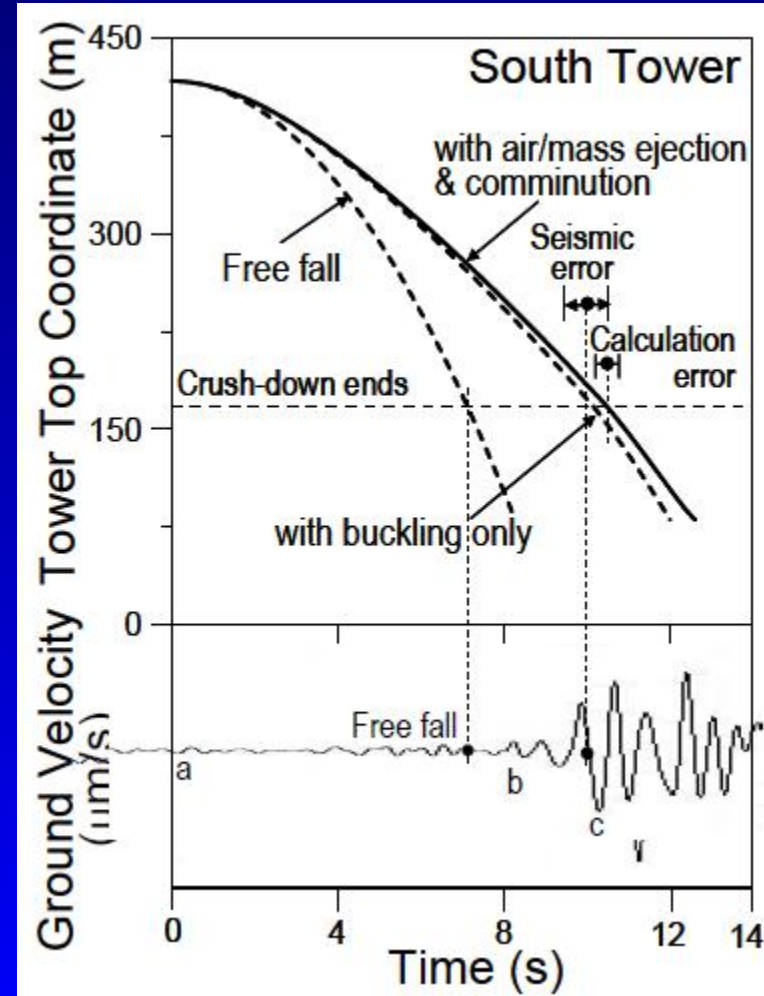
# WTC2 (collapsed first)

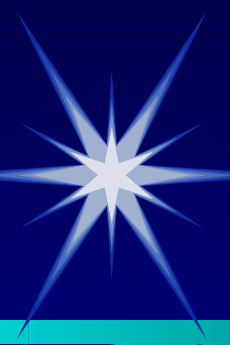
floor	start v0	time to fall H=3.8m	speed after drop	Mass fraction	new v(const. Momentum)
80	0	0.88	8.63	30/31	8.35
79	8.35	0.37	12.01	31/32	11.63
78	11.63	0.29	14.49	32/33	14.05
77	14.05	0.25	16.49	33/34	16
76	16	0.22	18.18	34/35	17.66
75	17.66	0.2	19.66	35/36	19.11
74	19.11	0.19	20.97	36/37	20.4
73	20.4	0.18	22.15	37/38	21.57
72	21.57	0.17	23.23	38/39	22.64
71	22.64	0.16	24.23	39/40	23.62
70	23.62	0.16	25.15	40/41	24.53
69	24.53	0.15	26.01	41/42	25.30

10	48.8	0.08	49.56	100/101	49.07
9	49.07	0.08	49.82	101/102	49.34
8	49.34	0.08	50.08	102/103	49.6
7	49.6	0.08	50.34	103/104	49.86
6	49.86	0.08	50.6	104/105	50.12
5	50.12	0.08	50.86	105/106	50.38
4	50.38	0.07	51.11	106/107	50.63
3	50.63	0.07	51.36	107/108	50.89
2	50.89	0.07	51.61	108/109	51.14
1	51.14	0.07	51.86	109/110	51.39
0	51.39	0.07	52.11	110/111	51.64

# Bazant, What Did and Did not Cause Collapse of WTC Twin Towers in New York

**Bazant full-up DE Model:**  
 $V_f \sim 48 \text{ m/sec};$   
 $\frac{1}{2} m v^2 \sim 5 \times 10^{11} \text{ J};$   
**last floor collapsed in 0.07 s;**  
**total times  $\sim 10.5\text{--}12.8 \text{ sec}$**





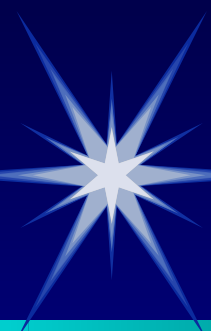
# Bazant, What Did and Did not Cause Collapse of WTC Twin Towers in New York

The time during which the top slab collapses onto the lower slab  $\approx \Delta t = h_c/\dot{z}$  = time during which the air is expelled out (which is only about 0.07 s for stories near the ground). Conservation of the mass of air during the collapse of one story requires that  $\rho A_w(v_a \Delta t) = \rho V_a$ . Solving this equation gives the average velocity of escaping air just outside the tower perimeter:

$$v_a = \frac{V_a}{\psi A_w \Delta t} = \frac{a \dot{z}}{4 \psi h_c} \quad (7)$$

The onset of the strongest tremor, marked in the figure as instant  $c$ , may logically be interpreted as the instant at which the crush-down front (bottom of the layer of compacted debris) hits the foundation slab in the 'bathtub'. Thus it ensues from the seismic records that the crush-down phase lasted  $12.59 \pm 0.50$  s for the North Tower, and  $10.09 \pm 0.50$  s for the South Tower. The fact that the structure in the 'bathtub' under the ground level was essentially destroyed and mostly compacted into rubble was documented during debris removal (<http://www.construction.com/NewsCenter/Headlines/ENR/20011008b.asp>).

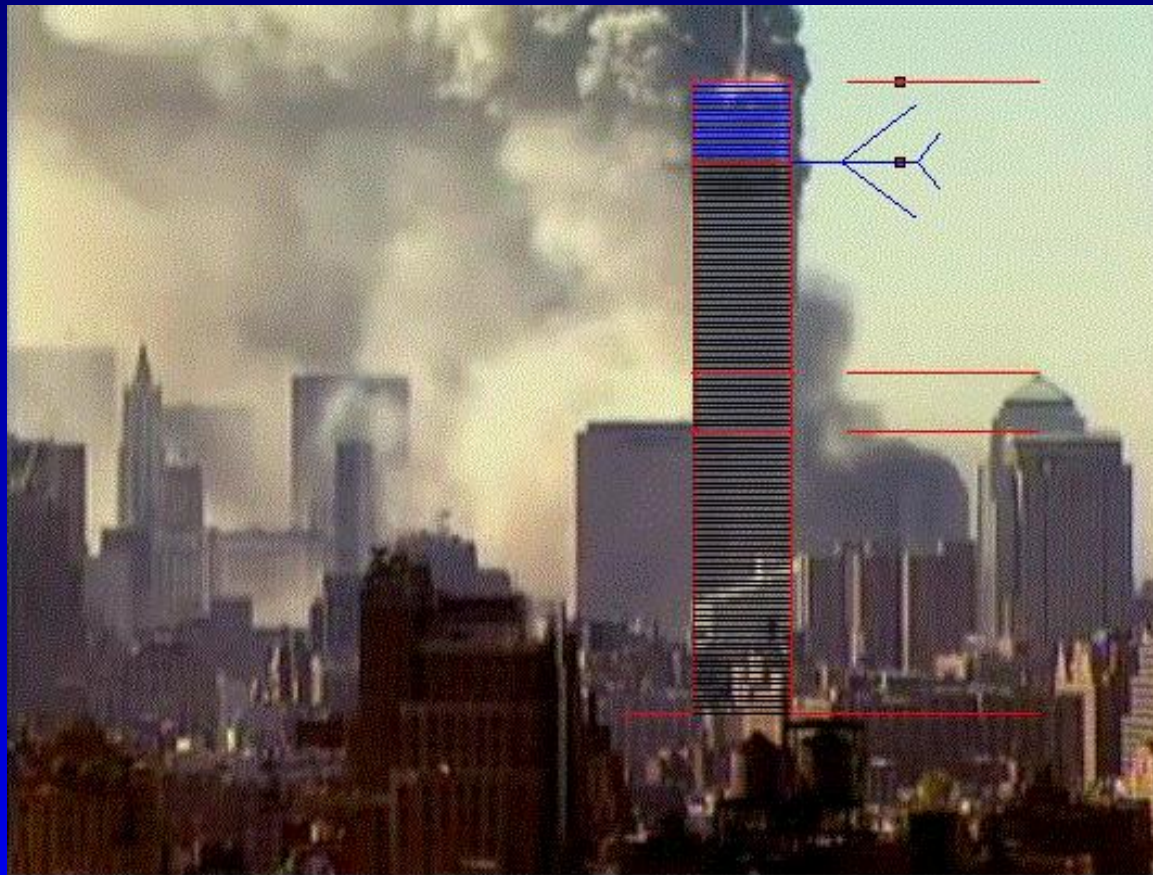
These durations match reasonably well the durations of the crush-down phase calculated from Eq. (2), which are 12.81 s and 10.47 s for the North and South towers under the assumption that the reduction factor  $\beta$  applied to  $F_b$  is 2/3. If the full uncertainty range,  $\beta \in [0.5, 0.8]$ , is considered, the calculated mean durations are 12.82 s and 10.49 s, respectively. This uncertainty is shown by error bars in Fig. 8.



# WTC 1 Python App, Movie

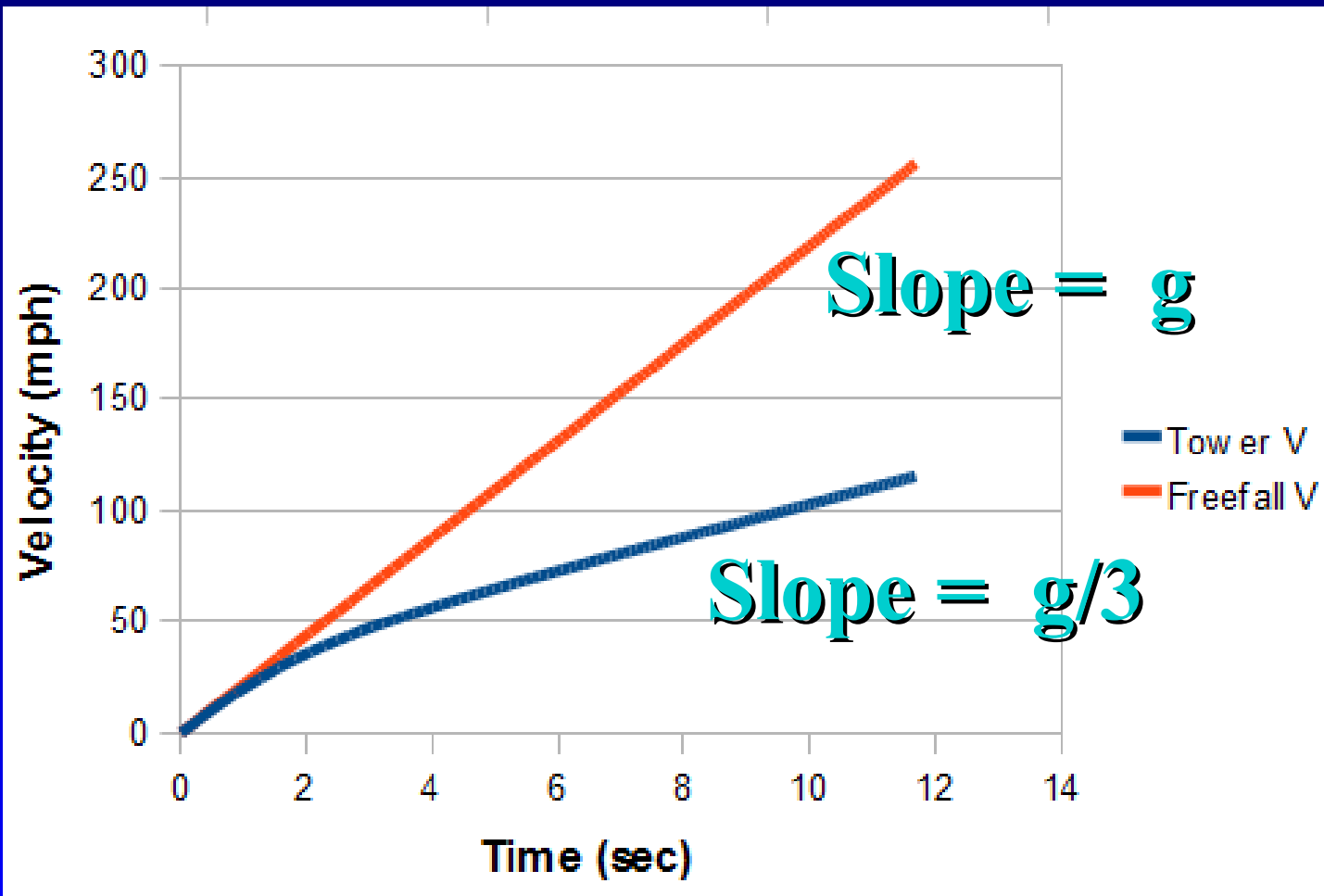
**Dave Thomas's physics model of the tower collapse, compared to actual. The two small red squares falling on the right represent objects dropped from the top (110th) and impact-level (96th) stories, and these are in true freefall. The towers are clearly falling at less than freefall speeds in this physics analysis. The horizontal red lines (top of WTC1, top of WFC3, top of WTC7, and ground level) were used to calibrate the scale of the plot. Python App?**

**Ask Dave Thomas at  
[nmsrdave@swcp.com](mailto:nmsrdave@swcp.com)**



**<http://www.nmsr.org/911movie.gif>**

Acceleration < g...



# What of WTC 7?

AE9/11 “Truth”: “High-rise buildings with much larger, hotter, and longer lasting fires have never ‘collapsed’ ”.





# WTC 7?

Multiple fires on different floors at same time.

Fires reported in the first ten floors of the building.

No fire suppression effort during the entire burn, whether human or mechanical.

Severe structural damage from the very outset of the fire, hampering its ability to redistribute loads.

Fire proofing on the steel in WTC 7 was rated for 2 hours, and the fires burned for 7 hours.

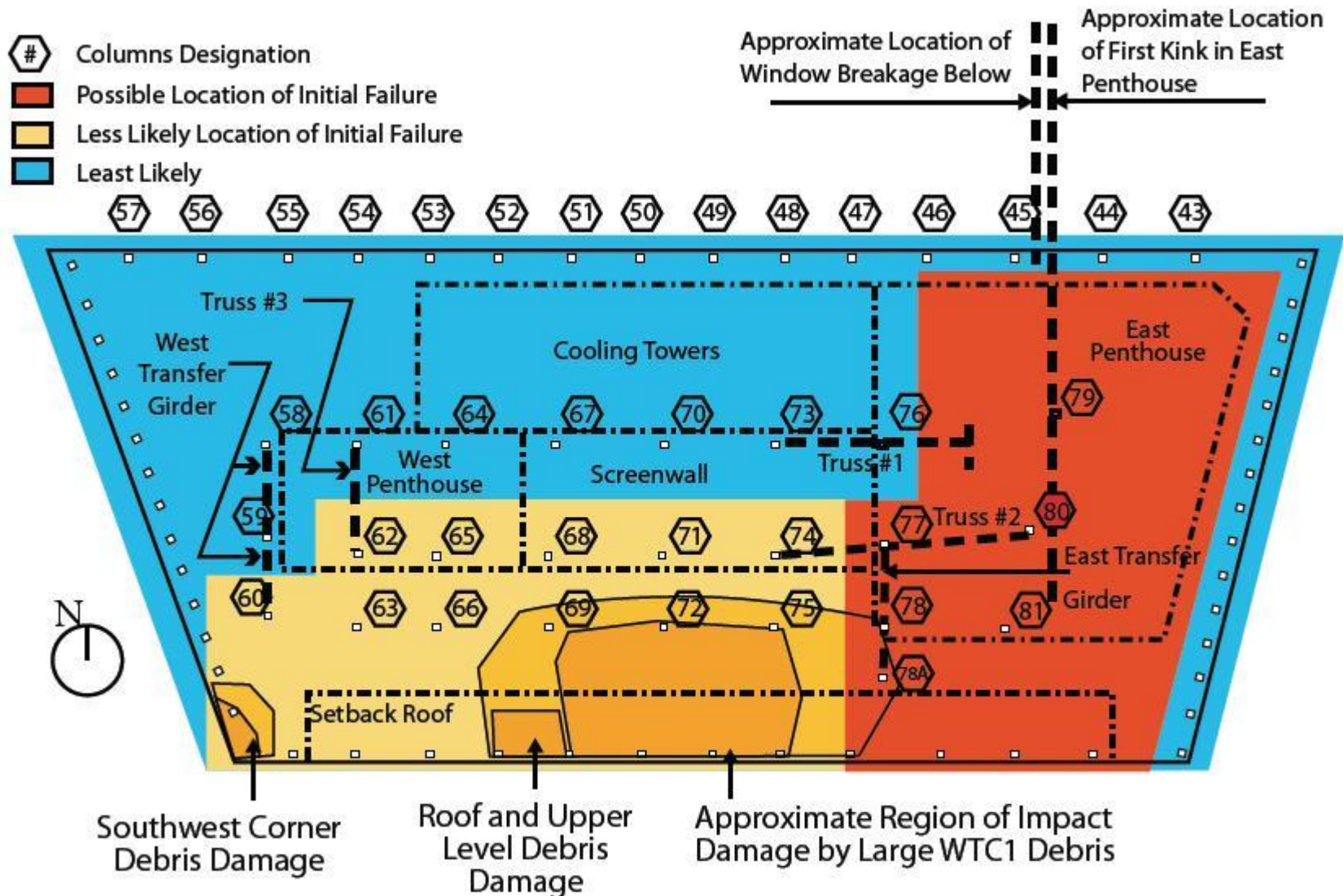


# WTC 7

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Lieutenant William Ryan: *“The heat must have been tremendous. There was so much [expletive] fire there. This whole pile was burning like crazy. Just the heat and the smoke from all the other buildings on fire, you [couldn't] see anything. So it took us a while and we ended up backing everybody out, and [that's] when 7 collapsed....”*

# WTC 7



*Locations of the collapsed penthouses and the kink in relation to the structural columns.*

# WTC 7

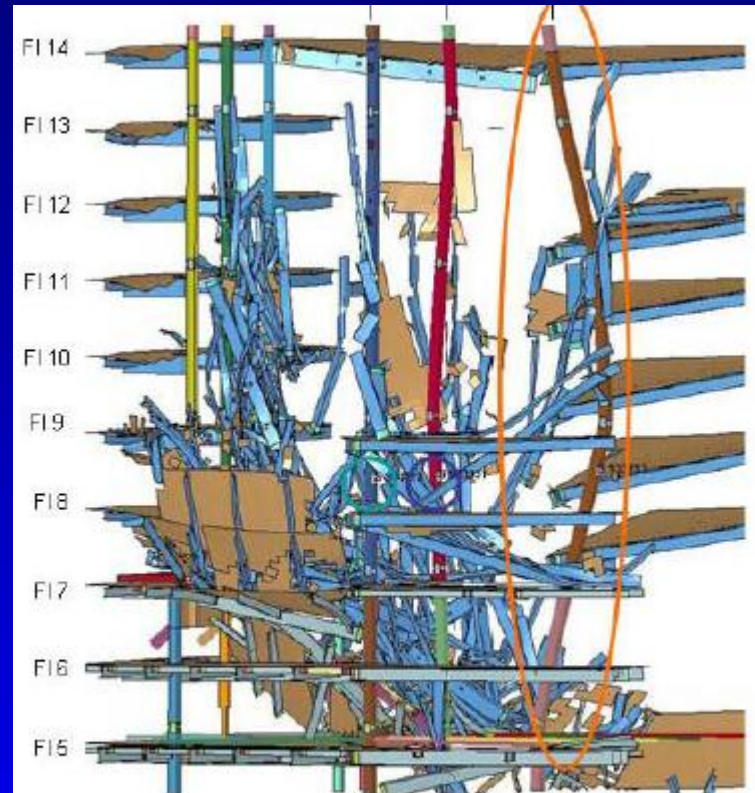
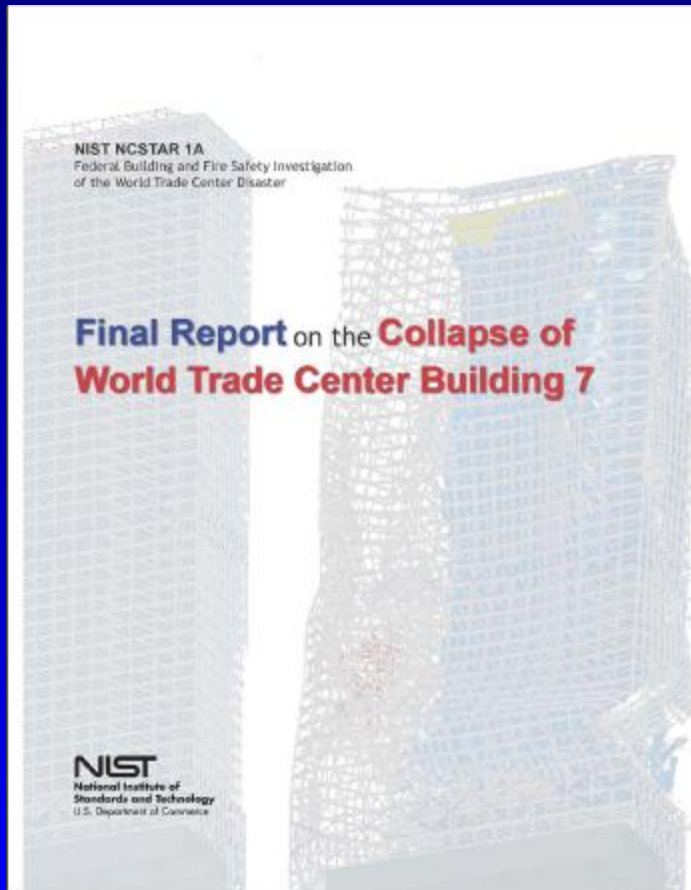


*Start of the final collapse sequence (7.7 seconds elapsed). Note that the kink in the east penthouse in the first photo “shifts” towards the middle of the building in the fourth photo, indicating horizontal progression of the collapse.*

Structure Magazine, November 2007: “Single Point of Failure: How the Loss of One Column May Have Led to the Collapse of WTC 7”, by Gilsanz and Ng

# WTC 7

## NIST Report, NIST NCSTAR 1A



**Figure 2-2. Eastward buckling of  
Column 79, viewed from the southeast.**



# WTC 7: AE911 Dismissal

## NIST on WTC7 Freefall

- Draft Report (Aug '08)
  - There was no freefall. Initial descent time was 40% longer than freefall would have taken.
- Final Report (Nov '08)
  - “This freefall drop continued for approximately 8 stories...”
- This dramatic change in position has been hidden from the American public.
- In NIST press release accompanying Final Report, changes between these two reports are listed, but freefall is NOT mentioned.

# WTC 7: NIST Final Report

- The observed descent time of the upper 18 stories of the north face of WTC 7 (the floors clearly visible in the video evidence) was 40 percent greater than the computed free fall time. A more detailed analysis of the descent of the north face found three stages: (1) a slow descent with acceleration less than that of gravity that corresponded to the buckling of the exterior columns at the lower floors, (2) a freefall descent over approximately eight stories at gravitational acceleration for approximately 2.25 s, and (3) a decreasing acceleration as the north face encountered resistance from the structure below.

48

*NIST NCSTAR 1A, WTC Investigation*

was 40 percent greater than the computed free fall time.

(2) a freefall descent over approximately eight stories at gravitational acceleration for approximately 2.25 s,

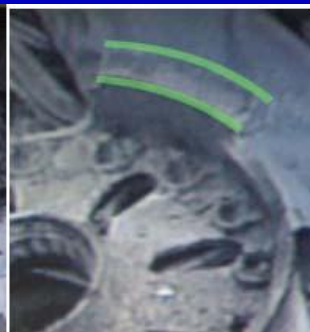
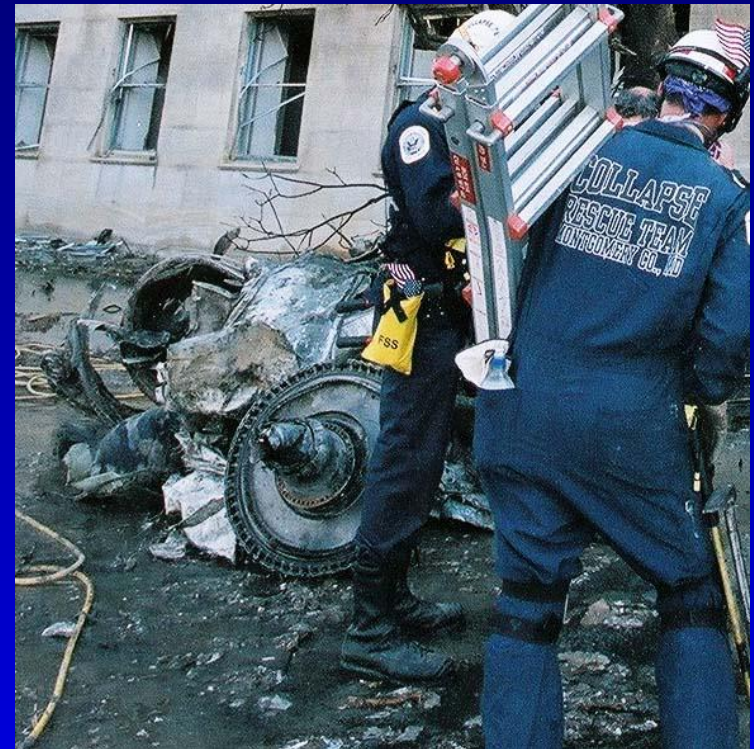
## Where's the “Dramatic Change”?

# WTC 7: THE VIDEO

<http://www.youtube.com/watch?v=G86yuunRBIw>



# What of the Pentagon?



Clearly a "double rim"  
design as is required on  
all commercial airlines.

# Did you know a plane hit the Empire State Building?



**Saturday, 28 July 1945**

# A Comparison...

B25D

Mitchell

31,000 pounds max.

68' wingspan

692 gallons fuel

Typ. speed 200 mph

$$\frac{1}{2} mv^2 \cong$$

0.06 Billion Joules  
(GJ)



Boeing  
767-200

180,000 pounds

(~350,000 full)

156' wingspan

~10,000 gallons fuel

Typ. Speed 500 mph

$$\frac{1}{2} mv^2 \cong$$

2 to 4 Billion Joules





# A Comparison

767:  $\sim 35$  to  $70 \times$  Kinetic  
+

$14 \times$  Chemical Energy of B25D

1 Gallon Fuel  $\sim 114,000$  BTU  $\sim 0.12$  BJ

B25D:  $692\text{gal} \times 0.12 = 83$  GJ, 83.06 GJ Total

767:  $10,000\text{gal} \times 0.12 = 1200$  GJ, 1204 GJ  
Total

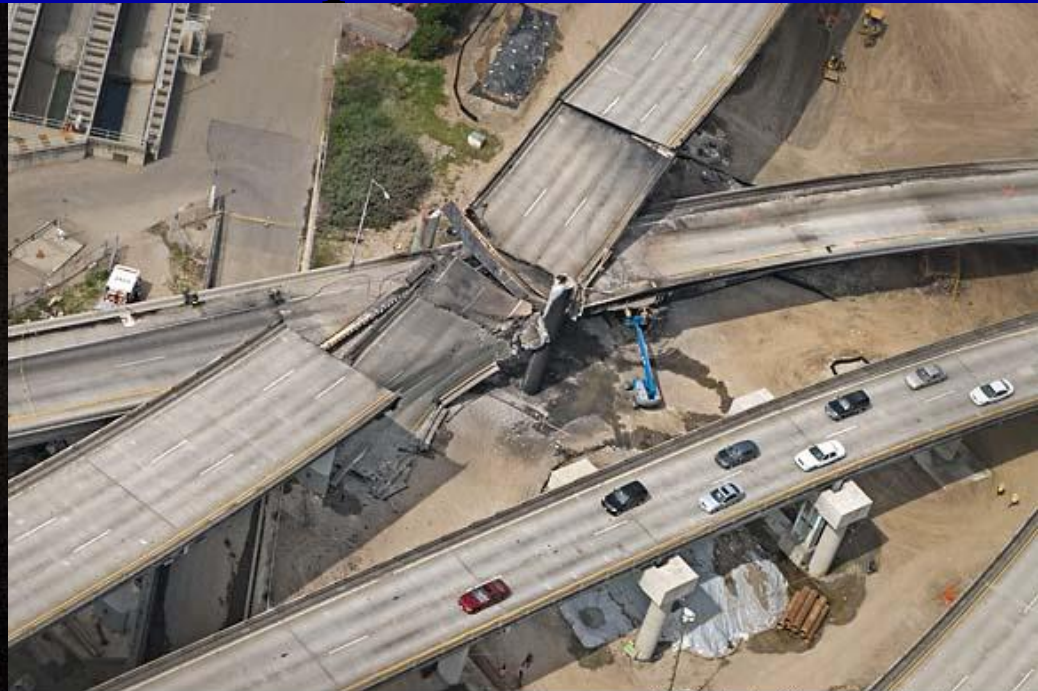
# Can a Gas Fire Really Bring Down a Concrete and Steel Structure?

Yes!

MacArthur  
Maze, CA,  
April 29, 2007.



Special to the Chronicle / Philip Liborio Gang.



Special to the Chronicle / Robert Campbell



# Conclusion

Fires caused by the two 767's initiated gravitational collapses of the Twin Towers.

Debris from WTC 1 damaged WTC7, causing a fire and subsequent collapse.

An airplane hit the Pentagon on Sept. 11, 2001.