RESPONSE TO “ANONYMOUS”: PARTIAL LOGIC - PARTIAL ANSWER

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While preparing an answer to this criticism I became aware of the new paper by Dr. Bazant and others. Within that paper the figure for energy dissipated per storey was broadly in line with the figures which I have given. The argument of this present criticism has thus become of minor relevance. The disagreement between myself and the official story does not lie in the magnitude of the energies, but in the manner in which the energies would be dissipated. I say that the energy would be dissipated in all of the storeys in the upper section and an increasing number of storeys in the lower section, while Dr. Bazant persists with his nonsensical belief that all of the energy of the upper section would be magically transferred to only the uppermost storey in the lower section, where it would overwhelm the first 3.7m lengths of column, before moving on to the next 3.7m lengths.

But since Dr. Bazant has decided to leave the purely theoretical argument and enter the real world of physical observation, it is now possible to move the debate forward. I intend to concentrate my time on showing how physical observations contradict the official story and bolster the argument that the towers were felled by explosive and incendiary charges.

Below are some notes and the beginning of my response. Some of it may be of value to the respondent.

"Even I have made mistakes on this concept before" states this anonymous responder (AR). There was no real need to tell us that. But there is a need to give more detail on the points raised.
We are asked to believe that I have used the wrong failure force, but no figure is given by AR for what he believes it should be.
We are asked to believe that I have applied this force over the wrong distance, but no figure is given by AR for what he believes it should be.
We are asked to believe that I have computed the energy demand wrongly, but no figure is given by AR for what he believes it should be.
No figures are given for the yield stress or energy demands that AR asserts, nor is there a comparison between my figures and his assertions. AR also makes no mention of the length of column section that he has used and no justification has been given for his choice.
There is little else in this article other than bald assertions and personal insults. Perhaps by design, AR has included no comparative figures or facts upon which an impartial reader could make an informed decision.

However, I shall use this opportunity to answer the thrust of AR's article together with some other responses which have been received since my paper was published.

The main aim of my article was to counter the argument of the official story that all of the energy of collapse would be applied to the uppermost storey of the lower section and cause failure of the column sections at that storey and thence down the tower storey by storey.
The conclusion of my article, that the energy would be dissipated in many more areas outwith the uppermost storey has been broadly accepted and no serious challenge to that conclusion has been forthcoming.

Criticisms have been mainly limited to the rate at which the energy would be dissipated away from the collapse front and there are two areas where the criticisms have been concentrated.

The first of these is the argument put forward that flexing of the floors in the lower section would allow the columns to accelerate downwards while the floors themselves, due to their ineretia, would not accelerate at the same rate. The argument follows that energy dissipation in the form of kinetic energy imparted to these floors would not therefore be as high as I have calculated.

The second concerns the columns. It is argued that due to eccentricities in the column alignment, or assymetric application of forces, or thermal damage to the columns, the columns in the lower section would not be able to accomodate forces as great as I have stated. The argument follows that energy dissipation in the form of strain energy would not be as great as I have calculated.

Both of these arguments use what I call partial logic, and I mean partial in two senses of the word. Partial because it is an incomplete application of the same logic and partial because it is a biased use of the same logic.

My article used the assumption that all of the energy of the falling upper section would be available to fulfill any energy demand, as and where that demand arose. This was an acceptable assumption for an article where the conclusion was that insufficient energy was available to allow collapse continuation.

A counter argument that there was sufficient energy to allow collapse does not have that advantage. In this case it must be shown that sufficient energy to fulfill a demand would be available at the time and place where the demand arises.

Take for example the argument regarding flexing of the floors in the lower section. While it is not disputed that floor flexing would occur, it is obvious that it would apply in every floor in the upper section as well as the lower section. While floor flexing in the lower section would reduce the amount of energy dissipated as kinetic energy in the lower section, exactly the same phenomenon would reduce the amount of energy which was made available at the collapse front. In every case where the flexing of the floors has been cited as a phenomenon which would inhibit the flow of energy away from the collapse front, the respondents have ignored the fact that exactly the same phenomenon would inhibit the flow of energy to the collapse front.

The argument regarding the columns suffers from exactly the same application of partial logic. Irrespective of the reason chosen by respondents why the columns would suffer an early failure, be it misalignment, assymetric loading, thermal effects or other damage, or any other reason including the vague statements of AR, they have chosen to ignore the fact that exactly the same phenomenon would manifest in the columns of the upper section. Indeed the thermal effects and damage to columns would be more appreciable in the upper section than in the lower section. Coupled with the fact that the columns in the upper section are of lighter construction than the columns in the lower section, the correct application of this logic would make collapse even less likely.

How is it possible for a force to be transferred through the lighter columns in the upper section to inflict massive plastic deformation on the heavier columns in the lower section without themselves suffering from the same proportionate degrees of plastic deformation?

It would be interesting if any of the respondents, including AR, constructs a mathematical model which explores and takes account of these various phenomena without the inclusion of their partial logic. But a more complex model would suffer from exactly the same shortcomings and be subject to the same criticisms as NIST and Dr. Bazant's theoretical model, unless that model explained the many physical details of the collapse.

If a phenomenon is identified that has a bearing on the question of whether the collapse had sufficient energy to continue or not, then the phenomenon must be viewed in its entirety without the application of partial logic. It is unacceptable to selectively grant abilities to one section of the tower while ignoring the fact that the same abilities would apply elsewhere.