

How Could Pan Am 103 Not Be a Bomb?

Pan Am Flight 103 not brought down by bomb explanation.

The official UK AAIB report never says the word 'bomb' in the entire report; it calls the blast source an 'improvised explosive device'. The English writing in English about an English accident would have said 'bomb' if they wanted to mean bomb. They meant and said 'improvised explosive device'. They could have said 'plastic high explosive bomb' but they didn't. They didn't because the evidence is not there. There is evidence of an improvised explosive device, so they said it, leaving many choices but still unnamed specifically.

There was a blast in the forward cargo hold of Pan Am 103. It was not a bomb and the blast force was not enough to destroy the structural integrity of the nose and the relatively mild blast happened after the forward cargo door opened. It is also difficult to disprove a negative.

The conclusion that an improvised explosive device detonated inside the forward cargo hold of Pan Am 103 is based on several facts in official report:

1. A shatter zone was found on the port side just forward of the wing. This shatter zone reveals a reported hole of 18 to 20 inches in size. This small sized hole is too small to blow off the nose of a 747. Bombs have gone off in 747s before making small holes which did not destroy the plane which turned around and landed safely. The 747 was designed to withstand a small sized hole. All blast damage evidence is too weak for a bomb but normal for a small device.
2. The destruction area is described as if a rather large shotgun had gone off at close range. A rather large shotgun is not a bomb.
3. The destruction area is described as directed, with a straight line of destruction of 25 inches to 50 inches. A bomb blast is spherical. There is no evidence of a spherical blast but evidence of a straight line blast.

4. There is no evidence of plastic explosive in the blast area or shatter zone, only soot and explosive residue which might come from a shotgun.
5. All evidence of high plastic explosive is stated as being on passenger items which are never named, listed or described. Traces of explosive residue on fragments mean very small invisible amounts of something are found on something very small. There were millions of very small pieces of wreckage, including pieces of plastic in circuit boards in alarm clocks.
6. Evidence of traces of high explosive on fragments of wreckage is now shown to be benign and explained as normal heart medicine, or residue from the uniforms of soldiers, or traces left over from a dog sniffing exercise.
7. No pieces of a bomb were found.
8. FBI investigator who made his career on "cracking the mystery of the bombing Pan Am Flight 103 for Pan Am 103" in 1989 was removed and transferred by the FBI on 29 Jan, 1997. Tom Thurman, unit chief of the explosives division was transferred because of questions concerning sloppiness and mismanagement. The Justice report, prepared with the help of several world-renowned forensic experts, found that in some cases the bureau laboratory exercised lax control over evidence and that accountability over findings needed to be improved.

Conflicting evidence that it was not a bomb was available for interpretation from official report:

1. Sudden loud sound on CVR matches Air India 182 sudden loud sound which matches explosive decompression on a cargo door caused crash of a DC-10. A bomb big enough to blow nose off of Boeing 747 would be heard on CVR. Sudden loud sound on Pan Am 103 does not match a bomb. The sound has been officially described as probably Pan Am 103 undergoing structural breakup.
2. Reconstruction diagrams show more severe damage on right side of fuselage, the cargo door side, while light damage is on left side, the small shatter zone side.
3. Reconstruction diagrams match the destruction pattern of a known cargo door failure in a Boeing 747, UAL 811, in amount of skin torn away, stringers exposed, bent floor beams, and cargo door broken in half.

4. Engines number three and four suffered foreign object damage, with engine number three on fire and landing separate from the engines number 1, 2, and 4. Engine number three suffered most inflight damage and it is on opposite side of small blast hold, but on cargo door side.
5. Blast was directed not spherical. Yet official report has an artist's interpretation of a large spherical blast, and the inaccurate drawing is repeated a few pages later.
6. Door coming off picked up on radar which would explain subsequent destruction.
7. Type and sequence of destruction matches other 747 crashes, a known cargo door caused crash, a tenuous bomb explanation crash, and an unknown crash.
8. "Relatively mild blast..."
9. Bomb theory as presented in AAIB report is contradictory, evasive, inconsistent, and has several errors of fact. There is mistaken grammar in verb tense and poor choice of verb 'exhibit.' These types of error are not made by British authors writing in English for an official United Kingdom report. This section was written by different person than rest of report. Later the same writer states noise is no doubt bomb. Next page of report, written by different person, refers to noise as most likely aircraft structure break-up. Serious contradiction in same report one page apart.

The condition of the aft door, far from locus of damage in forward cargo hold, is reported to be intact and latched. The condition of the forward cargo door, near the scene of damage start of forward cargo hold, is omitted, unreported, not stated, passed over, neglected. A glaring oversight.

10. For the bombers the sound on CVR was of the bomb, (although sound never matches any bomb sound.) it was lucky to have been placed near air conditioning ducts to direct to blast to other areas of the plane, (even though bombs that caused the same size hole in other Boeing

747s turn around and land safely.) the detonating altitude fuze did not go off on the flight from Frankfurt to London but did go off by itself over Lockerbie, but distresses the Libyan secret agents who put the suitcase bought in Malta on the plane because now the evidence would show it was a bomb and the bombers are upset because they wanted the plane to explode over water so it would not be known it was a terrorist act? And the reason terrorists do terrorist acts is to be noticed for their cause and to be noticed is bad? Non sense, it makes no sense, it's entertaining nonsense.

What might explain the blast, if not a bomb? Diplomatic pouches were carried in the forward cargo hold. Guns or booby traps might have been inside them and went off when the huge explosive decompression occurred when the cargo door tore off at 31000 feet. Or a passenger had fireworks or other incendiary device inside his luggage, which was passed because cargo was not checked or the device did not look suspicious. The fireworks or blasting caps were not fuzed and would be safe as long as a explosive force was not present near it. But the explosive decompression might have set them off, after the door went. There may be other devices normally carried inside the cargo compartment which detonate when exposed to large explosive decompression such as fire extinguishers or emergency power units. There are many alternate explanations for the small blast hole and explosive residue and soot other than a bomb.

01:49 PM ET 06/05/98

MIAMI (Reuters) - A flare gun ignited inside a French tour operator's suitcase only minutes before he was to board a flight at Miami International Airport and could have caused a major air disaster, investigators said Friday.

Baggage handlers noticed smoke billowing from the suitcase sitting on a baggage cart about to be taken to a US Airways flight to Philadelphia on Wednesday.

Leo Guy Cauvin, 55, a French citizen living in Taunusstein, Germany, was arrested and charged with transporting hazardous materials. His bond was set at \$10,000 in a court appearance

Thursday and he remained in jail Friday.

“Had that thing gone off in the cargo hold in the suitcase, everyone on that flight would have perished,” Assistant U.S. Attorney Wilfredo Fernandez said.

“We would have had another ValuJet,” he said, referring to a cargo fire that caused a ValuJet flight to plunge into the Florida Everglades in 1996, killing all 110 people aboard. Flares of that type generate their own oxygen and burn at 2,000 degrees Fahrenheit, Fernandez said.

The Department of Transportation and the Federal Aviation Administration's Office of Civil Aviation Security are investigating the incident, DOT spokesman Jeff Nelligan said. A US Airways spokesman, Rick Weintraub, said the carrier will cooperate fully with the investigation.

The bag had been checked through security and tagged to a connecting flight to Frankfurt. The flare that ignited was one of five boating-type safety flares in the suitcase, which also contained clothing. Three of the flares were loaded into a flare gun, ready to fire, Fernandez said.

He said investigators were still trying to determine what caused the flare gun to go off and whether the suitcase had been

X-rayed. Inspectors also found pepper spray in Cauvin's carry-on luggage, the arrest report said.

Cauvin's attorney, Paul McKenna, said Cauvin is an avid scuba diver who had been visiting the Florida Keys. Cauvin acknowledged to police that he had packed the flares in his suitcase but said he had thought they could not go off.

The incident illustrates a growing problem with passengers loading hazardous materials into their luggage, Fernandez said.

In a pending case in Fort Lauderdale, a woman was charged with packing a plastic jug of gasoline and a small motorbike into luggage she intended to check. It was discovered when the gasoline container leaked, he said.

``It's not like it's a flurry of cases but it's the second one in the last three months," Fernandez said. ``I don't know if it's ignorance, if it's negligence. It's certainly criminal."

^REUTERS@

FRONTLINE SCOTLAND "Silence Over Lockerbie"

Reporter: Shelley Jofre Producer: Murdoch Rodgers

SHELLEY: This week legal moves are afoot to try to break the stalemate in the Lockerbie case. It's been nearly six years since two Libyans were accused of carrying out one of the world's worst terrorist atrocities. But with no sign of the suspects being brought to trial Frontline investigates the evidence against them.

Flight 103 NEWS REPORTS: "Several hundred people are now feared dead tonight after a Pan American Airlines jumbo jet crashed near the town of Lockerbie in Dumfries"

"The air is thick with smoke, flames and the smell of aviation fuel. A crater twenty feet deep marks the spot near the main Glasgow road where the jumbo jet came down"

"So far there are no reports of survivors. It's believed there have been a number of casualties on the ground as well"

"The two accused are Abdelbaset Ali Muhammad Al-Megrahi and Al Amin Khalifa Fhimah. 259 passengers and crew and 11 residents of Lockerbie were killed and they were murdered."

SHELLEY: At three minutes past seven on the evening of 21st December 1988 Pan Am Flight 103 exploded in the sky over Lockerbie. All 259 passengers and crew were killed along with eleven residents of the town. Within days of the tragedy it was confirmed the explosion was caused by a bomb. The investigation which followed into who planted it was the most expensive piece of detective work in criminal history. For the victims' families that investigation was never going to replace those they lost, but they had hoped it would at least provide them with some answers. Instead as the ninth anniversary of the bombing approaches parents are still left wondering if those who murdered their children will ever be punished.

JIM SWIRE (Father of victim): Well she was very nearly twenty-four when she was murdered. She had finished her medical training at Nottingham where she came out absolutely top flight. And one of the sad things about her murder that she was going to tell us on Christmas Day, she was ring us back and tell us that Cambridge had accepted her to do her post-graduate medicine. And after her murder we found the letter confirming this on the desk in her room.

She was also very pretty, very vivacious, terrific sense of humour, and by God if she was still here we'd be having grandchildren and a whale of a time, and it's very difficult with life with all that big huge chunk missing. Our lovely girl was murdered and I think any parent has a right to know who did it and to see that person punished. Furthermore the failure to punish is an invitation to whoever did it to feel that he or she could do it again, and in a civilised society one surrenders one's right to revenge in favour of justice. In this case we're denied justice.

*Dan Cohen: lost his daughter*DAN COHEN (Father of victim): Well Thea, she was a drama student at Syracuse University. She was one of thirty-five Syracuse students that was on the plane, they'd been part of the study abroad programme sponsored by the university. Thea was very pretty, very lively, and she never let anybody get away with anything. What else can you do for your child at that point. She's dead, somebody killed her it becomes terribly important, you have to find out and you have to get them, just find out, but you've got to get the bastards.

SHELLEY: It's the biggest criminal trial that Scotland will never hold. Two Libyans have stood accused for almost six years of planting and detonating the bomb which destroyed Pan Am Flight 103 over Lockerbie murdering 270 people. But it's unlikely that the suspects will ever see the inside of a Scottish courtroom. Although Britain and America both insist any trial must be held here or in the US, neither country has an extradition treaty with Libya. And Libya will only give the suspects up for trial if it's held in a neutral country, like Holland. There's no sign of a break in this deadlock. So in the absence of a trial Frontline has asked one of Britain's top barristers to examine the evidence against the suspects.

Michael Mansfield QC is no stranger to controversy. He's defended high profile appeal cases and secured the release of the Birmingham Six and the Bridgewater Three.

*Michael Mansfield QC: 'murder case'*MICHAEL MANSFIELD QC: Fundamentally it's a murder case. 270 dead. It may be dressed up as planting and detonating a bomb or an explosion, but fundamentally you have to be able to show a link, evidential link between those accused and the incident itself. There has to be continuity of evidence and there has to be a link of causation.

SHELLEY: So who would have had reason in 1988 to carry out the bombing. Certainly Libya, and still is, a sworn enemy of both Britain and the United States. In 1986 the US launched air attacks on Tripoli from a British base. Forty-three people were killed in the attack, including Colonel Gaddafi's thirteen-month-old daughter. But the Libyans weren't the only ones with a grudge. Throughout the eighties a whole host of Middle Eastern terrorist groups were attacking Western targets. Syria was particularly active in training and funding terrorist groups. But it was Iran who fell under the spotlight in the immediate aftermath of the Lockerbie bombing.

HAZHIR TEIMOURIAN (Middle East Expert): Iran was without any doubt the most active responder of terrorism in the world at that time. It was, for most of 1988 engaged in war with Iraq and even after cease-fire was reached in August of 1988 with Iraq there were pressures on Iran from Western countries to make concessions to Iraq and therefore Iran was still furious and looking for excuses and possibilities to hit back.

Iranians protest over the downed Iranian airbus SHELLEY: Iran had a clear motive for a revenge attack on the US. Five months before the Lockerbie bombing an American warship, the USS Vincennes, shot down an Iranian airbus killing all 290 on board. Although America claimed the shooting down was a tragic accident, it was met with fury on the streets of the Iranian capital.

Teheran Radio said shortly after the incident the attack would be avenged in blood splattered skies.

HAZHIR TEIMOURIAN: The Iranians were completely united in the hatred of Westerners, particularly the Americans. They believed that the downing of that aircraft was directly ordered by America to bring pressure upon them.

Some Government ministers in Teheran swore that they would avenge that atrocity, and there were reports at the time that a contract had gone out to any radical group in the Middle East who could bring down an American airliner in revenge.

SHELLEY: When Pan Am 103 was brought down suspicious immediately fell upon a terrorist group based in Syria and backed by Iran. The Popular Front for the Liberation of Palestine - General Command is led by Ahmed Jibril. Just two months before Lockerbie a PFLPGC cell was rounded up in Germany in a police operation. The group was apparently in the final stages of preparing to bomb an airliner. They had a Toshiba radio packed with Semtex, and a cache of arms was found inside the group's flat. The cell's bomb maker, Marwen Khreesat was among those arrested.

VINCENT CANNISTRARO (Former CIA Head of Counter Terrorism): One of the targets we knew was a Spanish airliner, another one apparently was going to be aimed at an American airliner, American troops in West Germany, possibly British troops in West Germany were also likely targets. So that group was a focus of intense Western intelligence interest in the period leading up to December of 1988.

SHELLEY: Among the cache of arms discovered in the flat were rifles, grenades, mortars and five kilos of Semtex. German police arrested fourteen men. However, within the month, all but two had been released, including the bomb maker Khreesat.

VINCENT CANNISTRARO: I think everyone breathed a sigh of relief and said "it's stopped". Two months later Lockerbie happens, and so naturally the first suspect for it was the PFLP-GC group, immediate speculation centred on the possibility of one of the bombs had gotten away, one of the operatives had escaped the German net, and perhaps had carried out the operation.

SHELLEY: So Ahmed Jibril and the PFLP-GC were the initial focus of investigation on both sides of the Atlantic in the immediate aftermath of the bombing.

LORD FRASER OF CARMYLLIE (Lord Advocate 1989-1992): Well it would have been perverse not to have looked to what the German police had uncovered. After all we now know that there was at least one individual who has now been convicted of having bombs, which were contained within radio cassette recorders in Germany, and to the way they were to be detonated was by resort to a change through barometric pressure. It would have been extraordinary not to have pursued an investigation along those lines.

SHELLEY: In the summer of 1990 the direction of the Lockerbie investigation suddenly changed, just at the same time as the situation in the Middle East was thrown into turmoil. Saddam Hussein invaded Kuwait and the political balance in the middle east was turned on its head.

Kuwait invasion meant Lockerbie was forgotten HAZHIR TEIMOURIAN: The invasion of Kuwait by Saddam Hussein - a man quite unreliable, quite unpredictable - was very traumatic for the West. Suddenly it seemed as if a man of his temperament was going to be in charge of the bulk of Western oil supplies in the Middle East. Therefore all other considerations were just completely forgotten. If Lockerbie had been on the mind of Western leaders, if the need to punish sponsors of terrorism in the world had been important on the mind of Western leaders, suddenly it was completely forgotten and instead all effort went into, for example, winning over the government of Syria into the Western led coalition that was going to attack Iraq, and some effort was devoted to making sure that Iran was not going to ally itself with Saddam Hussein against the West.

SHELLEY: President Assad of Syria, once hated in the West, was now being courted by Western leaders. Assad was visited in an unprecedented act of diplomacy by US Secretary of State Baker. And as political allegiances were changing significant advances were being made in the Lockerbie investigation. Among the crash debris a tiny fragment of circuit board was found. It was identified as part of the timer which had detonated the bomb. It was a crucial breakthrough which led investigators to the bomb's country of origin. The timer was traced to the Libyan Intelligence Service, so the Syrian based PFLP-GC was no longer the prime suspect. The bomb was now regarded as the work of Libyan terrorist.

LORD FRASER OF CARMYLLIE: Subsequent to that, the forensic evidence and the evident driven investigation took the Crown and the police off in another direction.

SHELLEY: After a three-year investigation involving police and intelligence forces across the world, two Libyans were finally accused of the Lockerbie murders - Abdelbaset Al-Megrahi and

Leman Khalifa Fhimah. The charges against them were announced at simultaneous press conferences in Washington and Edinburgh on 14th November 1991. The US indictment and the Scottish petition warrant laid out in detail the case against them. Both men were alleged to be members of the Libyan Intelligence Agency. It was claimed Fhimah's job with Libyan Arab Airlines at Luqa Airport in Malta gave him access to get the bomb from Malta to Pan Am 103. Megrahi is said to have arrived on Malta on a false passport the day before the bombing leaving again the next day. A five-page fact sheet published by the US State Department fills out the background to the case. It blames the Libyan Government for orchestrating the attack but says the evidence that the two suspects planted the bomb is clear.

US GOVERNMENT STATEMENT: *"One of them had recently worked for Libyan Arab Airlines, and had access to the baggage tags of another airline, Air Malta. By using stolen Air Malta baggage tags the defendants and their co-conspirators were able to route the bomb-rigged suitcase as unaccompanied luggage. The suitcase was put aboard an Air Malta flight that went to Frankfurt, Germany. At Frankfurt the suitcase was transferred to Pan Am Flight 103A to Heathrow Airport in London. At Heathrow the suitcase containing the bomb was placed aboard Pan Am 103. It exploded approximately thirty-eight minutes after flight 103 departed for New York."*

SHELLEY: But would these charges stand up to close scrutiny in a court of law?

MICHAEL MANSFIELD QC: Let us assume that these two are saying 'we are not responsible', right. Then I go to the scene of the crime itself, the last stage of it, which is Scotland. And one examines closely what was found there and what I mean is concrete evidence, not suspicion and allegation. And then the moment you start that process you work back to Heathrow, what happened at Heathrow? How sure are we in the various points in the journey of the so-called container? Can we be sure about at Heathrow that definitely take us unequivocally is the word that is often used in a case, unequivocally take us back from Heathrow to Frankfurt, and then at Frankfurt the same exercise has to be undergone that unequivocally take us back to Malta, because it's all based on this one premise that it started in Malta and was put on in Malta, same thing, what are the links in the chain from the airport at Malta that go right back to the offices where it is suggested this whole improvised explosive was put together, and if I could show that there were serious flaws and gaps in the chain, then I would have to say there isn't a case for the people I represent to face.

SHELLEY: It was in 1989 that the first clues emerged that the bomb may have started its journey in Malta. That's where we began our trail.

Towards the first anniversary of the bombing investigators made a significant breakthrough -

they managed to trace pieces of clothing and an umbrella which were inside the bomb suitcase to this small family run shop in the back streets of Sliema, Malta. No one doubts that the clothes were bought here, but the police also concluded that the man who bought them was one of the two Libyan suspects - Abdelbaset. They based this on information gathered in a series of statements from the shopkeeper here, Tony Gauci. But we've read fourteen of Mr Gauci's statements and it's difficult to see how his detailed description of the customer could possibly match that of the Libyan suspect.

There are a series of inconsistencies within the statements we looked at. For example, Mr Gauci first identifies one man, then eleven months later points out someone entirely different. In November 1989 Tony Gauci's brother showed him an article and a photo in the Sunday Times of a Palestinian terrorist, Abu Talb. Talb, who's currently serving a life sentence in a Swedish jail, was reported to have clothing from Malta in his possession. Four months later Mr Gauci told Scottish police: "I think the photograph printed in the newspaper may have been the man who bought the clothing". The detective asked Gauci if the name was Abu Talb. He replied: "That was the name, Abu Talb". But the US State Department fact sheet tells a different story. It says In February 1991, Al-Megrahi was described as resembling the man who had purchased the clothing items, yet Mr Gauci's statement from February 1991 actually says: "I can only say that of all the photographs I have been shown, this photograph, number 8, is the only one really similar to the man who bought the clothing, if he was a bit older, other than the photograph my brother has shown me".

DR EDGAR MIZZI (Chair of the Law Revision Commission, Malta): The man identified, or rather indicated by Gauci as the man who purchased the goods was fifty years old, about six foot high, and of strong build. Now Abdelbaset is not of strong build, he's less than six feet high, and certainly not fifty years of age. In 1988 he was only thirty-six years of age, fourteen years younger.

SHELLEY: So in your view Mr Gauci hasn't actually identified Abdelbaset at all?

DR MIZZI: He certainly has not in my view, no.

SHELLEY: Not only is identification of Abdelbaset Al-Megrahi up for question, but so too is the date he's supposed to have bought the clothing. Although neither Tony Gauci nor his brother could remember exactly when the purchase was made, there are a few clues available.

DR MIZZI: The indictment says that the goods were purchased on 7th December. Now Gauci says that on the day the goods were purchased he was alone in the shop because his brother was

watching a football match - the European Cup Now these matches are played on a home and away basis, one on the 23rd November and the other one on 7th December. The game was played at 1 o'clock in the afternoon on 7th December, and after five on 23rd November. The man had gone to the shop at around 6.30 in the evening, so it must have been 23rd November that the goods were purchased on.

SHELLEY: And there's more evidence that the clothing was purchased on 23rd November and not 7th December as the indictment claims. At 6.30 when the clothes were bought, the customer also bought an umbrella because it was raining. We've checked the Maltese Meteorological records. On 23rd November it was raining between six and seven. But on 7th December there was no rain after 9am. So it must have been the earlier date.

Airport arrival cards allegedly show that Megrahi was in Malta on December 7th, but there's no evidence that he was on the island on the earlier date.

MICHAEL MANSFIELD QC: The evidence to show here that, for example, the description of the person that he gave sometime afterwards, doesn't appear to fit, and certainly in so far as the age is concerned there's a big difference between fifty and thirty-six and the nature of the build and so on. Now one appreciates you might mis-describe somebody, even if you have seen them, you might remember certain details incorrectly, so that doesn't automatically invalidate. But the fact that he's actually picked out someone else altogether to begin with would almost certainly render the identification inadmissible. Now the further question - date seems to be very much at large, because the shopkeeper associates the purchase with a time at which his brother is watching a football match, and it now appears that the football match that the brother was watching must have occurred on another date in view of the time of the broadcast of the football match itself. Now if it's on another date altogether than the one being alleged, namely 7th December as opposed to an earlier date in November, it throws the whole business of this identification into disarray. And I can't see at the moment any thread that's left in tact.

SHELLEY: In the weeks after the bombing police, soldiers and volunteers got down on their hands and knees to hunt for debris from Flight 103. From Lockerbie across here to Kielder Forest in Northumbria they carried out a meticulous search over 850 square miles of land. Among ten thousand items recovered one was to provide the link investigators needed to prove an act of international terrorism. It was a small fragment of circuits board similar to this. The indictment against the Libyans was later to claim that it could only have come from a batch made in Switzerland and supplied to the Libyan Intelligence Service. It was the breakthrough that was to change the whole course of the criminal investigation.

The fragment lay for months among the thousands of other pieces of evidence collected until its significance was finally recognised in 1990. It was the key piece of evidence which turned

investigators attentions away from the PFLPGC and towards Libya. The clothes in Malta had already given them one link in the chain of evidence, now the timer provided another.

VINCENT CANNISTRARO: It was the evidence that the British government came up with concerning the microchip, the identification of that microchip as part of a timing device. It was quite crucial in focusing the investigation on the Libyans, there's no question about that.

SHELLEY: Forensic experts in the UK examined the fragment in minute detail. Then they sent photographs of it over here to the FBI. It was an FBI investigator, Thomas Thurman, who matched the fragment of circuit board with a timer used by Libyan terrorists.

Chris Ronay: 'essential' to trace fragment of bomb CHRIS RONAY (Former Head of FBI Explosives Unit): In the FBI laboratory the agent who was running the investigation from our perspective received this photograph and began to search the archives of the terrorist timers and further investigation was able to match this little fragment with a particular, a specific circuit board that had been used in the past by terrorists and had identifying features. So in the end that little fragment matched up perfectly with Libyan timers that had been purchased some years before. It was essential really to trace this bit of the bomb itself that remained to the Libyans and link, if you will, full circle the forensic evidence with investigation that was going on.

SHELLEY: The FBI would not allow us to interview the man who made the match, Thomas Thurman. But the day after the suspects were named he talked about his discovery on American TV.

THOMAS THURMAN (FBI Forensic Investigator): June 15th of 1990. I remember the date because this impression on me. Just because of the euphoria of making that identification. I knew at that point that the timer for the device that caused the explosion had been identified to the exclusion of anything else. What I was looking for is the circuit tracking gear and a particular bend, and in the circuit pattern here, which matches up as you see in this photograph, the touchpad that you can see, are identical. And then we have the circuit tracking that comes across this way, and the uniqueness of this is the imperfections in when the circuit track bends, it comes down. We have the same imperfections here, in the circuit, and when you look at it under a microscope it comes, it just jumps right out at you.

SHELLEY: Thurman said he made the match with a timer confiscated from Libyan sponsored terrorist in the West African country of Togo in 1986. But this important detail seems to have caused confusion among investigators. The CIA's own Head of Counter Terrorism at the time was under the impression when we spoke to him that the Lockerbie fragment was matched with a Libyan timer seized in Senegal in 1988. Only after our persistent enquiries did he and the FBI eventually agree there had been photographs of the Senegal timer and in intact timer from Togo

with which the match was made. Thurman's reputation as a forensic expert has also become the subject of much debate. A US Department of Justice investigation in April found he had been routinely altering the reports of scientists working in FBI Explosives Unit - the unit where he made the Lockerbie match in 1990. Fifty-two of the reports which he supervised between 1987 and 1992 were reviewed in the inquiry. Only twenty had not been altered by him. In thirteen of the reports Thurman's alterations had changed the meaning of what had been written, resulting in albeit unintentionally a bias to the prosecution case. Allegations against Thurman and several of his colleagues have been made by Frederic Whitehurst, a chemist with the FBI for fifteen years.

Can you be confident then that any of the work that these individual were involved in from the mid eighties is competent?

FREDERIC WHITEHURST (FBI Forensic Science Laboratory):I'm not. I would propose that any.any court, any hearing that would be using that information would seriously review it and have outside expertise. Experts review that stuff.

SHELLEY: Frontline has learned that Thomas Thurman has only had six months of formal scientific training in the Army. His degree is in political science. We've also obtained confidential FBI memos which question Thurman's ability to do his job. One memo says:

V/O "It is clear that SSA Thurman does not understand the scientific issues involved with the interpretation and significance of explosives and explosives residue composition. He therefore should realise this deficiency and differentiate between his personal opinions and scientific fact. An expert's opinion should be based upon objective, scientific findings and be separated from personal predilections and biases."

SHELLEY: It concludes:

V/O:"SSA Thurman acted irresponsibly. He should be held accountable. He should be disciplined accordingly".

SHELLEY: The Department recommended that Thurman be reassigned from his position as Chief of the Explosives Unit and replaced by someone with a scientific background.

If the individual who was changing your reports was to testify in court, would you feel confident about the quality of the evidence he was able to give?

FREDERIC WHITEHURTS: Not at all. I would want to review every word, every word that came out of his mouth. Every piece of paper, everything, the basis for everything that came out

of that individual. There'd be no question in my mind, there'd..I'd be screaming concern, and I have screamed the concern very loudly.

THURMAN: ..this is the front of the timer, it has MST-13 on the timer, that's what we're calling it, MST-13..

SHELLEY: It was Thurman's matching of the timer which led investigators towards the Libyans. The US fact sheet pointed out that all the MST-13 timers produced were delivered to the Libyans. It says twenty were delivered in 1985 and no more were made. But that's been challenged by the manufacturer of the timers.

We came to Zurich to speak to Edwin Bollier, the man who manufactured and sold the MST-13 timer which investigators detonated the bomb on board Pan Am 103. When the case against the Libyans was set out in November 1991 investigators said that all the MST-13 timers manufactured by Bollier's company MEBO were delivered to the Libyans, and only the Libyans. But Mr Bollier told them later that he'd also sold a batch to the East German Secret Police, the Stazi. In the 1980s it was well known that the Stazi had links with a Syrian based terrorist group, the PFLP-GC. So if other terrorists had access to these same timers it raises questions about the strength of the case against the Libyans.

Mr Bollier has extensive contacts with Libya. He met one of the suspects, Megrahi several times, and rented office space to one Megrahi's colleagues. He currently shares the same Swiss lawyer as the two suspects. Nevertheless he is insistent that timers were sold both to the Germans and to the Libyans.

Edwin Bollier: GDR also bought same timers EDWIN BOLLIER (Subtitles): (MEBO Telecommunications)I have to add something here. The fragment from an MST-13 timer which was allegedly found at Lockerbie can only have come from either the first or the zero series. So it's true that both countries had the same timers.

SHELLEY: Well the authorities say the type of timer that was identified in the Lockerbie bombing was in the sole possession of the Libyans. As the manufacturer, is that true in your opinion?

EDWIN BOLLIER: At the beginning of the investigations initially when questioned, we had forgotten, or no longer knew, that we had actually provided the GDR with such timers. Later, our technician, ascertained that we had also supplied the GDR with such timers. Only after the collapse of the GDR did the BKA's investigations reveal that the GDR had also bought such timers.

SHELLEY: Investigators though maintain that even if Bollier had supplied timers elsewhere, the Libyan timers were distinct.

VINCENT CANNISTRARO: These we knew were designed and constructed at the orders of the Libyan Intelligence Service. Second point is that the circuit boards of the timing devices that the Stazi had were a different phenolic board, they were a different colour than the ones that the Libyans were using in their intelligence operations, and the reason we knew that is because we had access to some of the Libyans timing devices from the cache that was seized in Senegal.

SHELLEY: But Bollier disagrees. He made the timers in only two colours, green and brown. Both colours were sold to the Libyans, but both were also sold in a batch of seven to the Stazi in September 1985.

Have you ever been shown the actual fragment of circuit board that was found by the Lockerbie investigators?

EDWIN BOLLIER: No. This fragment, which was allegedly found in Lockerbie, was only shown to us in a photograph. As the supplier of these MST-13 timers I wanted to see the original. I spent a week in Washington, where I could not be shown the original piece. I was directed to Scotland, where I also spent a week. There too, I, as the chief witness, was not granted access to this piece. The reason why I wanted to see the original piece was that we ascertained that features of this photo prove to us that it depicts a falsified fragment.

SHELLEY: But that's quite a serious claim to make that the investigators may have falsified evidence. You must be able to back it up somehow?

EDWIN BOLLIER: If I see the original, if the evidence is laid on a table, for example, in front of a court. I can explain to a court why it is that this piece could not have functioned. At the moment, however, I don't want to give this information to the media. That's why I want this to be clarified and see the original.

VINCENT CANNISTRARO: Well Mr Bollier unfortunately is not a credible witness because Mr Bollier was working with the Libyans. Mr Bollier has gone to Tripoli and served as a guest at the Gadaffi government and has received financing for his company from the Libyan government. So I'm afraid anything Bollier says has got to be suspect.

MICHAEL MANSFIELD QC: I understand the points being made about Mr Bollier, that he may be impeachable. Of course he may be, and loads of witnesses may be impeachable. They're going to have to go to him, so if he's impeachable they're destroying their own case. They're going to have to go to him, so if he's impeachable they're destroying their own case. They're

going to have to go to the manufacturer of, if you like, the overall device, the timer, they're going to have to go to him and get some sort of evidence or else what are they going to do, say 'well we don't know how many timers'?

SHELLEY: The investigators are quite firm in their belief that one of their finest explosives experts, as they describe him, matched up this fragment of circuit board to the MST-13 timer, and they're in no doubt whatsoever that it was a Libyan timer, and therefore it must have been the Libyans who carried out this attack.

MICHAEL MANSFIELD QC: Well I'd like to make just one point about forensic science. Forensic science is not immutable. They're not written in tablets of stone, and the biggest mistake that anyone can make - public, expert or anyone else alike - is to believe that forensic science is somehow beyond reproach, it is not. The biggest miscarriages of justice in the United Kingdom, many of them emanate from cases in which forensic science has been shown to be wrong. And the moment a forensic scientist or anyone else says 'I am sure this marries up with that' I get worried. As far as I can see nothing has been put into the public arena that would satisfactorily answer the questions of continuity such that you could say these two Libyans used that fragment of circuit board that is missing. To say that maybe the Libyan government or its Intelligence Services had some circuit boards that may have been similar is completely insufficient.

SHELLEY: This is where investigators say the bomb began its journey - Luqa Airport in Malta. Almost six years ago the joint British American investigation concluded that two Libyan Intelligence officials, one of whom was working here, hid plastic explosives inside a cassette recorder. They put that inside a brown Samsonite suitcase, which they somehow managed to get on unaccompanied to flight KM 180 from Malta to Frankfurt. There, the case was transferred to Pan Am Flight 103A to Heathrow, where it was transferred a third and final time to Pam Am Flight 103 to New York. It was on this final leg of the journey that the bomb was primed to explode. This version of events has been stuck to rigidly on both sides of the Atlantic since the suspects were named in November 1991.

The authority's unshakeable conviction that the bomb began its journey in Malta is supported by the testimony of a Libyan supergrass. We understand that Abdu Maged Jiaka defected to the United States in 1990, and is now under a Witness Protection Programme. Jiaka worked as deputy station manager of Libyan Arab Airlines at Luqa Airport for three years. He was working alongside Fhimah in December of 1988 and it appears his evidence would be crucial in any criminal trial.

VINCENT CANNISTRARO: Oh I think the evidence available to the Department of Justice in

their case, which they're keeping under wraps, is overwhelming, it's conclusive. I think it is mind boggling in the amount of detail that they have. They have also they have a live witness for one thing, who would be presented in a court of law. I think there is a tremendous amount of evidence that will allow the prosecutors to present the chronology of the operation from its very inception, and that chronology would start even before Malta, go to Malta and then..you know..describe and in almost excruciating detail exactly how they made the bomb, how they secreted it, how they got it on board the aircraft, and I think that's a fairly strong case.

MICHAEL MANSFIELD QC: It is not clear from the public information on both sides of the Atlantic where certain observations are made about the manufacturer of the bomb, whether these observations emanate from a witness, or where they may be just supposition, in other words putting two circumstances together and supposing this is what happened. If for a moment one imagines, because that's all one can do, nothing has been made public, that there is a person saying I saw them do X, Y or Z, then of course that adds another dimension. But there is a further qualification to that kind of evidence, because one has to ask, 'Who is the person making the suggestion?', 'What is the background of the person making the suggestion?', 'What incentives have been given to that person?', and all one has to remember is that certainly within the United Kingdom the use of evidence that is for evidential purposes as opposed to intelligence gathering, the use in court of material gleaned from what used to be called supergrasses or informers are used very carefully indeed, and in fact often now they're not used at all. Very good reason these people have an axe to grind, there's a good reason why they might want to embellish, guild the lily a bit and add a bit, because they're being presented with money, security, changed identities and they are in fact beholden to the authority which is wanting them to give evidence.

SHELLEY: Whatever the supergrass says though, Air Malta has a perfectly preserved set of records from flight KM180 which flew to Frankfurt on 21st December 1988. Tickets give details of who each passengers was and their final destination. Other documents show exactly how many bags were checked in and loaded on to the plane that day. The documents show no inconsistency.

WILFRED BORG (Operational Co-ordinator Air Malta):The opinion that we have, and still hold, is that with the systems that we had at the time, and we still have today, it is an impossibility to put in an extra bag on an aircraft unnoticed. The system basically that we operate is that a tally is kept of the baggage which is accepted on check on in each and every flight, and a physical reconciliation, a physical count of the number of pieces of baggage being loaded on an aircraft is made, which would then be tallied with the number accepted on check-in. So an additional bag would be picked up.

SHELLEY: How can you be sure though even if the numbers tally that the case was not switched at some point by the Libyan suspect who did have access to areas that other people wouldn't have access to?

WILFRED BORD: Well that particular flight had thirty-nine passengers on board leaving Malta. If someone switches a bag it is through the counts will tally, because the head loader will find fifty-five bags on board. But you would be faced with a passenger claim at the other end. Why? Because the passenger whose bag would have been switched would be missing his bag in Frankfurt, or in his final port of call. It wasn't the case on this flight. We had no claims from any of the passengers on this flight, or not only that, but each passenger was interviewed by the Lockerbie investigators and each passenger confirmed that he received his bags on that particular journey, and the number of bags that he was carrying tallied with our records.

SHELLEY: But investigators preferred to rely on incomplete and inconclusive records from Frankfurt Airport. What these show that as an unaccompanied bag was loaded on to Pan Am 103A, around the same time luggage was unloaded >from the Air Malta flight.

WILFRED BORG: What the Frankfurt records indicate, and again the word is 'indicate' is that at the time that the Air Malta flight was being off-loaded from ..in Frankfurt, a bag was coded in and stationed 206 I believe, and routed to go via..to London on to Pan Am. Now apart from the problem that the Frankfurt documentation is inaccurate, and incomplete, there is no tangible evidence in there which positively identifies the bag as coming from Malta.

SHELLEY: That was a view shared by Lord Fraser, the former Lord Advocate, almost a year after the bombing. In a statement on 5th November 1989 he said:

"The Chief Constable of Dumfries and Galloway has advised me that he cannot substantiate reports about unaccompanied baggage having gone from Malta to Frankfurt let alone unaccompanied luggage with a bomb in it."

That's a view still held by the former Head of British Airways Security who was employed by Air Malta to review security on flight KM180.

DENIS PHIPPS (Former Head of Security British Airways): It is my personal opinion that the bomb which destroyed Pan Am 103 did not originate from the airport at Malta.

SHELLEY: While it might have been expected that security at a small airport on a holiday island like Malta would not rival that of a large international airport like Frankfurt, Denis Phipps discovered that quite the opposite was true.

DENIS PHIPPS: At Luqa there was a complete set of records of what had occurred, and that from those records and from questioning the staff involved, that there had been a complete chain of supervision and care over the baggage from the point it was checked in to when it was loaded. Now if we try to follow the same trail at Frankfurt what was not available were records of who had been responsible for looking after those same bags once they arrived at Frankfurt, or indeed how many bags had arrived and been handled and where they'd gone and what happened to them. Did the bag containing the bomb go on during this period of time.

VINCENT CANNISTRARO: They have vindicated themselves on paper in terms of the security procedures, but if their security personnel are suborned by hostile intelligence service, and they are completely vulnerable to whatever that hostile service would want to put on their aircraft, with baggage tags, without baggage tags. Once you have basically infiltrated the security apparatus there is no barrier to doing exactly what Fhimah and Megrahi did.

SHELLEY: According to the US State Department fact sheet Fhimah played a key role in getting the bomb suitcase on KM180. It's claimed he used his official status as station manager for Libyan Arab Airlines at Luqa Airport to bypass security.

DENIS PHIPPS: I'm satisfied that the aircraft was kept under proper supervision by Air Malta staff while it was being loaded, that the head loaded supervised the closing of the doors and I do not believe that for one moment that the loading staff would have permitted such a thing to happen.

SHELLEY: Air Malta may very well produce screeds and screeds of documentation which proves on paper that no unaccompanied bag left on flight KM180, but if, as Vincent Cannistraro argues, the system was suborned then that argument really doesn't matter at the end of the day, does it?

MICHAEL MANSFIELD QC: Well it's an extraordinary argument that Cannistraro is putting forward. If on the one hand you show by documentation, by interviewing baggage handlers, which I understood happened here, by examining the person who was supervising the whole of the baggage handlers, you're able to show it's a watertight case, then they say 'oh, it could have been suborned'. If you on the other hand have no documentation, and you aren't able to show what cases went on, they say 'ah, ah, very suspicious, why haven't you got the documentation?', so it seems on the CIA approach to life, you can't win unless you've got a particular hypothesis which is theirs, namely the Libyans did it therefore everything else flows from it. And I think one has to be extremely careful about this, because if essentially on that thesis it would mean that the documents in Malta have all had to have been forged, it would also mean that the chief supervisor obviously has been paid off and so on, and they have no evidence, it's all very well

to say all this, what are they saying, that the head supervisor of Air Malta is in the Libyan pocket, is being paid, there's no evidence of this at all. These are accusations it seems to be without any foundation at all.

SHELLEY: When Fhimah left his job as station manager at Luqa Airport he left behind a diary in his office. We've seen a copy. Investigators say the entry on December 15th, six days before Lockerbie, implicates Fhimah directly in the bombing.

It's a reminder to pick up Air Malta baggage tags. It's alleged Fhimah used these tags to route the bomb suitcase out of Luqa via Frankfurt and Heathrow to New York.

DR EDGAR MIZZI: If he intended to use the baggage tags to kill people, would he have entered that in the diary, and leave it there for the police eventually to find it I don't how many months after the event. He left it in Malta, it was found in his office, the entry of the following day, 22nd December, was about the purchase of two dresses and a shampoo for his family, a very very mundane item.

SHELLEY: But from the FBI's point of view the diary entry is yet another piece of damning evidence against the suspect.

OLIVER "BUCK" REVELL (Former FBI Chief Investigator, Lockerbie): The ?? bomber kept a complete diary of his actions and he went undetected for eighteen years. There were substantial writings by the individuals involved in the World Trade Centre bombing. People do peculiar things. Obviously it would have been better for him if he had not made any such notation, that's simply one piece of information that'll certainly be factored in along with other information as to whether or not the government, whichever government it is, can prove their case.

MICHAEL MANSFIELD QC: Well I can only emphasise again that all this illustrates is suspicion. If you already have a case against these two, evidence that shows that they made the bomb in Malta and they trundle along to the airport with their ..a suitcase and they put Air Malta tags on it, alright, then an entry in a diary supports all that. But if you don't have that, then the entry in the diary merely looks on the face of it suspicious.

But one has to ask the further questions - Where is the evidence? Obviously a case did get on the plane and it was the case that contained the bomb, and that it did have fraudulent Air Malta tags on it.

Now where's the evidence from Malta? As far as I know there isn't any, because the suggestion in Malta is that it couldn't have gone on the plane on Malta.

Where is the evidence in Frankfurt of a case with Air Malta tags, the one that had somehow or another got on in Malta coming off the plane? There isn't any. There is some suggestion of an extra case in Frankfurt at the time frame that fits, that's about it. There certainly doesn't appear to be any evidence at the Lockerbie end, let alone at the Heathrow end of an Air Malta case with tags on coming through. Therefore none of this really adds up to more than an odd entry in a diary, and yes maybe he shouldn't have been doing it, but that's all it adds up to.

SHELLEY: If the Maltese case falls apart, so too does the case against the Libyan suspects. But the authorities believe that connection is rock solid.

OLIVER REVELL: I'm convinced that what the indictment says is true and there's evidence to support the indictment.

SHELLEY: And the fact that the Maltese authorities haven't been able to find evidence of that?

OLIVER REVELL: I don't know what the Maltese authorities have been able to find, but I do know what the evidence showed to the satisfaction of our legal system, and there was a great deal of effort on the part of both the British and the American authorities, the FBI and the Scottish police and the security services in establishing that link.

MICHAEL MANSFIELD QC: So far as the Maltese connection is concerned, the clothing, the identification, when it was bought, the weather conditions, all of that, I think add up to a situation in which were it to be presented to a court in the United Kingdom, it probably wouldn't even get past the doors. It would be declared at some stage or another inadmissible evidence because it is so fatally flawed at the very root.

SHELLEY: Next December it'll be ten years since Pan Am Flight 103 was blown out of the sky over Lockerbie. Ten years in which relatives of the 270 who died have been searching for an answer. When the two Libyan suspects were named in 1991 their hopes were raised. But almost six years on it's doubtful whether they'll even ever hear the evidence against the Libyans. With no prospect of a trial, the families are no closer to finding out who murdered their loved ones, and as each day passes that prospect dims further on the horizon.

DAN COHEN: We talked to a very knowledgeable reporter who knows the government, knows the way these things work and he says 'do you know, nobody around here give a damn what happened to your daughter, the only power you have is the power to embarrass the bastards', and that's all we're trying to do, we're trying to embarrass the bastards. How can you allow this to go unpunished, and you keep asking that question, you keep pushing it. Maybe some day it'll have an affect, and any event there nothing else we can do.

JIM SWIRE: We have a fundamental lack of trust that we're being told the truth even of what we do know, and that makes me deeply angry, and it's something that we have to face every day of our lives, not just some anniversary time or when something happens in the media. Every day we have to remember that she's gone and nobody can even be bothered to get their finger out and find out who did it and punish them.

SHELLEY: Diplomatic and legal wrangles over the fate of the two Libyan suspects will continue over the coming weeks and months. But it's doubtful whether it will bring any meaningful result for two father who just want to see their daughters' killers brought to justice.

JBS>Based on the new research discovery that traces of explosive residue on aircraft fragments can be benign, the investigation into Pan Am 103 should be reopened on that information alone. If the traces are not from a bomb, then no bomb evidence. A small piece of plastic may give timer evidence, but no bomb evidence.

There is no such thing as a stealth bomb which leaves no residue and makes no sound unless explosive decompression is accepted which makes a loud sound, causes loose items to crash into each other, leaves no residue, and is not a bomb.

After all is said and done, it could have been a small blast which forced the door open, however, based on other accidents where the door opening led to destruction, the likely cause of the door opening is not a small blast in the forward cargo compartment but an electrical short which caused the door open motor to turn on, forcing the door to open past the cam locks, just like it did previously in three other instances of inadvertent cargo door openings.

OK, what about the wonderful spy story with foreign governments, CIA, coverups, bombs, timers, pants bought in Malta, etc, hey, great story, make a great movie, but not true; just entertaining fiction. That story has so many holes in it that it is incoherent. The tellers disagree among themselves every time they tell it. The exaggeration of the warning, the non explosion on the way from Frankfurt to London, the bad luck of flight course deviation, the exaggeration of the too small blast into reverberating around air conditioning ducts would all be funny, if not so serious consequences occurred later on. Pan Am 103 looked like AI 182, and so it should, the cause is the same. But the wrong conclusion of AI 182 led to the wrong conclusion of PA 103 which almost led to the wrong conclusion of TWA 800 as all being bombs.

Comment: How can so many experts be wrong? You'll have to ask the experts. There is no conspiracy, no coverup and no plot. Administrative errors are made and administrative errors

get corrected. There was a small blast, but not a bomb. There was an explosion, explosive decompression, which makes a loud sound and mimics a bomb in consequences. Wishful thinking, blaming others, and avoiding responsibility leads to errors of fact. The explanation may end up with sequence in dispute: door opened then small blast, or small blast then door opened. PA 103 door with cam lock evidence resides in hangar in UK. AI 182 door at bottom of sea. TWA 800 door in hangar in USA. 27 Mar 97

barry@johnbarrysmith.com