

## Frank Greening versus Isaac Newton

Frank Legge (Ph.D. Chem.), May 2009, Version 2<sup>1</sup>

As a result of having invaded two countries that were no threat to it, America is intensely hated by millions of people. The torture of captives, the majority of whom are innocent of any wrong-doing, has greatly elevated the hatred and must have turned many ordinary citizens in these countries into "terrorists". The only way the ordinary American people can defuse this hatred, and regain the respect they should have, is to show that they only agreed to invade Afghanistan and Iraq because they were lied to by the administration. By all means they should seek to investigate the current question of torture, and who authorized it, but they must not stop there. Most people now realize that they were lied to in order to obtain their approval for the invasion of Iraq, but few know they were also lied to in order to promote the invasion of Afghanistan.

Most people believe that the NIST report, and various papers supporting the official theory about 9/11, are substantially correct. It is, however, not safe to hold that belief. Recently one of the principal authors of papers supporting the official theory of collapse of the three skyscrapers at the WTC has been shown to be most unreliable, as will be explained.

Frank Greening has attempted to discredit the work of David Chandler, who recently provided an insightful proof that explosives must have been used to bring down the North Tower. Chandler shows that the rate of collapse indicates that the falling top block was exerting only about one third of its static weight on the lower, undamaged portion of the tower and thus could not have destroyed it. His explanation, based on Newton's third law of motion, is set out in this short video:

<http://www.youtube.com/watch?v=xG2y50WyyS4>

In summary, Chandler shows that during the collapse the columns of the lower portion of the tower were providing a level of resistance which was only a small fraction of their design strength, a strength which they undoubtedly still possessed as they had not been heated. In attempting to refute this work Greening states that Newton's third law, which is universal, does not apply in falling buildings. What was that again? ". . . does not apply . . .".

Newton's third law can be expressed as follows: "If object A applies a force to object B, object B will apply a force to object A, equal in size and opposite in direction." In a fragmenting collapse there will be many components and many impacts, each one of which must obey Newton's third law, thus the summation of the whole process must also obey this law.

Here is some recent email dialogue, slightly shortened:

**Greening:** "I would say that Chandler's slight [sic] of hand is the implied notion that Newton's 3rd Law is universally applicable, even to a collapsing building."

"I would say that the columns and/or the column connections in the damaged/fire-affected zone have lost enough of their strength so that the upper block can no longer be

fully supported by the weakened columns. Thus the upper block of floors moves downward relative to the base of the tower. Is this such an outlandish proposition?"

**Chandler:** "Yes, if you think it can avoid Newton's laws in the process."

**Greening:** "Well, here's my reply: David, you cannot deny that an upper block of floors moved downward relative to the base of the tower."

**Chandler:** "I never denied that. Anyone with eyes can see that is true."

**Greening:** "And yet you consider this to be an outlandish proposition!"

**Chandler:** "Only if it does so in such a way as to violate the laws of physics (aka Newton's Laws of Motion). Moving downward [at constant acceleration] through pre-pulverized rubble is no problem. Moving downward without deceleration while crushing columns designed to support several times the weight...now that's a problem [as it would violate Newton's third law]."

**Greening:** "It looks to me like you are the one having trouble explaining what was actually observed that day! I think you need to get out of your classroom more often and take a look at real world problems. . . . these phenomena are what need to be discussed and evaluated, not your classroom physics."

**Chandler:** "[Classroom physics] aka correct physics."

**Greening:** "Newton's 3rd Law applies to bouncing billiard balls, not the interiors of collapsing buildings ....."

**Chandler:** "Someone should sue your professors for malpractice."

Greening then goes on to provide a lengthy and complex explanation, which I will spare the reader, attempting to show why Newton's third law does not apply in a falling building, but no matter how long and clever, it must be spurious as the third law is truly universal. We see here that Greening is not seeking enlightenment in this dialogue but is trying to muddy the waters. He persistently promotes arguments which are not logical but have the appearance of being logical, in which he presents so much complexity that it is hard for the public to discern the errors. The morality of such activity is open to question.

Either Greening is attempting to deceive for his own purposes or he is unable to understand the principles involved in Newton's third law. Either way his publications must be regarded as untrustworthy. It also follows that the work of Bazant must be regarded in a similar light, as they were co-authors in a particularly controversial paper.

<http://www.crono911.net/docs/Bazant2007.pdf>

Where these people find the time to produce such complex arguments is a mystery, but they continue to do so. You don't have to read far into this paper to find it is unsatisfactory. In the Abstract we see an assertion that the controlled demolition theory rests on free fall and we read that the early rate of fall is "totally out of range of the free fall hypothesis". However the controlled demolition theory does not require free fall. It is perfectly clear, and very well illustrated by Chandler's work, that the resisting force

was about one third of the static weight of the falling top portion and hence about 10% of the design strength of the columns. This resistance is quite impossibly low for columns which are not being progressively severed by some additional mechanism, like explosives.

It should not be thought that Chandler is alone in finding fault with the official theory of collapse. The idea that explosives must have been involved to produce the observed effects has a long history and is based on numerous lines of evidence, discussed by many scientists. For a short study setting out some of the milestones of this effort see the following link:

<http://journalof911studies.com/volume/2009/LeggeCDatWTC.pdf>

If the towers were not brought down by explosives how is one to account for the presence of substantial amounts of explosive residues, and fragments of unreacted explosive, in the WTC dust, as described in the following recent papers?

<http://journalof911studies.com/articles/WTCHighTemp2.pdf>

<http://www.bentham-open.org/pages/content.php?TOCPJ/2009/00000002/00000001/7TOCPJ.SGM>

One remembers that Bazant was the leading author of the first paper to come out after 9/11. This paper provided a collapse theory based on the assumption that the top portion of the building fell as a solid block, a notion which was later adopted by NIST. The paper was immediately suspect as it came out just two days after 9/11, an unheard of feat for a scientific paper. There is good reason to be suspicious of the Bazant paper because it is obvious from the videos that the top portion of the building was the first part to disintegrate and thus did not fall as a solid block and therefore cannot have had the impact energy that Bazant calculated, and NIST relied upon, to explain the destruction of the lower portion of the building.

It is clear that with critical aspects of American policy being based on presentations by Bazant and Greening there is much that demands a new investigation. The authorization of torture is certainly a matter of grave concern but it is just one component within an even greater concern, that the US administration of that time was involved in gross deception of the public. It is to be hoped that the present administration, which has shown some commendable attention to the torture issue, will eventually find the courage to re-open the investigation into the events of 9/11.

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<sup>1</sup> I am indebted to Dr Greening for his comments on the first version of this letter in which he points out that in one place I inadvertently used the word “mass” for the force exerted by gravity on an object. I have accordingly corrected this by using the word “weight”. It is true however that, on this planet, mass and weight are numerically almost exactly equal and the argument therefore remains unchanged. Dr Greening also chides me for introducing political themes while supplying little scientific argument. My response is that to persistently support the official explanation for the collapse of all three buildings at the WTC, in the face of sound contrary scientific evidence, is an overtly political act and an overtly political response is entirely appropriate. The scientific basis for this letter is adequately provided in the linked papers.