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Truels, M.D.

The Unified Solution of the Shots Fired in Dealey Plaza

THIS IS REALLY OFF-THE-WALL
STUFF. READ IT & WEEP!!

Hal Var

by Bill

Revelations at the 1997 JFK Lancer Conference in Dallas have led me to a rather simple solution to the Dealey Plaza shot sequence. For years, I have been attempting to match the Zapruder film with the acoustics analysis and the three bullet strikes on the pavement. But I could never achieve a satisfactory fit to the shots from the Book Depository, which I assumed must have occurred, but just didn't seem to jibe with the trajectories. And the acoustic spacing between the two groups of shots did not match the apparent Zapruder film spacing.

As with the solution to Fermat's last theorem, the answer was elusive and seemed unsolvable to many determined researchers. Some argued that a true solution to the Dealey Plaza shot sequence would never be found because there were too many unknown variables. The solution to the Dealey Plaza shot sequence is a puzzle that has waited almost 35 years for someone to solve.

I presented an earlier version of this solution to the COPA meeting in Dallas, November, 1997, but have modified it as a result of my discussions with Matthew Smith and Joachim Markus at the 1997 JFK Lancer Conference about the timing of the first shot and after reading Noel Twyman's report on editing of the Zapruder film in his book, *Bloody Treason* (Laurel Publishing, 1998).

After trying dozens of possible combinations, I found the solution amazingly simple—two triangulated shot patterns. I have called this the "Unified Solution" to the Dealey Plaza shot sequence because it successfully weds the acoustics analysis with the Zapruder film analysis and the three pavement marks. To my knowledge, this synthesis has never been done. In fact, the Zapruder film analysis combined with the three pavement marks are enough to solve this problem.

The acoustics merely act to support the above conclusion, if one allows for editing of 30 frames of the Zapruder film between the Connally hit at 236 and the Kennedy head hit at Z-313 (see postscript at the end of this article, where the shot sequence is determined without using acoustics).

In my book, *Breach of Faith* (Concorde Publishing Co., 1995), I also used the term "Unified Solution" to refer to the cooperation between the CIA and the Mafia in the assassination of President Kennedy.

There are several surprising findings to this solution. One result is that probably no shots were fired from the Book Depository. Another is that the "missed shot" which hit James Tague did not occur during the first volley. In addition, Secret Service Agent Clint Hill, who was assigned to protect the First Lady, becomes a hero for saving Jacqueline Kennedy's life. I will explain shortly.

In this solution, one winner is Josiah Thompson, who predicted in 1967 that the first shot occurred around Z-200 and that the Connally shot occurred at Z-234-238. Thompson's double head shot, however, is not supported. Another winner is Noel Twyman, who determined that the Zapruder film had been edited between the Connally shot and the fatal head shot.

At the 1997 JFK Lancer Conference, Matthew Smith and his German computer expert, Joachim Marcus, used computer simulation to determine that the Kennedy neck shot occurred at Z-196 (plus or minus 2 frames). Smith also suggested that this bullet exited Kennedy's back. The trajectory correlated with a bullet mark found on Elm Street as depicted in Bruce Cutler's map.

Kennedy's position at this point (Z-196) was such that a bullet entering his throat from the grassy knoll would exit Kennedy's right posterior shoulder, pass between the Secret Service man standing on the running board of the car behind Kennedy and the motorcycle policeman, and strike Elm Street at the point where a mark had been found. In my opinion, this was a muffled shot, and it occurs on the acoustics 0.5 seconds before two louder, successive rear shots.

In the acoustics analysis, the second shot is heard one-half second or 9 frames later, at Z-205. Acoustics indicates it to be a rear shot. If this bullet had been fired from the northwest corner of the roof of the County Records Building, and missed Kennedy's head a few inches high, it would strike the north sidewalk of Elm Street at precisely the point where a bullet mark was seen. A six-inch circular cement patch can presently be seen on the sidewalk at this point, and, according to Ken Holmes, Jr., corresponds to the bullet strike, which has been repaired twice.

The third shot in this first volley is also from the rear on the acoustics. It occurs 30 frames later than the second shot, which would place this at Z-235. According to Josiah Thompson, this corresponds to the Connally hit. A shot fired from the roof of the Dal-Tex Building would narrowly miss Kennedy's head high and strike Governor Connally in the right axilla, exiting below the right nipple.

This description is also a match with Governor Connally's statement, upon viewing the Zapruder film, placed his point of injury at Z-234. The "magic bullet" was in reality two separate shots fired 38 frames or 2.1 seconds apart. A recently released picture from the Archives presented by Robert Groden at the COPA conference shows the exit wound in Connally's coat to be well below the lapel on the right side. At Z-234, Connally's right wrist is well out of line with this trajectory and must have been injured by a later bullet.

But the Connally hit can be traced even more precisely. As Connally rotates to his right, each frame between 234 and 238 places the shooter in a different building, if one assumes a straight line between his wounds of entry and exit.

I call this the "Connally Clock." A bullet that narrowly misses Kennedy's head and strikes Connally in the left axilla most likely comes from the roof of the Dal-Tex Building. I believe frame Z-236 provides the best trajectory alignment for the Connally hit from the Dal-Tex Building, but this conclusion will require computer simulation.

Using the gaps present on the acoustics during the first volley, and Smith and Markus' starting point of Z-196 for the first shot, one obtains the following sequence:

FIRST VOLLEY

Z-196—Kennedy throat hit from grassy knoll, exits right shoulder, strikes pavement on Elm Street

Z-205—Missed shot from County Records Building, strikes sidewalk north of Elm Street, at present site of six-inch circular patch

Z-235—Bullet narrowly misses Kennedy's head, strikes Connally in left axilla, exits below right nipple

One problem with the acoustics has been that it predicts about 30 frames to be missing between the Connally chest shot at Z-235 and the Kennedy head shot at Z-313. Until the work of Noel Twyman (and David Mantik), this was considered unlikely. Apparently, the editing was done by the FBI in an attempt to make it appear the car had not slowed down prior to the fatal head shot.

If the acoustics are timed to the grassy knoll head shot at Z-313, then the two additional rear shots occur at Z-327 and Z-340. For a shot at Z-327 to narrowly miss Kennedy's head (and Jacqueline Kennedy's head) high, traveling downward at a 25 degree angle, it would strike Connally's right distal forearm, which at this point was at the level of his neck, as he was in the process of falling to his left into Nellie Connally's lap.

Such a bullet could then deflect slightly upward, after passing through Connally's forearm (distal radius bone), and strike the chrome above the windshield, where a non-penetrating bullet strike was seen. This defect might also explain the James Tague strike, except that pictures suggest that while the windshield was cracked, there was no actual hole in the windshield (although a fragment could have flown over the top of the windshield to strike the curb in front of Tague).

This reconstruction leaves us with the missed rear shot at Z-340. We also have an additional bullet mark—adjacent to the manhole south of Elm street. This mark points to the County Records Building and is also in line with James Tague. But how could a highly trained marksman be 10 feet off line? No one has been able to satisfactorily explain this mark—or the strike to James Tague.

But imagine yourself to be the shooter attempting to fire at Z-340. You're looking at Kennedy's head through your rifle scope from the roof of the County Records Building. As you're slowly squeezing the trigger, something happens.

Your view of Kennedy is suddenly blocked by Secret Service Agent Clint Hill who has jumped off the left running board of the trailing car and is about to jump on the back of the limousine. Hill reaches the limousine at Z-355, but he blocks the view, as seen from the County Records Building from around Z-320.

Instinctively, you pull the gun off target to the left. The bullet strikes next to the manhole cover just south of Elm Street, then, traveling in a straight line, ricochets off the curb on the south side of Main, where a bystander, James Tague, who is at the triple underpass, is struck by bullet or cement fragments.

Had Clint Hill not acted, a shot from the County Records Building aimed at Kennedy at Z-340 would surely have struck Jacqueline, who came directly in the line of fire after Kennedy's head was pushed back at Z-313 by a hit from the Grassy Knoll shot.

In short, Secret Service Agent Clint Hill, who was assigned to protect the First Lady, saved Jacqueline Kennedy's life by interposing his own body directly in the line of fire. In my opinion, Agent Clint Hill should receive additional national recognition for his courage under fire.

SECOND VOLLEY

Z-313—Fatal head shot from Grassy Knoll with frangible bullet

Z-327—Missed shot from second floor of Dal-Tex Building, strikes Connally in the right lower forearm (just above the wrist), then the windshield

Z-340—Missed shot from the County Records Building, as the rifle is pulled off-line when Agent Clint Hill jumps off back of limousine; James Tague is then struck

Surprisingly, the Unified Solution suggests no shots were fired from the Book Depository. The computer work of Matthew Smith and Joachim Markus indicates serious problems with a Depository shot.

During the first volley, the Depository Oak Tree obstructs a clear view of Kennedy. Josiah Thompson argues that, because of trajectory considerations, the Connally shot had to come from the south side of Dealey Plaza, and certainly not from the Book Depository.

During the second volley, Secret Service men standing on the car behind Kennedy also obstruct a clear view of Kennedy. Secret Service Agent Forest Sorrels, who was in the lead car, looked back and did not see or hear any Depository shots. In addition, witnesses in front of the Depository ran over to the Grassy Knoll looking for gunmen, rather than up the Depository steps.

Remember the Secret Service looking behind them at Altgen's photo at Z-255. The sixth floor window was clearly visible after Z-210, but none of the Secret Service men saw anyone shooting out the Depository window as they looked back. Neither did most of the witnesses in Dealey Plaza. Yet, according to the lone gunman theory, Oswald should by now have fired two shots, and be lining up his rifle for the fatal head shot. Why didn't anybody see him?

To be sure, there were men in the window holding up rifles before the shooting and rearranging boxes to set up a shooter's den, but these men were merely decoys. Some people went so far as to call this a "magic act"—that one man could fire three shots out of the Depository window and not be seen.

Only one man, who actually related seeing a man standing up with a "pipe" sticking out the window, and this was after prompting by the FBI. Why didn't anybody else see this "pipe"? And how could he be standing up when the shooter's den required someone to be sitting down in front of the half-open window?

When the FBI interrogated these witnesses, the FBI asked questions like, "Is there a remote possibility that you could be wrong, and that some of the shots came from the rear?" If the witness answered "yes" to the above question, then he would be counted as treating the Depository shot as a possibility. Many witnesses literally stated that the FBI put words in their mouth. Any reported shots from the rear were interpreted by the FBI as coming from the Book Depository.

In defense of the FBI agents: they were charged by Hoover to cinch the case against Oswald in the interests of national security. Hoover went on television years later and stated he thought there was a risk of nuclear war with Russia at the time of the Kennedy assassination if all the facts had been brought forward about Oswald. My own opinion is that Hoover used the threat of nuclear war as a smokescreen to justify his frame-up of Oswald.

Interestingly, there is no rear shot on the acoustics at Z-220, where Kennedy is seen to move his shoulders forward. This movement may represent Kennedy coughing as a result of his throat wound. Pathologist J. Thornton Boswell, in a tape-recorded conversation, told Dr. Gary Aguilar the back wound initially probed downward, then

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upward. This could also be explained by a .22 caliber bullet entering at the throat, passing downward at 11 degrees, then striking the transverse process of the sixth vertebral body and deflecting upward and exiting the upper back to the right of the midline. Boswell claimed only one back wound was present. He also told Dr. Aguilar in a tape-recorded conversation that, contrary to what is commonly believed, the back wound was indeed dissected, and was continuous with the neck wound.

The Unified Solution also suggests that, had the final head shot been delayed, Kennedy might have been killed by one of the two subsequent rear shots. In fact, alleged Mafia-CIA hitman James Files states in his videotape that he had the "option" to fire from the Grassy Knoll after the two rear shots had been fired.

But Files states he fired early because he was worried about Jacqueline Kennedy coming into the line of fire, and he was worried about "failing" his mission. Interestingly, Files, who was combat trained as part of a clandestine "White Knight" force in Laos, and claims to have fired from the Grassy Knoll, heard no shots from the Book Depository. I have talked several times with Jim Marrs, who has thoroughly researched James Files, and believes him to be credible.

Their conclusion suggest the Book Depository, complete with open window and a shooter's den, was nothing more than a decoy or at most an observation post. Certainly, escape with a rifle would have been easier from the Dal-Tex and County Records Buildings. Arguments over whether Oswald could have run down the six floors after supposedly firing his rifle are now meaningless. It is entirely possible nobody fired from the sixth floor and that Oswald never fired a shot, which was also suggested by the negative powder test on the his face and by witnesses who saw him on the second floor very shortly after the assassination.

The Unified Solution recommends that microphones be placed on the roofs of the Dal-Tex Building and the County Records Building to confirm the acoustic signatures recorded on the Dictabelt tape. I predict two shots from the Dal-Tex Building will more closely match two shots assumed to originate from the East Window of the Book Depository (acoustically, the two positions are similar), and two shots from the County Records Building will more closely match the observed acoustic impulses, which the HSCA Committee was unable to localize, other than to describe them as rear shots.

The acoustic evidence does not show a double head shot at Z-312-313, nor does the computer simulation by Matthew Smith suggest a rear head shot, which would have also injured Jacqueline, whose head was in front of John's at this point. Acoustics does not suggest a separate back shot a Z-220, which may be explained by Kennedy coughing, as he is seen to raise his fists to his throat after the neck shot and move his shoulders forward.

In summary, as a result of recent revelations at the JFK Lancer conference (which placed the Kennedy neck shot at Z-196 and proved editing of the Zapruder film between Z-235 and Z-313), I have shown it is impossible to successfully wed all six acoustic impulses to the observed reactions (and positions) on the Zapruder film with exact placement of the three cement pavement bullet strikes.

I have posited an explanation which involves six shots fired from three positions: the Grassy Knoll (2 shots), the roof of the Dal-Tex Building (two shots), and two shots from the roof of the County Records Building (where Jim Marrs tells me a 30.06 cartridge was retrieved several years later during a roofing job).

Both Grassy Knoll shots, which were the easiest shots, struck Kennedy. Both Dal-Tex shots missed Kennedy's head high, and struck John Connally. Both County Records Building shots missed Kennedy's head high, though the second miss was intentional.

I asked police sharpshooter and Kennedy researcher Craig Roberts about the rear shots. Without going into his technical explanation, Craig informed me that shots from markedly elevated positions tend to rise.

This Unified Solution matches the acoustics pattern, the Zapruder film, the bullet trajectory paths, the James Tague strike, and the three marks found on the cement—one on Elm Street, one on the sidewalk north of Elm street, and one adjacent to the manhole cover just south of Elm Street.

It is consistent with two triangulated shot patterns, a technique used by the military to confuse the "enemy" (in this case, the American people) as to the origin of the shots and to ensure success. One of the triangulated shots was slightly delayed (shot #3), so most witnesses heard three separate sounds. Except for the sixth shot, which was an intentional miss after Clint Hill got in the way, the first five shots all came within inches of Kennedy's head.

One clear winner in this analysis is Agent Clint Hill, who saved Jacqueline Kennedy's life by ignoring the order "Don't move!" and interposed his body in the path of a rear shot from the County Records Building. Clint Hill should be recognized as a hero.

Perhaps the American people will also become winners, for with an ever-closer solution to the Dealey Plaza shot sequence, yet another nail is placed in the coffin of the government's lone gunman explanation. The above solution requires at least three shooters firing from three locations and does not include the Book Depository, where Oswald was eating lunch. The answer to the often raised question, "Did Oswald act alone?" is "Oswald never fired a shot."

As in the who-done-it detective game Clue, our government and national media have force-fed the American public with the mantra, "Lee Harvey Oswald, in the Book Depository, with the Mannlicher-Carcano rifle." We are just now beginning to realize they were both wrong on all three accounts.

Immediately after the assassination, Hoover charged his FBI agents with force-feeding the same conclusion to the Dealey Plaza witnesses in the name of national security. And Lyndon Johnson charged the Warren Commission with the same conclusion: "Oswald's our man." When the FBI heard a witness say "rear shot" this was typed up as "Book Depository" in their reports. When a witness said "grassy knoll shot," the FBI, as instructed, challenged the witness's observations.

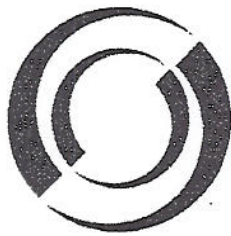
Thirty-five years later, we are beginning to realize just how much false information we have been fed. In fact, there were at least three shooters, firing from three different locations (not the Depository), with at least two types of rifles (.222 from the front and 30.06 from the rear). Those firing from the rear used "sabots" as described by Jim Marrs, to fire Mannlicher-Carcano lead bullets.

Several witnesses correctly saw men on the roof of the County Records Building. This observation was later dismissed when a Dallas deputy sheriff claimed he had been on the County Records roof with a rifle.

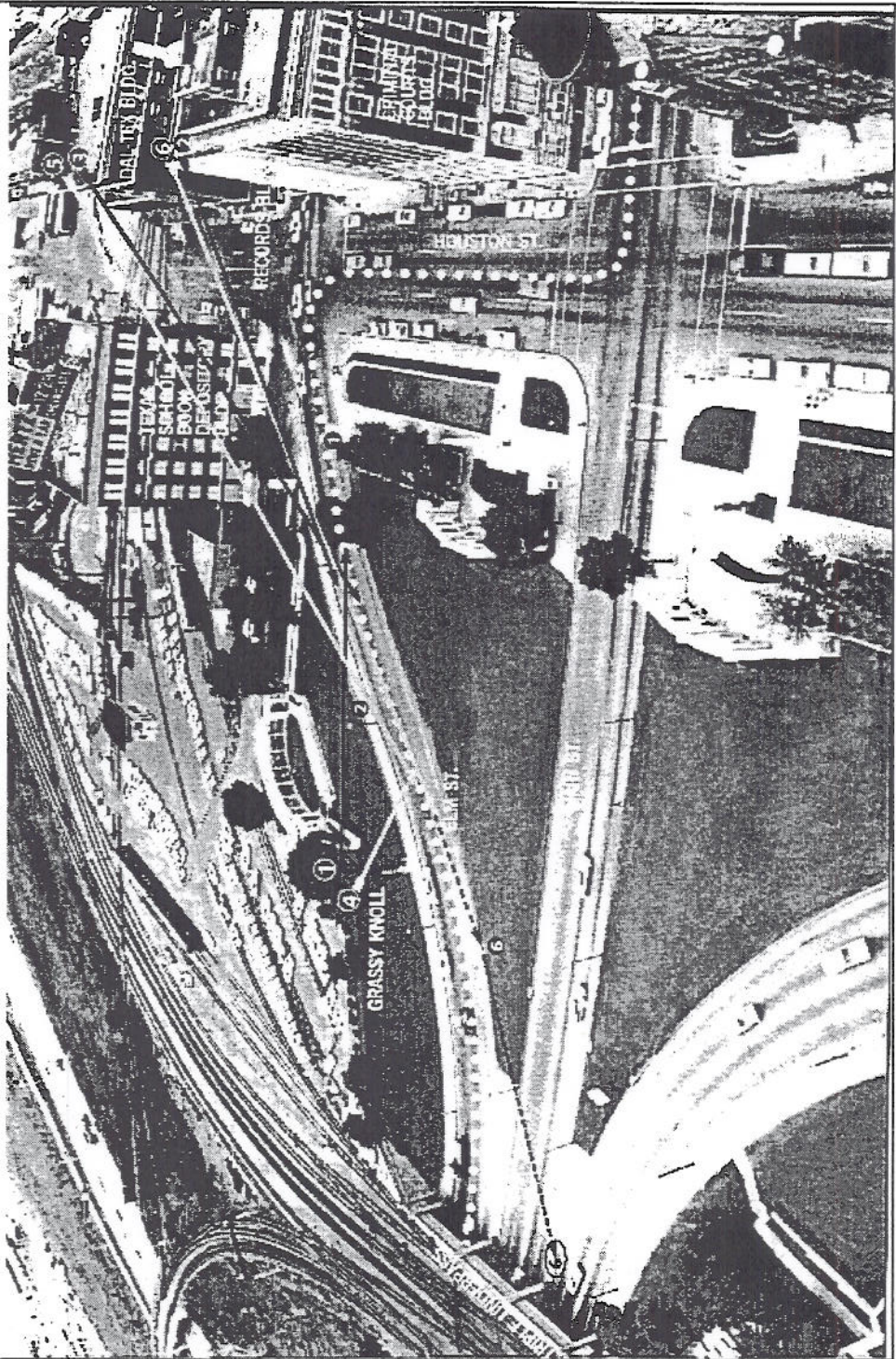
I am asking Matthew Smith and Joachim Markus to run this shot sequence through their computer. I talked to both of them at the JFK Lancer Conference in 1997, and after their talk, and Joachim ran me through a few of their sequences. Joachim was glad to find out that the horizontal sign across Elm Street was not present during the assassination as shown in David Lifton's picture of Dealey Plaza. This option opens up both the Dal-Tex and County Records Building to shot locations.

They will need to get the exact location of the six-inch circular patch near the middle of the north sidewalk on Elm Street, which I

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Dealey Plaza with the proposed six shots diagrammed in place. If these shots are plotted on a surveyor's map of the Plaza, the first five shots all come within inches of Kennedy's head. First Volley: 1, 2, and 3 • Second Volley: 4, 5, and 6.



claim was a bullet strike from the County Records Building at Z-205 that crossed just over Kennedy's head and struck the north sidewalk.

The strike on the south side of Elm Street is about two feet west and one foot south of the manhole cover, as shown in Robert Groden's *High Treason*, and is still visible today.

Smith and Marcus' results with the "Connally Clock" which I think will place the Connally hit at Z-236 (instead of 235) from the roof of the Dal-Tex Building. While I have worked this analysis out in two dimensions, it will be decisive in three-dimensions.

Think of the shot sequence without relying on acoustics. We know Gordon Arnold heard two shots from behind him at the Grassy Knoll. The first one was the throat hit that, in my opinion, exited JFK's back (and was muffled). The second Grassy Knoll shot was the much louder head hit.

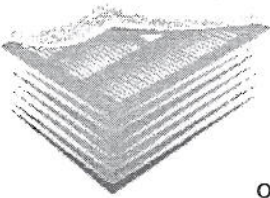
That leaves four shots. If we assume they were aiming at Kennedy's head, the bullet strike on the north sidewalk of Elm Street can only come from the County Records Building. The bullet strike near the manhole on the south side of Elm Street points toward the County Records Building (as pictured in Robert Groden's *High Treason*) and was probably an intentional miss (when agent Clint Hill jumped in the way) that accidentally struck James Tague at the Triple Underpass. Thus, both misses came from the County Records Building.

That leaves two shots, both of which narrowly miss Kennedy's head and strike Connally, one in the chest and the second in the right lower forearm as he begins falling into Nellie Connally's lap. From computer simulation, these hits most likely come from the roof of the Dal-Tex Building. The Depository is a poor choice for these last two shots—the first volley is blocked by the Depository Oak Tree (from Z-160-Z-210). The second volley from the Depository is blocked by the heads of the Secret Service men in the trailing car, as shown by Smith and Markus in their computer simulation.

Thus, even without using the acoustics, one arrives at two triangulated shot sequences with a total of six shots. The acoustics just happen to support such a finding, if you allow for editing of 30 frames or 1.66 seconds between the Connally shot at Z-236 and the Kennedy head shot at Z-313—an editing which is strongly supported by Noel Twyman's analysis of the Zapruder film.

In one sense, Dealey Plaza is like Stonehenge in England before the archaeologists discovered its significance. In fact, Dealey Plaza is a ballistics marvel, and I am excited that we may be close to unraveling its secrets. In a sense, we have been lucky because each of the two bullets that missed, as well as the Kennedy neck hit left, a mark on the cement. In addition, the acoustics tape, which seems to support the concept of two triangulated shot patterns, was a serendipitous finding, and credit must go to Mary Ferrell.

I believe the above analysis is the correct solution. The only real question I have left is whether the fragment that hit James Tague came from the fifth or the sixth shot, as both happen to be in line to hit him, despite coming from different locations. The only argument against the sixth shot hitting Connally is that an intact bullet was found adjacent to the manhole, where a "splash in the grass" was seen. We know the fifth bullet, after striking Connally's rather thick radius (or forearm near the wrist), broke up, with pieces striking the windshield and the chrome molding above the windshield. One of these pieces could have gone on to strike the curb south of Main Street and then James Tague.



ARRB Updates

Medical Personnel Depositions Available

On July 31, 1998, the Assassination Records Review Board made available for purchase copies of information that it has collected relevant to the medical evidence on the assassination of President John F. Kennedy, including deposition transcripts of 11 witnesses and one Master Set of Exhibits.

The witnesses whose testimony is being made available, without redaction, are: Dr. J. Thornton Boswell, Jerrol F. Custer, Dr. Pierre A. Finck, Robert Groden, Dr. James J. Humes, Frances X. O'Neill, Edward F. Reed, Jr., Floyd A. Riebe, James W. Sibert, Sandra K. Spencer, and John T. Stringer. With the exception of Mr. Groden, all of the witnesses were involved in the creation of records related to the autopsy of President Kennedy. Mr. Groden's testimony pertains to his knowledge about photographic records related to the assassination.

The Review Board followed standard legal procedures in taking the depositions. All depositions were taken under oath and the witnesses were subject to the penalty of perjury. With the exception of Mr. Groden, witnesses were shown the autopsy photographs of President Kennedy that have been identified by the National Archives as the camera-original color transparencies as well as black-and-white prints. The depositions were tape recorded by a court reporter who also transcribed the words as they were spoken. The transcript was subsequently sent to each witness who was, in accordance with standard procedures, afforded the opportunity of making corrections before signing the corrected version of the transcript. The corrections also were made subject to the penalty of perjury. A corrected transcript was thereupon prepared by the court reporter.

Assassination Record's Review Board writes, "Among the

several shortcomings regarding the disposition of the autopsy records, the following points illustrate the problem. First, there has been confusion and uncertainty as to whether the principal autopsy prosecutor, Dr. James J. Humes, destroyed the original draft of the autopsy report or if he destroyed notes taken at the time of the autopsy. Second, the autopsy measurements were frequently imprecise and sometimes inexplicably absent. Third, the prosecutors were not shown the original autopsy photographs by the Warren Commission, nor were they asked enough detailed questions about the autopsy or the photographs.

Fourth, the persons handling the autopsy records did not create a complete and contemporaneous accounting of the number of photographs nor was a proper chain of custody established for all of the autopsy materials. Fifth, when Dr. Humes was shown some copies of autopsy photographs during his testimony before the House Select Committee on Assassinations, he made statements that were interpreted as suggesting that he had revised his original opinion significantly on the location of the entrance wound. These shortcomings should have been remedied shortly after the assassination while memories were fresh and records were more readily recoverable.

The Review Board's search for records thereupon extended to conducting informal interviews of numerous witnesses, taking depositions under oath of the principal persons who created the autopsy records, and arranging for the digitizing of the autopsy photographs. Most of the reports are included in the Master Set of Exhibits that was released on July 31st, 1998 (and are available for purchase through JFK Lancer Resource Mail Order <http://www.flash.net-jfkclanrc/> or email jfkclanrc@flash.net.) The remainder will be available to the public upon the transfer of the Review Board's files to the National