

The 9/11 Attack on the Pentagon: the Search for Consensus

Frank Legge. June 2012.

Introduction

The case that 9/11 was an inside job has been established beyond any shadow of doubt by scientific analyses which prove that all three towers which collapsed at the World Trade Center were felled by controlled demolition, together with the fact that demolition is denied in the official reports.¹ Strenuous efforts are being made to inform the public of this heinous crime but many activists are now concerned that this process is being hampered by ongoing dissension about what happened during the attack on the Pentagon. Some 9/11 activists have asserted that the plane came in from a point too far north to have done the observed damage and claim that this proves the damage was faked using explosives and that the plane must have flown over the Pentagon to avoid causing damage in the wrong direction. Other activists find the physical evidence of impact and the testimony of the many eyewitnesses who describe a large plane flying into the Pentagon to be convincing.

David Ray Griffin has contributed a great deal of valuable material regarding the events of 9/11, having written 14 books and given many lectures on the subject. A short list of his writings, which provide easy access to the history of skepticism of the official narratives, would include the following: *The 9/11 Commission Report: Omissions and Distortions* (2004); *Debunking 9/11 Debunking: An Answer to Popular Mechanics and Other Defenders of the Official Conspiracy Theory* (2007); *New Pearl Harbor Revisited: 9/11, the Cover-up and the Exposé* (2008); and *The Mysterious Collapse of World Trade Center 7: Why the Final Official Report About 9/11 Is Unscientific and False* (2009). These provide well documented details about the tragedy and together lead to the conclusion that 9/11 was a false flag operation.

As there is so much evidence for official misconduct, it is enticing to sift through the evidence in the hope of finding proof that the Pentagon attack was not as officially described. There is no doubt that there are suspicious features about the attack, such as the impact point being at the recently strengthened section of the Pentagon, still only sparsely occupied, and the failure to intercept the plane, but care is required to ensure that all claims are soundly based if credibility is not to be put at risk.

Because of the long-running disputation between activists, Griffin now believes that it is not feasible to settle the dispute about the path of the plane and whether it hit the Pentagon. In his most recent book, *9/11, Ten Years Later: When State Crimes Against Democracy Succeed* (2011) he has proposed an alternative method for achieving consensus. He suggests we should include reference to the question of whether al Qaeda was in control of the attack. Most of us would agree that al Qaeda alone could not have been in control and he hopes that, having a point we can agree with, we can move on and stop disputing the nature of the attack. It is, however, reasonable to argue that this will not be very effective as some activists will be likely to find this argument difficult to present and will continue to give different answers to the public when asked what they think happened at the Pentagon. It would be far more effective to have agreement among activists as to what the evidence shows. The purpose of this article is to apply the scientific method to the evidence to see whether the question can be resolved and agreement achieved. This process will largely draw on material already published in scientific papers.

Numerous arguments have been raised in support of the theory that the plane flew over the Pentagon and that the damage was created by other means. These arguments are addressed below. Some of the

¹ Controlled demolition evidence is found in many papers, <http://www.journalof911studies.com/>

arguments discussed were raised in Chapter 7 of Griffin's recent book. Some have come from comments from various sources after the publication of the following papers:

*What Hit the Pentagon? Misinformation and its Effect on the Credibility of 9/11Truth*²

*Flight AA77 on 9/11: New FDR Analysis Supports the Official Flight Path Leading to Impact with the Pentagon*³

*The Pentagon Attack on 9/11: A Refutation of the Pentagon Flyover Hypothesis Based on Analysis of the Flight Path*⁴

*The Pentagon Attack: Problems with Theories Alternative to Large Plane Impact*⁵

The Appearance of the Attack

In his most recent book Griffin makes a statement which invites discussion of a range of issues. The statement is that the official account of the impact was "contrary to appearances" (page 155). This will be discussed immediately below; after which wider issues will be addressed.

From official sources we can compile the following: An American Airlines Boeing 757, flight AA77 from Dulles, was hijacked and brought back to a point about 5 miles south west of the Pentagon, where it commenced a descending spiral to the right. After turning about 330 degrees the course of the plane gradually straightened until it was aiming directly at the Pentagon. The plane continued its descent, at high speed, and hit the west wall of the Pentagon, which it largely penetrated, close to the ground. On the way it struck some light poles, a fence, a generator and a low wall. Inside the Pentagon the damage, debris and locations of human remains, were all consistent with impact by a large aircraft, travelling in the direction delineated by the damaged light poles.

Eyewitnesses reported seeing all the above components of the event once the plane was in the vicinity of the Pentagon. The Citizen Investigation Team (CIT) recorded video testimony from a number of witnesses, all of whom agree that the object approaching the Pentagon was a large commercial plane and three state that it was an American Airlines plane. These witness statements are thus consistent with earlier collections of witness statements. For example, Arabesque had previously categorized 143 witnesses of an approaching or impacting plane and found 35 who described it as a large commercial jet airliner. Of these, 28 said it was an American Airlines plane. The type was described as a 757 by 6 witnesses.⁶

In the course of preparing this paper a new study of witness statements was made, going back where possible to original sources, which resulted in removal of a number which appeared dubious. From 137 now listed as observing the plane, 62 described it as "a large plane", "American Airlines" or an "airliner", and 8 said it was a 757. Impact was reported by 60. In addition there were 33 not listed as seeing the impact, but who indicated that they observed the approach of the plane and said it was very low, e.g. disappearing behind trees, in which case we can assume impact would be likely to follow. Thus 93 either reported impact or a very low approach. Words indicating the plane appeared to penetrate the wall were used by 18. In addition there were two witnesses who mentioned that the loud sound of the approaching

² Legge, F., <http://www.journalof911studies.com/volume/2009/WhatHitPentagonDrLeggeAug.pdf>

³ Legge, F., W. Stutt, http://www.journalof911studies.com/volume/2010/Calibration%20of%20altimeter_92.pdf

⁴ Legge, F., D. Chandler, http://stj911.org/legge/Legge_Chandler_NOC_Refutation.html and its Addendum: <http://www.foreignpolicyjournal.com/2011/12/27/addendum-to-the-paper-refuting-the-pentagon-flyover-hypothesis/>

⁵ Wyndham, J. D., <http://www.journalof911studies.com/volume/2010/Wyndham1.pdf>

⁶ Arabesque, http://arabesque911.blogspot.com/2007/04/911-and-pentagon-attack-what.html#_ednref35

plane ceased after the explosion. This is evidence, by itself, that the plane's flight terminated at the Pentagon. Very few said it was a smaller plane and those were mostly people who were far away. The eyewitness testimony that this was a large commercial type aircraft thus overwhelms the reports of a missile or a small aircraft.

Arabesque lists 33 witnesses who use phrases like "extremely loud", "accelerating", "full throttle" and "spooling up" to describe what they heard. In the new study 39 were found who used the same or similar words.

This has all been assembled in a spreadsheet which includes witness quotes and sources.⁷ It also includes arguments made against some witnesses. Responses to these arguments are included in the spreadsheet, thus producing a compact resource for study.

The data in the file from the flight data recorder (FDR) shows that the plane was at full throttle, spooling up and accelerating for little more than the last half minute of its flight.³ The same high speed and acceleration can be calculated from the increasing spacing of the radar position reports.⁴ In the following graph of FDR data (Fig. 1) we can identify the moment when the throttles (thrust levers) were pushed forward. To avoid having too many lines on the graph the left and right engine parameters were averaged.

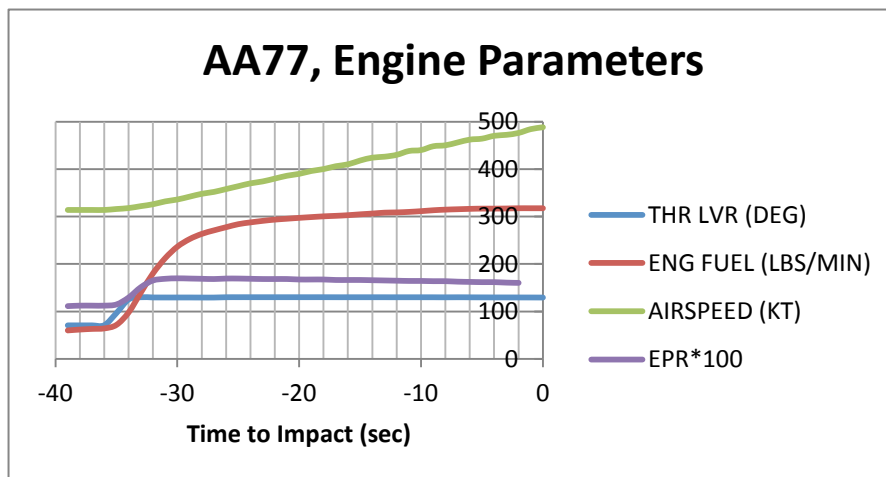


Figure 1. Engines "spool up" and plane accelerates as thrust levers are pushed forward.

As the levers are pushed forward we see the fuel flow increasing and the plane accelerating. The rate of increase in fuel flow is controlled automatically to protect the engines by limiting thrust.⁸ The EPR value is a measure of engine thrust. Within about four seconds the thrust limit has been reached and thrust is then held almost constant. Recalling that acceleration is proportional to force applied ($F = Ma$), we can deduce from the uniformity of the plane's acceleration that something very close to uniform thrust has indeed been set. After the thrust limit is reached the fuel flow continues to rise, indicating that the engine rotors are increasing in speed, requiring more fuel as they draw in more air and supply more power. Power must be rising if speed is rising at constant thrust ($P = Fv$ where v is velocity). Thus the eyewitness description of the sound of the plane is in accord with the FDR data and the speed and acceleration calculated from the radar data.

There are a number of witnesses who give a rough indication of the approach path of the plane leading to the vicinity of the Sheraton Hotel. From there the uniformity of the reports increases and we find many witnesses reporting the path of the plane as over or near the Naval Annex, Columbia Pike, Highway 395,

⁷ Witness analysis [spreadsheet](#)

⁸ http://biggles-software.com/software/757_tech/engines_and_apu/controls.htm#tmc

and finally over the overpass where VA27 crosses Columbia Pike.^{4,7} The paths in these reports are clearly grouped around the path defined by the radar data and the FDR data, which is between Columbia Pike and Highway 395, and hence in conformity with the official description. This is more fully discussed in the section below titled “The Straightness of the Path” where a map is provided (Fig. 3).

There are several photographs of the downed light poles, the damaged fence, the damaged and rotated generator and the damaged low wall. The marks on the generator and the low wall are particularly interesting as their spacing corresponds well with what would be expected from impact with a Boeing 757.⁹ A recently released video shows that the damage on the face of the Pentagon corresponds well with the wingspan of a 757.¹⁰ It is reasonable to believe that the Pentagon controversy would never have arisen if this video had been released at the outset. The well known swath of damage through the light poles also fits the wingspan.³ Arabesque lists 22 witnesses who mention that light poles were hit.⁶ In the present study, 17 were found who said they saw the light poles hit and 7 saw them lying on the ground.⁷

Reporter Jamie McIntyre describes the damage to the Pentagon face as a “huge gaping hole”.¹¹ He is apparently not surprised to find there is not much debris outside the Pentagon and that the fragments outside are small. He thus supports the painstaking work of Jim Hoffman and others who have studied numerous photographs to map out the size of the hole. They find that the clear hole is 96 feet wide, more than enough to admit the heavy parts of the plane. The total punctured distance is over 140 feet wide.¹²

There is apparently just one photograph showing the debris inside the Pentagon before much cleaning up had been done.¹³ Although this photo has been referred to numerous times by various authors, it appears that some still believe there is no evidence for much debris inside the Pentagon. To save readers time, a copy of the photo is provided here (Fig. 2).

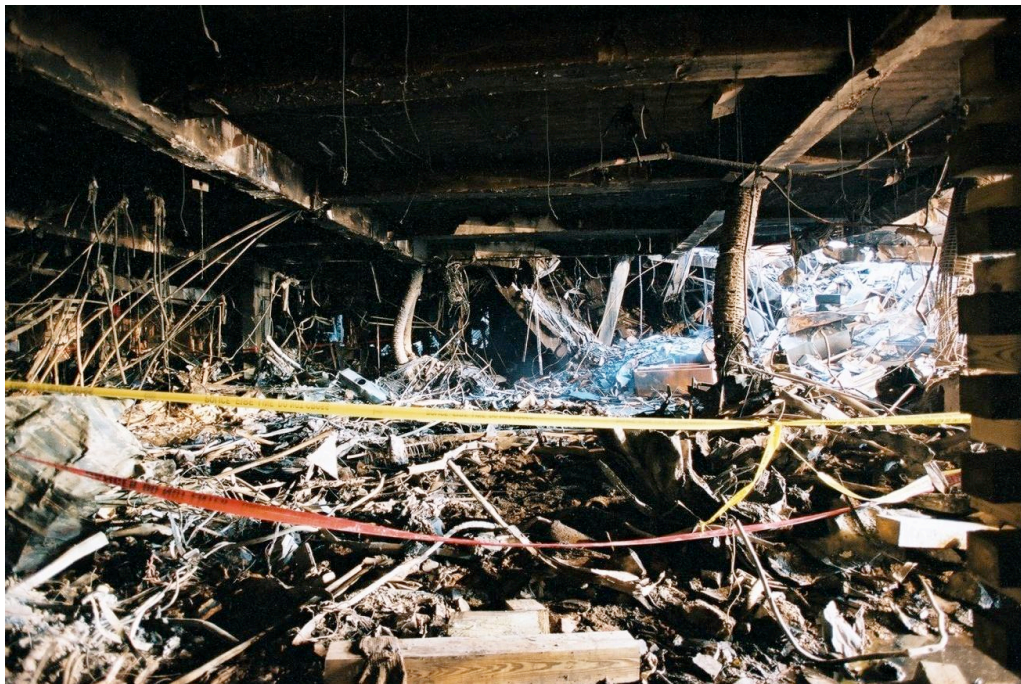


Figure 2. Debris inside the Pentagon

⁹ Hoffman J., *What the Physical Evidence Shows*, <http://911research.wtc7.net/essays/pentagon/index.html>

¹⁰ Pentagon damage video, <http://911blogger.com/news/2010-12-22/new-pentagon-videos-foia-release>

¹¹ McIntyre, J., http://www.911myths.com/html/jamie_mcintyre_and_the_pentago.html

¹² Hoffman, J., *Pentagon Exterior Impact Damage*, <http://911review.com/articles/stjarna/eximpactdamage.html>

¹³ Debris photos, <http://www.scienceof911.com.au/pentagon>

The position of the photographer when taking this picture was near the left hand edge of the impacted region, hence there would be more debris out of sight on the right. It is hard to believe that this amount of debris could have been trucked in and loaded inside the Pentagon without anyone noticing. The plane would have passed diagonally in front of the camera from right to left. The damage to the support columns in the photo shows that they are bent and broken in the expected direction. The floor above is mainly intact, showing that little of this debris could have fallen from above, so the bulk of it must have been inserted horizontally, as would occur with penetration by a low flying aircraft. There is witness testimony from people searching through the debris inside the Pentagon, finding material which seemed to them like a fragmented plane and also locating bodies, for example the testimony of Jeff Maynor.¹⁴

Similarly there appears to be just one photo before clean up showing the debris which apparently flowed out through the “exit hole” in the C-ring. This clearly shows the debris was strewn in the direction the plane was officially reported to have been travelling.¹³ Had this debris resulted from an explosive device, as some assert, the debris field would instead have been aligned perpendicular to the wall.

Having covered all the observable points of the official accounts listed at the beginning of this discussion, the evidence already presented strongly supports the view that the “appearance” of the attack indicates approach, impact and penetration of the Pentagon by a large commercial jet airliner, almost certainly American Airlines, and probably a 757. There is, however, more.

The Straightness of the Path

To assist readers unfamiliar with the district, and previous papers on the subject, a Google Earth image of the area is provided (Fig. 3). The yellow pins are the position reports derived from the FDR, one second apart.³

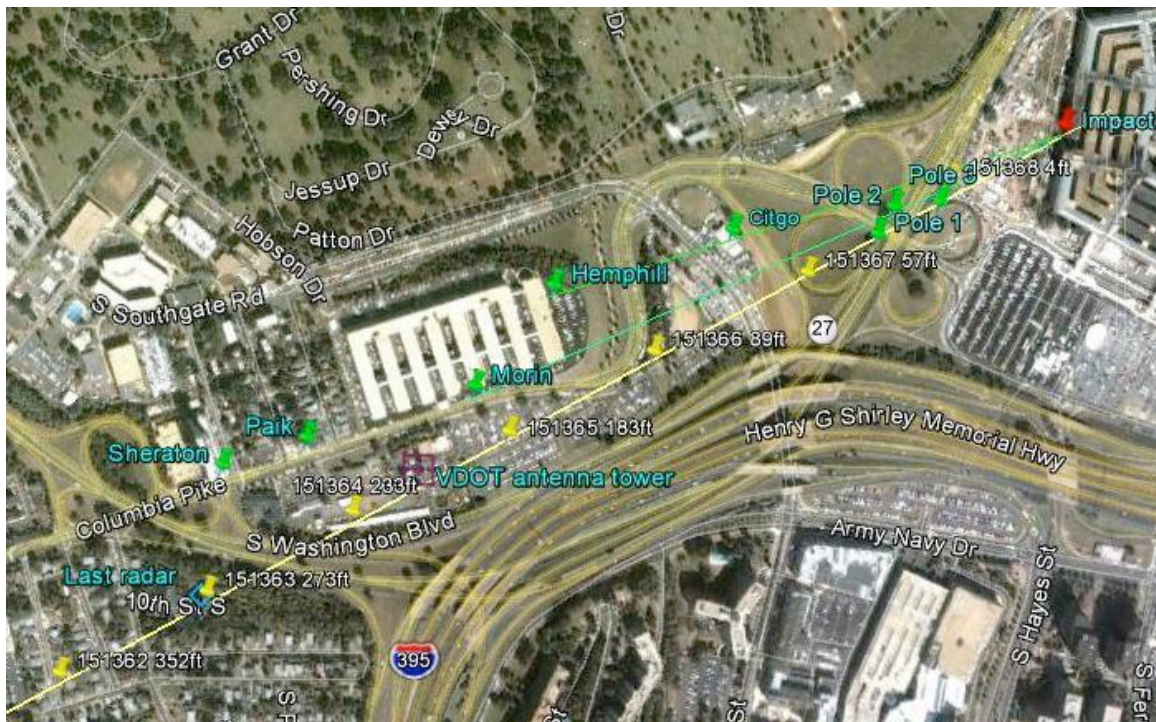


Figure 3. Final 7 seconds of Flight AA77, shown in yellow. The track runs between Columbia Pike and Highway 395. Line-of-sight to impact point for Morin and Hemphill is shown in green.

¹⁴ Maynor, J., Debris witness, <http://www.scienceof911.com.au/pentagon/debris-witnesses> and see links to other debris witnesses at this site.

CIT asked their witnesses to describe the way the plane appeared to them as it approached. To this end two of their witnesses were provided with a model plane with which to demonstrate its motion. They both showed the plane to be flying with wings level, close to the Naval Annex and a little beyond.¹⁵ The important consequence of these observations is that, if the plane is flying wings level, it must be flying straight. The plane was already known to be flying straight as it approached the Sheraton, as shown by radar.⁴ Then many witnesses located the plane on the same straight course a little south of the Naval Annex. A particularly interesting account of the path of the plane was provided by the Virginia Department of Transportation (VDOT) in their report dated Sep 21, 2001.¹⁶ Their Smart Traffic Center (STC) was close to their well known antenna tower. This tower is just south of Columbia Pike, which runs parallel with the Naval Annex on its south side. In this report are two quotes from Madelyn Zakhem, who was outside the STC. She asserted that the plane passed directly over her head. The STC manager, Jimmy Chu, also followed the plane from his office window and stated that he saw it hit the Pentagon. Some may argue that his view of the impact point would have been blocked by trees but his view of the roof of the Pentagon would not, thus he would have seen the plane fly over, if it had done so.

Let us review, in sequence, those witnesses who were very close to the flight path: Deb Anlauf,¹⁷ who saw the plane to the south of the Sheraton, outside her window on the 14th floor; Ed Paik,¹⁸ who saw the plane while looking south through the window of his workshop, facing Columbia Pike; Madelyn Zakhem, who saw the plane overhead, near the VDOT tower; Jimmy Chu, also near the VDOT tower, who followed the plane toward the Pentagon;¹⁶ Terry Morin,¹⁹ who watched the plane pass nearly overhead, on a path parallel with the Annex, while he stood near the middle of the Annex; Isabel James,²⁰ who described it as over Columbia Pike, from a point near the eastern end of the Annex; and Albert Hemphill, who said the course of the plane was “as though it was coming up Columbia Pike” and “it went right into the Pentagon”. His account is described more fully below. That is a total of seven witnesses who together provide a straight path from the last radar point, which is south of the Sheraton, to the impact point on the Pentagon. The Paik brothers also thought the plane may have hit an antenna on the VDOT tower as they noticed one was bent in the direction of the Pentagon and saw work being done there shortly afterwards.¹⁸

None of these witnesses reported that the plane was steeply banked.^{4,7} The wings-level finding of the CIT study provides very strong support to the reports of Morin and Hemphill that the plane was still flying straight close to the south eastern corner of the Naval Annex. For the plane to now deviate around the Citgo service station, as a few witnesses have asserted, is proved to be impossible; to do so, would require a bank angle of more than 84 degrees.¹⁵ This would be an astonishing and unforgettable sight. Dwain Deets has remarked that “If there was any kind of maneuver as extreme as that, there would be all kinds of witnesses... That would be the main thing they would talk about, and we don’t hear any of that”.²¹ Deets was talking about a different maneuver but the angle was similar, so his conclusion would be the same. He was pointing out that the left bank required to pass through the light poles after passing north of the service station was impossible. He is apparently unaware that the right bank required to pass north of the service station on the way to the impact point, or over it, even without passing through the light poles is also physically impossible and would have attracted the same comments if it had occurred.

¹⁵ Addendum, <http://www.foreignpolicyjournal.com/2011/12/27/addendum-to-the-paper-refuting-the-pentagon-flyover-hypothesis/>

¹⁶ VDOT report, www.roadstothefuture.com/VA_Sept21.txt

¹⁷ Anlauf, D., <http://911research.wtc7.net/pentagon/evidence/witnesses/bart.html>

¹⁸ Paik, E., <http://911reports.wordpress.com/2010/02/03/shinki-and-ed-paik-accounts-vs-cit-methods/>

¹⁹ Morin, T., http://remember911.albertarose.org/survivor_pentagonwitness.htm

²⁰ James, I., <http://www.youtube.com/watch?v=gXna7tlb4ZQ>

²¹ Deets, D., <http://www.youtube.com/watch?v=yYGkiYmVUmg>

Maintaining such an angle is impossible because it would impose a g-force sufficient to destroy the plane. We note that the plane survived its final approach and we note that all reports of the bank angle state that it was slight. If there was no steep bank angle, it is inescapable that the plane must have flown virtually straight and we must deal logically with the consequences.

The final portion of the path of the plane appears to be as described by Albert Hemphill.²² He had an excellent vantage point from a top floor office in the Naval Annex. He watched the plane travel on his right, saying it "...seemed to come directly over the Annex, as if it had been following Columbia Pike." When asked if the plane would have been south of the VDOT antenna tower he said "That would be a little bit far" thus allowing that the plane might have passed close to the tower. His remarks align his estimate with the previous south path witnesses and completely contradict the north path witnesses. He described the plane as flying straight to the VA27 overpass in what he called a "powered descent".²³ The trail of impacted light poles commenced at this overpass. Hemphill made no mention of a steep bank. Instead he stated that he watched the plane fly close to the ground straight into the Pentagon: "It didn't pull up, it didn't turn right, it didn't turn left; it went right into the Pentagon".^{4,24}

It is not just the above witnesses who provide this evidence for the straightness of the path of the plane. Among the 99 witnesses who stated that they saw the plane approach, there is not one who mentioned a steep bank angle,⁷ just as there is not one who reported the plane flying over the Pentagon. There are 16 who specifically state that the approach was straight.⁷ If the plane flew virtually straight, it must have been on the south path, hence the few witnesses who reported that the path was north of the Citgo service station must have been mistaken. It is not surprising that a few witnesses might be found who were mistaken about an unimportant part of this extraordinary day's experience. It is useful to note that of the 13 claimed north path witnesses, all who were in a position to see the roof of the Pentagon reported impact.²⁵

The calculations about bank angle were initially set out in the paper by David Chandler and myself titled *The Pentagon Attack on 9/11: A Refutation of the Pentagon Flyover Hypothesis Based on Analysis of the Flight Path*.⁴ We have since refined these calculations by taking into account new information regarding the technical limitations of the plane and by drawing fresh conclusions from the witness testimony regarding bank angle. These refinements result in the required bank angle for the deviation around the service station rising from 77 to 84 degrees and the wing loading rising from the improbable 4.3g to the impossible 9.5g. This is set out in our *Addendum to the paper refuting the Pentagon flyover hypothesis*.¹⁵

It is of course easy to devise a north path for the plane which would be "aerodynamically possible", but to do this it is necessary to have the plane fly over the Naval Annex. The first problem with this is that it requires the plane to deviate from the radar trail before the last radar position. This deviation also ignores the testimony of all the witnesses previously discussed who place the plane near Columbia Pike and Highway 395. Even with this early deviation the plane would still be banked at 60 degrees, far steeper than anyone reported. To reduce the angle of bank the plane must be slowed right down, but this would be to ignore three sources of evidence for the high speed of the plane: the FDR data, the radar data, and the witness testimony to the sound of the plane "spooling up". Such a very slow and quiet flight around the Citgo service station would neither be "witness compatible" nor in agreement with the data. There is no end to what one may claim if contrary evidence is ignored.

²² Hemphill, A., his report, <http://911research.wtc7.net/pentagon/evidence/witnesses/bart.html>

²³ Hemphill, A., interviewed by Jeff Hill, http://www.pumpitout.com/audio/ah_052410.mp3

²⁴ Hemphill, A., interviewed by Craig Ranke, <http://www.scienceof911.com.au/pentagon/rebutting-cit>

²⁵ Sarns, C., <http://csarnsblog.blogspot.com.au/>

Conclusion from Evidence

The accumulated evidence is that there was a large commercial aircraft which approached the Pentagon on a straight path, that deviation around the Citgo service station under the known conditions was impossible, that it descended close to the ground and hit the Pentagon. This is not just a matter of mere appearance; it is a matter of hard evidence and the application of the laws of physics. To hold the belief that the plane deviated north of Citgo while flying at the observed speed, is to defy Newton's second and third laws dealing respectively with acceleration and force.

Biased Witness Analysis

After discussing the "appearance" of the event, Griffin proceeds to analyze witness testimony. Some problems become evident. There appears to be some bias in his account toward finding fault with witnesses to impact. For instance Steve Anderson's testimony is discounted on the grounds that he said the plane "drug its wing along the ground." The left wing of the plane was very close to the ground, as indicated by the impact damage, but how can one expect someone at a distance to measure this accurately? Similarly Frank Probst²⁶ is disparaged for saying an engine passed within 6 feet of him. How can he measure that exactly as he "dove to the ground"? We should instead be asking why he decided to dive to the ground. There would be no reason to do so if the plane had been high enough to fly over the Pentagon. It is common for actions and body-language to convey truth more accurately than a person's words.

It is then stated that the "highly respected reporter" Jamie McIntyre indicated that it was hard to find evidence for plane impact, thus casting doubt on the plane impact theory. According to his later reports the doubt arises from a complete misunderstanding of his remarks. As stated above he described the damage at the Pentagon as a "huge gaping hole". Clearly he must have believed the bulk of the plane would be inside and his statements support impact and penetration.¹¹ His remark "...there's no evidence of a plane having crashed anywhere near the Pentagon - the only site is the actual site of the building ..." was in answer to a question about whether the plane had fallen short of the Pentagon. He was confirming that the plane did not fall short.

We read that Karen Kwiatkowski said "There was a strange lack of visible debris on the lawn." This is an inconclusive remark as the huge hole in the Pentagon wall provides a likely explanation for the location of most of the plane and her observation of a lack of sufficient debris outside is refuted by the many photos and videos of small debris around the Pentagon.^{2,27} It is also refuted by a number of witnesses close to the Pentagon who spoke of debris "raining down".⁷ The people who reported this were obviously at the scene at the moment of impact. Some no-plane theorists assert that the debris was planted shortly after the impact, but surely this would have been observed and reported. Kwiatkowski's observation, in combination with the images of adequate debris captured early, is in accord with impact and penetration.

Remarks about little debris could be construed as evidence that the plane flew over the building, but in the absence of any witness to flyover there seems to be a problem with that. Is there any way to increase our confidence in the observational powers of the impact witnesses? Yes, there is; we could perform a small experiment to explore how our eyes work. You are probably looking at your computer screen now. Focus on some point on the screen. Gently nod your head and shake it from side to side. You will find you have no difficulty keeping your gaze fixed on the chosen point. You don't have to give any thought to rotating your eyes in your head to keep them fixed on the point of interest. It is automatic and the precision is

²⁶ Probst, F., <http://911research.wtc7.net/pentagon/evidence/witnesses/bart.html>

²⁷ Debris photos, <http://scienceof911.com.au/pentagon/debris-witnesses/1051-2/>

remarkable. You can even keep on reading while you do it. In the same way, if you are concentrating on a moving object, your eyes will remain locked on the object, no matter how it moves or how you move your head. Now imagine yourself watching the plane approach the Pentagon. This is a most astonishing sight and will capture your attention so you will concentrate. As the plane sweeps down your eyes will follow it. If the plane had pulled up and flown over the Pentagon, your eyes would have followed it. Apparently not one person experienced their eyes following the plane pulling up and flying over the building. We can be confident that it did not happen. If it did not happen, the plane hit the building.

Having a particular perspective tends to cause observations to be misconstrued. For instance Brian Ladd expected to see wings and fuselage on the ground but reported seeing “millions of tiny pieces” spread “everywhere”. He didn’t see what he had expected to see but that does not mean a large plane did not hit. It means that Ladd was not aware that a high speed crash into a solid obstacle results in fragmentation, as shown by of the F4 Phantom experiment.²⁸ His testimony therefore provides support for high speed impact and penetration, but with the light parts fragmenting rather than penetrating, as expected.

Important Witnesses Ignored

One particularly significant witness who rarely gets a mention is the pilot of the C-130, Lt. Col. Steve O’Brien, who was directed to turn and follow, and attempt to identify, the unknown aircraft. It is instructive to listen to his interaction with the ATC radar operator.²⁹ In this video you can track AA77, tagged LOOK, with “S” at the head of its trail. The C-130 is tagged GOPHER06. The radar trail of this plane starts with “T” then switches to “2”. There does not seem to be anything suspicious in the conversation which occurs as the tracks of these aircraft travel across the screen. O’Brien first states that the descending plane is a 757, then states that it has crashed and gives an approximate location. As he gets closer he states that the plane has hit the Pentagon. We can see that he passes close to the Pentagon as he turns west to resume his original course, as instructed and as observed.

Another witness who is often either ignored or misconstrued is Sean Boger, who was in the heliport control tower, very close to the impact point. He was watching the plane approach and said “... he didn’t veer ... I am watching the plane go all the way into the building ... Once the plane went into the building it exploded ...”³⁰ It is hard to argue against a professional control tower operator with a perfect vantage point. He is clearly a witness to impact and penetration. It is interesting that he is also a witness to straight flight: “...he didn’t veer”. His words also provide support to the numerous witnesses who used words like “the building swallowed the plane” to describe what they saw.⁷

Data Sources

Doubt has been cast on the authenticity of the FDR on various grounds. It was reportedly found after the file from it had been downloaded.³¹ The conflicting times may be due simply to human error, proving nothing. Alternatively, given that nothing suspicious has been found in the data content of the FDR file, it appears that one should consider the idea that the authorities are sprinkling false information among the real evidence to keep people like ourselves arguing the point. If so, it is working well.

More serious is the allegation that the FDR file is fake as there is no plane identification (ID) in the preamble. Warren Stutt has several authentic files that have no ID in the preamble. He has shown that the

²⁸ Sandia, F4 Phantom impact, <http://sandia.gov/videos2005/F4-crash.aspx>

²⁹ ATC voice and radar, <http://www.youtube.com/watch?v=VF5bN6er5TQ>

³⁰ Boger, S., location image, <http://www.youtube.com/watch?v=31LTlqcoTUg>

Center for Military History interview, <http://bluecollarrepublican.files.wordpress.com/2011/03/neit299.pdf>

³¹ Monaghan, A., <http://911blogger.com/node/15636>

ID is coded repeatedly into one of the columns of data, as is the make and model of the plane. The plane number is 35, fleet number 1. Any claim that there is no ID in the file is false. Without access to American Airlines records we cannot associate this with a particular aircraft. One might hope that some 9/11 activists who work for American Airlines might eventually be able to provide this information.

There is a bizarre claim that the official story must be false because the FDR file appears to show that the plane departed Dulles from the wrong gate. The recorded position of the plane is derived from inertial tracking devices, which can drift long distances while the plane is on the ground. It is thus impossible to know from the file where the plane started taxiing. If the file is to be believed, the plane taxied over the top of a building while moving toward the runway! Only after the plane has been in the air for a couple of minutes do we see the FDR track align with the radar track, following reception of signals from DME and VOR ground stations. This has been illustrated by John Farmer.³²

It has also been pointed out by Farmer that the course of the plane was being tracked by 7 radar facilities in overlapping sections and that these all agree with one another after allowing for their characteristic time errors.³³ Thus the probability that these have been faked is extremely small. They also correspond with the FDR data, as shown below (Figs. 6 & 7, page 13).

Flawed Arguments

It has been alleged that many of the witnesses to impact were employees of the government and would have been influenced to produce reports which supported the official position. This may be true in a few cases but with 93 reporting impact, or too low to miss, and none reporting flyover or a steep bank angle, it is a weak argument. Far stronger is the argument that the authorities could not control the very many other people in the area as they would not have known who was going to be present. It is not logical to suggest that the authorities could force all these unknown people to remain silent about a steep bank or flyover.

Some no-plane-impact theorists have asserted that the cable spools on the ground in front of the Pentagon would have been knocked over if a plane had come in as described. They use a photograph which appears to show that the spools would be in the way of the right hand engine (Fig. 4).



Figure 4. Impact region with cable spools.

³² See John Farmer's images at the foot of this page, <http://scienceof911.com.au/pentagon/fdr-info/>

³³ Farmer J., personal communication.

The right wing tip reached column 21. We can work out from that where the right hand engine would have reached the Pentagon. It is at, or close to, column 16. Luckily there is another photo taken earlier and from a different angle (Fig. 5).



Figure 5. Impact region with cable spools and fence.

In this photo we can recognize where column 16 would have been. It is a little to the left of the arrow pointing to the left under “breached limestone”. Also visible at the right edge of this photo is the fence damaged by the right hand engine. It is clear that there is an unobstructed path for the engine from the fence to column 16. From the height of damage done by the left hand engine, and the angle of bank on impact, it can be calculated that the fuselage would be 8 feet above ground, even if the plane was not descending. The plane was descending and the fuselage would have easily cleared the spools.

Many people have formed an opinion about the Pentagon attack from the testimony of April Gallop. It has been said that the explosion occurred as she pressed the button on her computer, but in her original interview for the army she was clear that she was just reaching for the button.³⁴ This undermines the theory some have presented that explosives were wired to her computer. Little weight can be placed on her failure to recognize aircraft debris as she was in such a state that she collapsed as she got outside the building.³⁵ It should be noted that there were double doors not far from her position which were blown out by the explosion.³⁶ It is likely that she escaped through this opening so it is not surprising that she did not see plane debris. She used the phrase “when it hit”, suggesting that she did not form the idea that explosives were involved until later.

Barbara Honegger asserts that there is proof there was no large plane at the Pentagon and that the damage was done by explosives. She bases this belief mainly on reports that some clocks appeared to stop about 6 minutes earlier than the official impact time.³⁷ I used to think it possible that the clock in AA77 may have been incorrect, resulting in posting an incorrect official time of impact. The meticulous work of John Farmer, however, shows this to be highly improbable. He linked the radar evidence for the impact of UA175 on the South Tower to the time established by video recordings and thus determined correction factors for the timelines of all the relevant radar facilities. His calculated impact time is within 3 seconds of the time shown by the FDR file.³⁸ Whatever the cause of the time discrepancy of these clocks, we can

³⁴ Gallop, A, army interview, <http://bluecollarrepublican.files.wordpress.com/2011/03/neit214.pdf>

³⁵ Gallop, A., <http://video.google.com/videoplay?docid=3965407869390415574>

³⁶ Double doors, <https://dc1.safesync.com/LMGxbsCs/Conspiracy%20911/Farmer/neit218.pdf?a=OlfKSU030KI>

³⁷ Notes on Barbara Honegger, <http://scienceof911.com.au/pentagon/critique-of-barbara-honegger/>

³⁸ Farmer, J., <http://bluecollarrepublican.files.wordpress.com/2011/02/radar-and-ntsb-time-normalization.pdf>

be certain that the official time of impact corresponds with the radar data and the FDR data, within a few seconds.

We can also be sure there was only one serious explosive event at the Pentagon that day, as there were several witnesses who were present at the site over the period in question, none of whom mentioned two explosions.³⁷ It is still possible that explosives were used to enhance the impact damage, but it is clear there is no proof in Honegger's work that a large plane did not hit the Pentagon.

Regarding the light poles, Griffin uses three arguments to cast doubt on the assertion that they were felled by a plane:

1. *The poles should have gouged the soil.* A plane at 560 mph will cut through the trifling structure of a light pole so rapidly that it will be unable to transfer significant momentum to it, so it will not travel fast or far and would not be expected to leave much of a trail.
2. *The plane should have gone off course.* This 80 tonne plane, travelling at 560 mph will barely feel the resistance of the light poles. The force will be felt only for milliseconds, and there was only about one second left for its effect to produce a deflection of the plane. The size of the deflection would be minute in such a short time and hence undetectable.
3. *The poles appear to be cut at the base.* The poles have been severed at both the base and the impact point and have been bent. They are designed to be weak at the base to protect motorists. The marks at the impact point are consistent with impact by an extremely high speed, relatively soft object, as for example the aluminium wing of a plane. The bend in the poles is consistent with the very brief application of a powerful force, working against the inertia of the pole.

It appears that none of Griffin's arguments is convincing.

Radar Gap and Plane Swap

A number of people have argued that there was a gap in the radar trail of AA77 and that a plane swap may have occurred. It is true that Indianapolis Air Route Traffic Control Center (ZID) lost the trail when the transponder was turned off, initiating a period in which there was some confusion about the location of the plane. That confusion is, however, not relevant to the present discussion, which is about recorded data. Primary radar (skin reflection) tracking of the aircraft was recorded all the way to a point about 6 seconds short of impact with the Pentagon.

John Farmer and Tom Lusch put a lot of work into examining the radar data. There were seven radar stations which picked up the plane on the course of its flight, three of which continued to record its position after the transponder signal was lost: QDB, QWO and QBE.³⁹ One of the seven, QHY, located at Higby, WV, was only 56 nautical miles (NM) from the plane and would have been receiving a strong signal, as radar is reliable to 200 NM. QBE was 167 NM distant so would also have been reliable. The plane was in range of QBE for the whole of the period in question.

For clarity, signals from just four stations are shown in the image below (Fig. 6): IAD, PLA, QBE, and QHY. The transponder signal was lost when the plane was travelling south at about latitude 38.64 degrees, as illustrated by the sudden cessation of signal from QHY. It is clear that there is no break in the radar signal, thus there was no opportunity for an undetected plane swap. If a swap occurred we would see the QBE track diverge and another take its place, but no such tracks can be seen. It has never been seriously disputed that the plane was correctly identified as it left Dulles; hence it is reasonable to conclude that the plane which hit the Pentagon was AA77.

³⁹ Lusch, T., AAL77, <http://tomlusch.com/tomlusch/AAL77.html>

For comparison a graph derived from the FDR file (Fig. 7) is also provided. As already mentioned, it has been shown that the FDR position data, based on inertial navigation devices, drifts when the plane is on the ground. It is also said to deviate a little when the plane is maneuvering. It is evident from the graphs, however, that the radar and the FDR data match closely. As already stated, the drift is corrected in flight by reference to signals from ground stations.

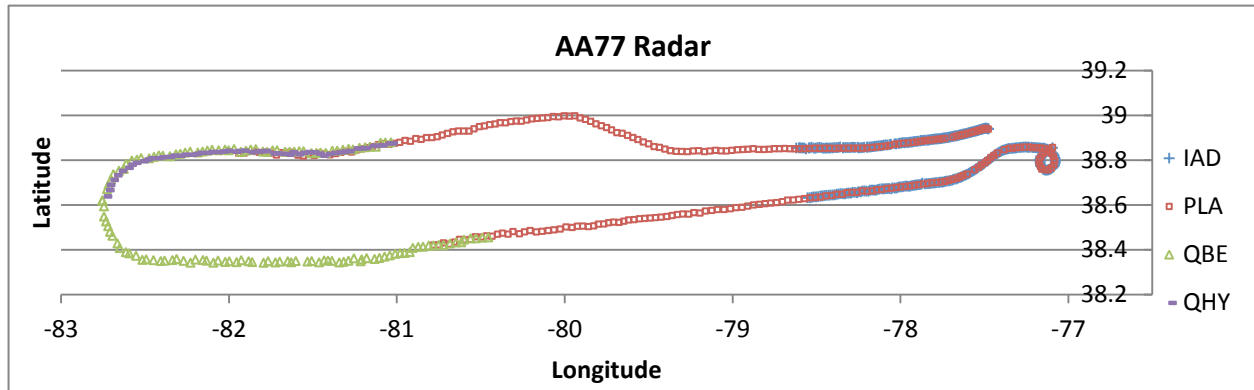


Figure 6. The radar track of AA77 is continuous from Dulles to the vicinity of the Sheraton.

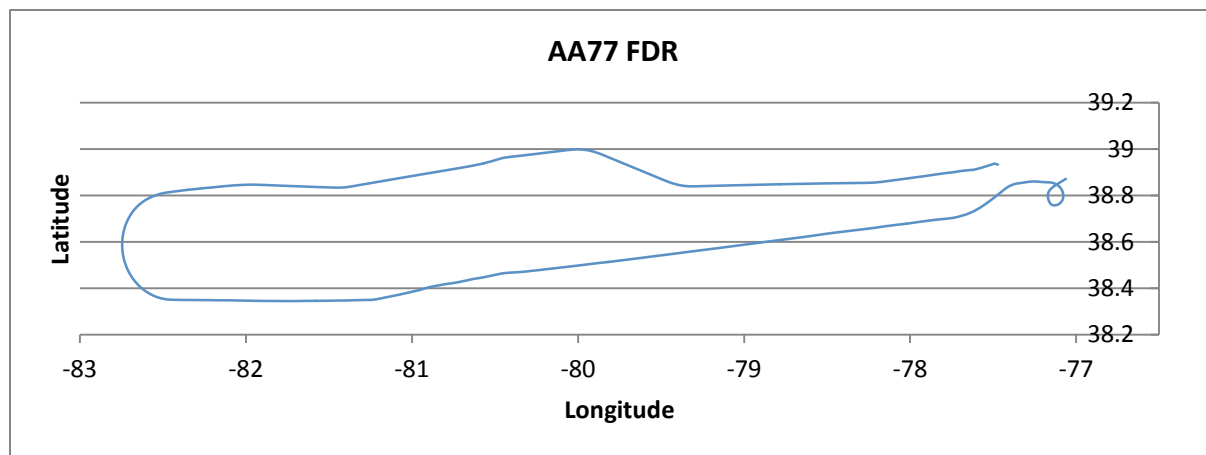


Figure 7. The course of AA77 from the FDR data closely matches the radar data.

The persistence of the “radar hole” myth is one of the numerous puzzling features of the 9/11 narrative. The 9/11 Commission report is clearly deceptive regarding this issue. Perhaps they preferred to allow the public to go on thinking that there was an intentional lack of coverage in the area rather than admitting that the software which is supposed to analyze the radar input in real time was defective. It is obvious that only if the data is correctly assembled and presented immediately to ATC officers will it be useful for the purposes of maintaining control and safety. There have been complaints for many years that the radar software is defective, allowing aircraft to sometimes become “invisible” to controllers if the transponder fails.⁴⁰ It is reasonable to suspect that this false belief in a radar gap was deliberately allowed to stand by the Commission in order to avoid loss of public confidence in the clearly defective airways control system.

⁴⁰ Lusch, T., *It is Time for a Paradigm Shift*, <http://tomlusch.com/tomlusch/PDMSHFT.html>

Probability

In addition to all this evidence-based argument, there is the question of probability. What is the probability that the perpetrators of this attack would choose the extremely difficult deception involved in creating the appearance of a plane impact when they could have simply flown the plane into the building?⁴¹ If a deception had been created and a witness had photographed the plane flying over the Pentagon, the perpetrators would now be in jail. Would they have taken such an obvious risk?

It is interesting that Griffin makes no mention of CIT in his latest book. One wonders whether consideration of this probability, and the relevant evidence, is leading him toward withdrawing his support for their no-plane-impact, flyover theory.

Analysis

The amount of material presented here, and in the linked references, is large, hence it is possible for the essential logic of the presentation to be lost in the detail. It may appear, on initial reading, that this debate is simply a contest between two sets of eyewitnesses: the north path and the south path. The no-plane-impact theorists claim that they have found 13 north path witnesses and assert that there is not even one south path witness. There are, however, the 137 witnesses who saw the plane at last count. Of these, 60 reported seeing the plane hit the Pentagon, and a further 33 indicated that the plane was too low to miss, though they cannot be listed as seeing the impact. Are these 93 not south path witnesses? Is the ratio 13 to zero or 13 to 93? Are we forced to make a judgment based on our assessment of the reliability of these witnesses to the path of the plane?

While the ratio of 13 to 93 is highly persuasive that impact occurred, it happens that we do not have to rely upon it in making an assessment as there is a more useful ratio. It is the ratio of the number of witnesses to the approach who found the bank of the plane to be slight, or not worth mentioning, to the number who said it was steeply banked. Of the 137 who saw the plane, 99 reported seeing the approach and none reported a steep bank, even though, at the angle required, the bank would have been astounding. That provides a ratio of 99 to zero. Even if some of the witnesses embellished their accounts in some way, perhaps claiming they saw the impact when in fact they only deduced it, that ratio would remain unchanged. This is compelling evidence that the plane was not steeply banked.

Note the difference in character between the assertion that the plane was not steeply banked and the assertion that the plane did not fly over the Pentagon. The assertion that the plane did not fly over is based on an **absence of observation**, and has been discounted on the grounds that it may simply have been missed. The assertion that the plane was not steeply banked cannot be discounted in that way as it is based on the **presence of observations**. It is virtually impossible that all these people who saw the plane approach could have failed to notice that it was at an extremely steep bank angle. We observe that there is complete **consensus** among the witnesses that the plane was not steeply banked. We can safely conclude the plane could not have deviated around the service station.

Given that there is this consensus among witnesses, it should only be a short step to achieve a satisfactory level of agreement among 9/11 activists regarding the straightness of the approach path. The straight path is necessarily the south path.

If the plane flew straight there is no need for explosives to create the observed long line of damage in the south path direction and no need for flyover to avoid creating damage in the north path direction. We are free to accept the majority witness testimony that the plane hit the building.

⁴¹ Pentagon, probabilities, <http://scienceof911.com.au/pentagon/>

Summary and Conclusion

The great majority of the public believes that a plane hit the Pentagon, therefore if an activist tells people that there was no plane at the Pentagon, they will find the activist untrustworthy. How then can we expect them to pay attention to the far more important evidence that explosives were used at the World Trade Center, and falsely denied by NIST? Surely we all agree that we should seek agreement as far as possible about the Pentagon attack. Griffin wisely recognizes the damage the dispute is causing the 9/11 movement. His solution is to choose a wording about the attack that most of us would agree with, which includes reference to al Qaeda. This solution is valuable as long as there is no scientific basis for a direct evidence-based solution.

There is, however, overwhelming evidence that a large commercial plane was involved and that it was following the course stated in the official reports. The plane must have been flying in a relatively straight line from the last radar position past Paik's workshop, past the VDOT tower and past Terry Morin, parallel with the Naval Annex, in order to correspond with the testimonies of the witnesses located there. Then credible witnesses demonstrated very clearly with a model that the plane was still flying wings-level close to the south eastern corner of the Naval Annex. From there it would be physically impossible for it to deviate north of the Citgo service station due to the excessive g-force required. The only conclusion possible is that the plane continued to fly on the same straight path all the way from the Naval Annex, past the service station, through the light poles, to the Pentagon, in agreement with Albert Hemphill. This is the south path. The few witnesses to a northerly deviation clearly were mistaken.

The desire for consensus about the Pentagon attack has been expressed by many people. There is already consensus among the witnesses that the plane approached the Pentagon close to wings level and therefore must have been on the relatively straight south path. There is thus no need for explosives to explain the observed damage on the south path or for the flyover theory to explain the lack of damage on the north path. It follows that there is no reason to doubt the very large number of witnesses who reported that the plane hit the Pentagon or was approaching too low to miss. There is no motivation to align with the no-plane-impact theorists who have not found a single witness to flyover or a steep bank angle.

It is clear that the opportunity exists to create an adequate level of agreement among 9/11 activists about the Pentagon attack simply by widely publicizing the scientific facts of the matter. Griffin's current proposal to achieve consensus by inclusion of reference to al Qaeda has merit for immediate use, but ultimately cannot be as powerful as agreement based on scientific analysis of the evidence.