

JFK AT 35: CASE OPEN v. CASE CLOSED • HOW TO FAKE UFO PHOTOS

SKEPTIC

EXTRAORDINARY CLAIMS. REVOLUTIONARY IDEAS, AND THE PROMOTION OF SCIENCE—Vol. 6 No.4 1998 \$5.95 USA (\$7.95 CAN/INT'L)



SPECIAL SECTION ON JFK WHAT THE FORENSIC EVIDENCE REALLY REVEALS



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MORE VOICES OF JFK CONSPIRACY

THE JFK HEAD SHOT

I would like to clear up another JFK myth. Mr. Lloyd Senger in a letter from Vol. 6 No. 2. pointed out that Howard Donahue, in trying to duplicate Oswald's alleged shooting feat, bested the allotted 5.6 second time, hitting his target 3 times in 5.2 seconds. This is true, and it does make the feat possible. But does it help to make it probable? When it came to trying to duplicate the shooting, expert after expert failed, even when given an easier attempt. These are the facts: When the Warren Commission tried to duplicate it, they used stationary targets. None of their marksmen could equal the feat. The FBI used a 30-foot perch (half the height of the 6th-floor window). Again, no one could equal the feat. In 1967, CBS set up their own firing test. They used a 60-foot perch, they had the "car" travel in a straight line and at a steady rate of 11 mph. Eleven marksmen made 37 attempts. 17 trials were declared "no time," meaning that marksmen could not get off the three shots in time. When CBS measured the average shooting time, these 17 trials were discarded. Despite the fact that their "vehicle" traveled at a steady rate (JFK's limousine did not) and that the targets did not move within the vehicle (JFK slumped down and to his right), and that oversized targets were used, all but one of the marksmen failed to duplicate the shooting. One man succeeded. So it is possible, but how does the failure of many experts, many given advantaged trials, make it probable that Lee Oswald, called "a rather poor shot" by the US Marines, pulled off the crime of the century? The JFK assassination is inundated with hearsay, myths and theories, to be sure, but if you stick with only the facts, it is quite improbable and very unlikely that this "poor shot" using a cheap and ineffective weapon, assassinated the President. The facts say otherwise. (Source: *A Citizen's Dissent* by Mark Lane, in which he quotes The Warren Commission and the transcript of the CBS Inquiry of the Warren Report, 1967).

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ASSASSINATION SCIENCE

A friend recently sent me a copy of the piece by Nick Gerlich on "November in Dallas," in which he implies that all conspiracy theories are false. I am unclear as to whether Gerlich holds this to be a necessary truth that could not possibly be false (as a matter of definition, for example) or as a contingent truth that could be false (if only history were different, for example). But it ought to be apparent that, absent this premise, his conclusions about JFK do not follow. If such beliefs can be rational, perhaps most Americans are not paranoid, after all. As a professor of philosophy who has taught courses in logic, critical thinking, and informal fallacies for nearly 30 years, I would like to know if Gerlich considers the bombing of Cambodia, Watergate, or the Iran-Contra Affair to have been conspiracies? The restoration of the Shah of Iran to the Peacock Throne? The destabilization of Chile and the murder of Salvador Allende? The death of Lincoln or attempts on his Vice President and Secretary of State? More recently, many of us have heard about a vast right-wing conspiracy to drive President Clinton from office (from the left) and about a White House conspiracy to tarnish the reputation of Republican leaders (from the right). Conspiracies appear to be as common as apple pie. The existence or non-existence of conspiracies in specific cases has to be evaluated on the basis of the available relevant evidence. The assassination of JFK appears to have been a large-scale conspiracy covered up through sophisticated techniques, including the fabrication of X-rays, the substitution of drawings and photographs of a brain, and extensive editing of the Zapruder film, as my book, *Assassination Science* (1998), explains. None of this should affect Gerlich, however, whose mind is clearly closed. If he is consistent, I predict he shall soon advise us that Julius Caesar was also killed by a lone, demented assassin.

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THIRTY-FIVE YEARS AGO, JOHN F. KENNEDY was killed in Dallas, Texas. Lee Harvey Oswald, an enigmatic drifter who had once defected to Russia and then re-defected to the United States, was charged with the murder. Two days later, he was gunned down by Jack Ruby. And life has not been the same ever since.

Those three days are likely the most analyzed time period in U.S. history. Virtually every action and reaction has been scrutinized under a magnifying glass. How could Oswald have done this? Did he act alone? Or was there more than one killer? Could a lone nut take out the most powerful man on Earth? How could someone put an end to Camelot?

The social setting was ripe for fears of conspiracy. The Cold War was at its height. Russia's Khrushchev and Cuba's Fidel Castro loved to engage in saber rattling. Robert Kennedy, the President's younger brother, had declared war on the Mafia. And various right-wing groups in the U.S. were upset by Kennedy's support for racial integration and felt the Bay of Pigs invasion had been bungled.

These fears and uncertainties, along with the inscrutable Oswald, opened the door for a rash of conspiracy theories. Oswald had dozens of bizarre relationships and odd incidents attached to his name, each one seemingly implicating him in a conspiracy to kill the President. It was all too easy to think that someone else was involved. Any number of individuals or groups had both motive and means to kill the president, either with or without Oswald.

If ever there were a person of questionable character or background, it was Oswald. Here was a man who had embraced extremist political ideology and campaigned publicly in favor of Castro, who had used an alias in ordering a rifle from a mail order company, and who posed in his backyard brandishing firearms and propaganda leaflets.

Skeptics of the Warren Commission report have speculated widely (and wildly) that Oswald must have had backers from the far right, or even that he was a fall guy for a subversive plot to kill the president. Others have postulated that there were multiple Oswalds, with decoys being used in various places to leave a confusing trail of

TRAGEDY ON ELM STREET



FACTS AND FICTIONS IN THE JFK ASSASSINATION

By Nick Gerlich

evidence. But the facts simply do not bear this out. While many have been swept up in the JFK conspiracy hysteria (over 2000 books have been published on the subject since his death), a careful analysis confirms, in my opinion, that Oswald acted alone.

After 35 years, there is little that's new to be added. Occasionally a "witness" comes forward (either with a new book, or in an exposé in the *National Enquirer*), to announce that they were involved with the assassination, or that they knew Oswald, Ruby, or one of the other unsavory characters. Recently-released documents shed some light on aspects of the assassination, but as the author of the definitive lone-assassin book, Gerald Posner, pointed out on a *Today Show* interview on October 1, 1998, the documents merely help explain some of the anomalies in the case. For example, much has been made of why the autopsy was conducted under such a veil of secrecy and intrigue. It turns out, says Posner, that the Kennedy family did not want anyone to discover that the President was suffering from Addison's disease during his Presidency, not to mention the gruesome nature of the corpse photographs—an explanation that is, even by conspiratorialists' standards, certainly understandable. These new documents do nothing to change Posner's (or my) conclusion that Oswald was the only assassin in Dealey Plaza that day. The case is still closed.

The purpose of this article is to examine the many truths and non-truths surrounding the JFK assassination, and to take a closer look at some of the circumstances that led people to believe a conspiracy had occurred. I will explore some of the most frequently cited aspects of the case and consider the controversial elements of each. After pursuing this story now for many, many years, I have come to one definitive, irrefutable conclusion I believe will not change: the JFK assassination case will never be put to rest. Whether the case is really closed, as I think it is, or still open pending proof of a second smoking gun, many people just cannot seem to let it go.

The president's body was buried in 1963, but the intrigue surrounding his death, like its emotional counterpart in the images of his good looks and inimitable charm, has not and likely never will be interred. The mystery has become more powerful than its solution.

THE ZAPRUDER FILM

Perhaps the best-known and most-analyzed piece of evidence from the assassination is the Zapruder film. It is the best of several film recordings of the Presidential motorcade as it wound its way through downtown Dallas.

Abraham Zapruder, a Dallas dressmaker, unwittingly stepped into American history with his then-high tech capture of the event. At the time, 8mm film cameras were rising in popularity and Zapruder became one of the first Americans to document a crime with this method of technology.

Perched on the grassy knoll just a few hundred feet from the Texas School Book Depository, Zapruder stood poised to film the president as he made the curve down Elm Street just before the triple underpass leading to the Stemmons Freeway. The gentle bend in the road allowed Zapruder an excellent angle for photography; were it not for a highway sign, his film would have been totally unobscured.

The Zapruder film, which recently became available in VHS and DVD format, showed one thing that caught conspiracy-buffs' attention: the forward motion of the President's body following the first bullet to hit him, and then the backward jerking motion of Kennedy's head, with flesh and blood splattering toward the back of the limousine. C-buffs concluded that the second hit must therefore have come from behind Zapruder, possibly behind the picket fence on the grassy knoll.

But speculation about the Zapruder film did not end there. The day after the assassination, Zapruder sold all rights to the film to *Life* magazine for the then-impressive sum of \$150,000. Some extreme skeptics of the Warren Commission feel that this is where the case went awry. Harrison Livingstone (1992), for example, contends that the film was then tinkered with, in a frame-by-frame fashion to alter the placement of the head wound. Livingstone contends that Kennedy was shot in the neck from the front, and then in the head simultaneously from two different directions (the second assassin stationed in a manhole just down the road from Kennedy).

Livingstone's wildest fantasy is that the film is not authentic. He contends that the CIA's photographic division processed and printed the film the night of the assassination, and that Zapruder was actually a minor footnote in history, a possessor of a mere copy of the now-altered original. The CIA, Livingstone contends, had the means in the early 1960s to add, delete, and rearrange frames, as well as add special effects. The film shown to the Warren Commission and to the American public was thus a fake, carefully reconstructed to bolster the lone gunman argument. Similarly, Groden and Livingstone (1989), Lifton (1980), and numerous others argue that the film has been spliced, with numerous frames now out of sequence. They use the fact that the movie camera shot at the rate of 18.3 frames per second to help build a time line, and then compare it to the time required to operate Oswald's weapon, the pre-WWII

Mannlicher-Carcano bolt-action rifle.

As Posner (1993) points out, though, it was not only possible for Oswald to fire three shots in under six seconds, it was also a quite manageable feat. He cites the House Select Committee's 1977 simulation which showed that only 3.3 seconds were needed to squeeze off three effective shots if the first bullet was already loaded in the chamber. The awkward bolt action of the rifle was not as much of a problem as the critics claim it is.

The critical Zapruder frame was #313, the moment at which Kennedy's head virtually exploded. Nearly everyone is in agreement that this records the final shot. Working backwards, analysts concluded that no more than six seconds elapsed between the film image on Elm Street just clear of the large oak tree in front of the Texas School Book Depository sniper's nest and the spot where frame #313 was captured.

But Posner, analyzing both ear-witness reports and an enhanced Zapruder film, shows that Oswald fired his first shot at frame #160, before the President's car was obscured by the large tree. Furthermore, Posner shows that the first shot entirely missed Kennedy, but that the second and third shots hit their target.

Of the various interpretations and analyzes of the Zapruder film, Posner's makes the most sense. He shows that Zapruder slightly jerked the camera around frame #160, coincident with a possible first shot. Zapruder altogether made four slight twitches with the camera, including one at frame #313.

Furthermore, the notion that Dealey Plaza was literally crawling with snipers is preposterous. Gunmen were supposed to be hiding in manholes, behind picket fences, or atop other nearby buildings. While it may be possible for one person to go unseen, for two or more to do so becomes far less likely. For an entire posse of marksmen to leave the Plaza unnoticed is a flight of fancy.

The compact, bowl-like terrain in the Plaza makes it easy for spectators to mistakenly attribute the source of various sounds. The tall buildings and other features create disorienting echoes, thus explaining why people in the Plaza started running toward the grassy knoll following the final shot.

Finally, to allege conspiratorial alteration of the Zapruder film by the CIA is totally unfounded. There is no proof that the CIA or anyone else had possession of the film, and until such proof exists, we can conclude only one thing—Zapruder's camera did not blink.

While amateur filming of newsworthy events is today part and parcel of our electronic age, Zapruder will be remembered as one of the first to record a significant event on film. His footage is a remarkable and graphic record of the assassination, and thanks to modern computer enhancements, it serves as proof positive that the two shots that hit Kennedy came from behind him, not from elsewhere in the Plaza.

THE MAGIC BULLET

If anything has given conspiracy advocates fuel for their engine (and even something to snicker about, to boot), it is the so-called "magic bullet theory." According to the Warren Commission, only three shots were fired, and the first of those three shots entirely missed its target. Both of the next two bullets struck President Kennedy, the last one causing his head to explode. The effect of this third bullet is not in question.

The second bullet fired is the problematic one. In addition to the president being struck, Governor Connally, riding in front of the president, was also hit. The second shot causes problems for the "Oswald did it alone" theory since bullet number two hit both Kennedy and Connally. According to the Commission, the bullet first entered the President's upper back and exited through his throat, and then, continuing its downward trajectory, it entered Connally behind his right armpit, shattered his fifth rib, exited his chest below the right nipple, shattered his right wrist, and finally lodged in his left thigh.

The "fake right, go left" tenor of this account begins to sound like a trick high school football play, and has conspiracy buffs writhing with laughter at the prospect of a bullet that could do somersaults in flight, as well as turn on a dime. To add another giggle to the laugh track, the bullet managed to wiggle out of Connally's thigh, and was later found on a stretcher in the hospital corridor, in nearly perfect condition (the so-called magic or pristine bullet is more appropriately referred to as Commission Exhibit 399). It is argued that this single bullet could not have done all this damage, so there must have been an additional sniper shooting at that time, and, hence, a conspiracy.

Pro-conspiracy devotees use the so-called Magic Bullet theory as one of their main arguments that the Warren Commission's findings are false. To them, it is utterly preposterous to propose that a single bullet fired from a dated, WWII rifle could perform the damage it did while dancing through Kennedy and Connally. There is no shortage of theorists who have examined the Magic Bullet, as well as Dealey Plaza, and they invariably come up with more than three bullets being fired, mostly because they will not accept the Warren

Commission's conclusions on the pristine bullet. Typical of these critics is Roberts (1994), a former Marine sniper in the Vietnam War, who dismisses the Commission's finding on the grounds that, because he could not duplicate the feat, it did not happen.

But as preposterous as the Magic Bullet theory may sound to even the lone gunman camp, it is the best conclusion we have. Of all the aspects of the assassination picked apart by the Commission and its critics, the path of the bullets fired in Dealey Plaza has been diagrammed with exacting detail, taking into account everything—the pitch of the road, the live oak tree partially obstructing Oswald's view from the sixth story of the Texas School Book Depository (which was still bearing leaves in late November), the speed of the limousine, the positions of both Kennedy and Connally in the limousine, and the location of entry and exit wounds in both persons.

As Posner showed by examination of the Zapruder film, it was possible for Oswald (or anyone else experienced with rifles, for that matter) to squeeze off the three necessary shots with the Mannlicher-Carcano. Posner also shows convincingly that the second shot hit both men.

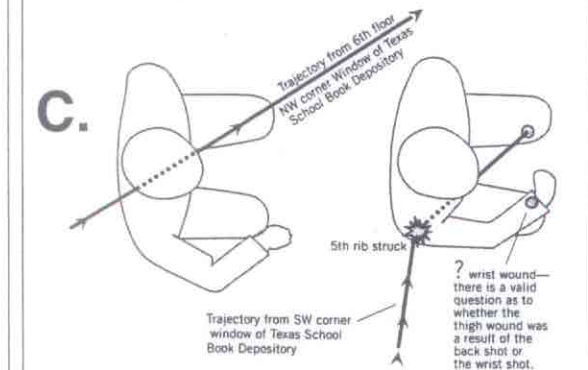
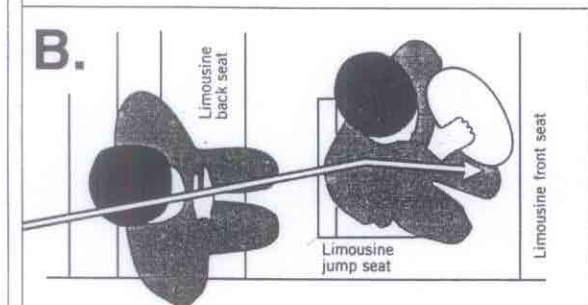
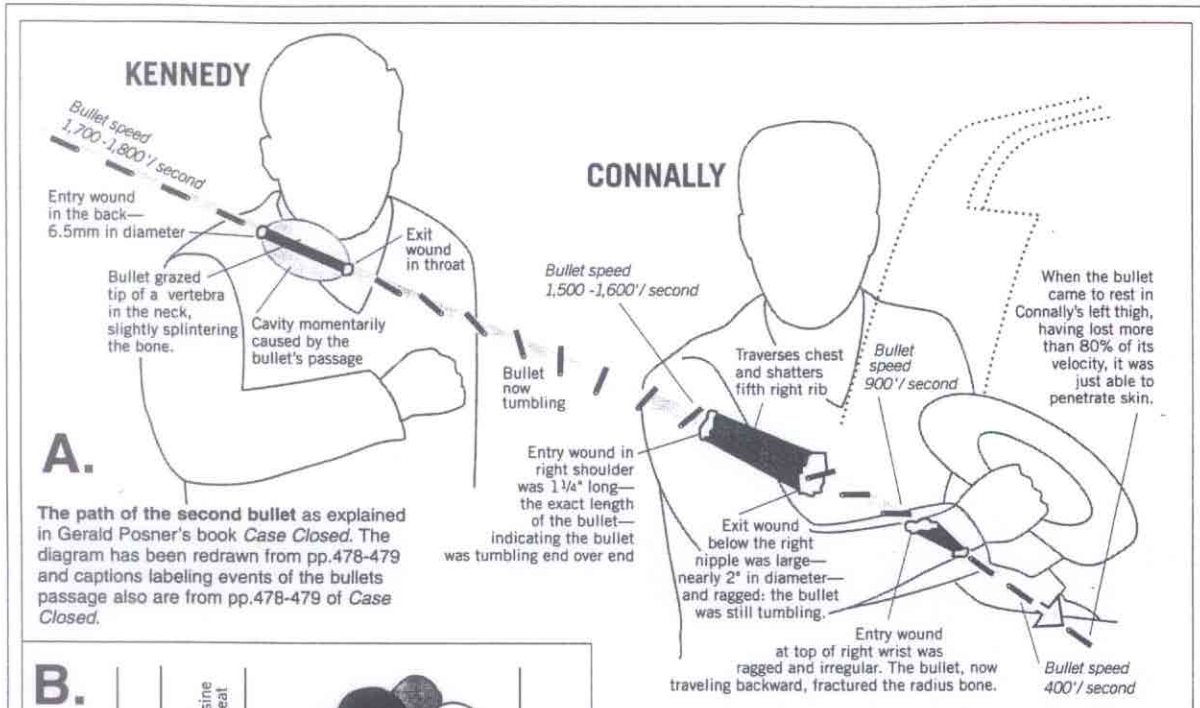
Complicating the issue significantly were conflicting reports from the Governor himself, as well as his wife. At first, Connally thought he was hit by a separate shot, as did Mrs. Connally. But a careful frame-by-frame analysis of the Zapruder film revealed some important details. For example, in Frame 224, there is evidence that both men were hit. Given that they were only sitting two feet apart, and the bullet was traveling at almost 2000 feet per second, it stands to reason that they must both show signs of being hit at nearly or precisely the same moment.

The tell-tale evidence is that the governor's right lapel flips up in Frame 224, in the exact location where a bullet traversed his body. Furthermore, by Frame 226, the governor is rigid, and in Frames 227-229, there is a jiggling of his Stetson hat, which he was holding with his right hand (also hit by the bullet). In real time, Connally jiggled his hat in under one-tenth of a second, and his face reacted in pain in two-thirds of a second. Posner cites this as proof positive that both men were hit at the same time.

But this still did not conclusively prove that one bullet and one shot inflicted all this damage, for two bullets fired at the same time could conceivably have done the same thing. Once again, Posner presents evidence that just one bullet did the damage, as shown in a simulation by Dr. Robert Piziali, who oversaw the tests conducted by the Failure Analysis Association, a firm specializing in computer recreations for lawsuits. Piziali's investigation answered two important questions: did one bullet alone hit both men, and was this bullet fired from the Texas School Book Depository? Critics notwithstanding, Piziali showed in his recreation that the position of the men was such that the seemingly strange path of the bullet indeed was not only possible, but certain.



Side and bottom views of Warren Commission Exhibit 399—otherwise known as the "magic" or "pristine" bullet. From the side the bullet appears unaltered except for a small amount of lead that has been squeezed past the bottom edge of the copper jacket. The end-on view reveals the formerly round bullet is far from pristine.



Contrasting views of the wounding of Kennedy and Connally

Drawing B is the overhead view of Posner's scenario A. The bullet passes in a straight line through both men until it strikes Connally's fifth rib. Redrawn from Posner's *Case Closed*, p.479.

In drawing C the shot that wounds Kennedy misses Connally. Diagram redrawn, and captions taken from Robert J. Groden and Diane J. Allen's *The Killing of A President: Dealey Plaza Memorial Edition*. Robert Groden was a consultant for the Oliver Stone film *JFK* and writes and lectures extensively on the JFK assassination. The lavishly illustrated *The Killing of A President* and many other materials that present a case for an assassination conspiracy are available from: Robert J. Groden, P.O. Box 823497, Dallas Texas 75382.

I think we can all agree with the conspiracy advocates that it is impossible for bullets to make abrupt turns mid-flight. But some simple facts are usually overlooked along the way: the governor was not sitting in a "normal" seat in front of the President; he was on a "jump seat" located in the large area between the back and front seats. Furthermore, this was a parade, and both Kennedy and Connally were busy twisting from side to side, making eye contact with and waving to the crowd.

Posner also addressed the issue of whether the magic bullet was indeed pristine. Examination of the missile showed it to be in less-than-perfect condition, somewhat bent and flattened. It was not nearly as pristine as critics claim when they seek to ridicule the Commission's findings. Agreed, the bullet was not severely deformed, but this is because it was a jacketed military bullet which performed precisely as it was supposed to: if no major organs are struck, it is supposed to pass through the victim's body directly, without inflicting major bodily damage. Following the Geneva Convention of 1922, such metal jacketed bullets were mandated for war as a more "humane" method of combat.

But why did the Warren Commission have a test bullet that, when fired into a cadaver's wrist, showed extensive deformation? Because the Commission did not precisely recreate the shot. Rather than being the first thing hit by the bullet, the governor's wrist was the last thing hit. By then, the bullet had slowed considerably. If the bullet had only hit Connally's wrist, it likely would have appeared as the test bullet did. But this was not the case, as shown by the evidence.

The truth is, it would be difficult, if not impossible, to perfectly recreate the shooting situation for test shots. To have a test bullet

pass through one cadaver and then into another in the exact path followed by the real bullet would be a long-shot proposition indeed.

Rather, it is more expedient to accept the fortuitous route of this one bullet. While Oswald may not have targeted the governor, he accidentally managed to hit two heads of government with one single shot. That the bullet was in reasonably good shape following the ordeal is not the issue.

THE MAFIA, CIA, AND OTHER ROGUE ELEMENTS

The early 1960s were rife with various groups that had instilled fear in the hearts of Americans. The Mafia, which had been singled out by the president's younger brother Robert for scrutiny, has been implicated by Scheim (1988) and Davis (1989) as having both motive and method to rub out the President. North (1991) argues for a J. Edgar Hoover role in the assassination. Lane (1991) and Weberman and Canfield (1975) propose that the CIA was involved, as does Morrow (1992) in his tell-all confessional account. Summers (1980) fingers the Cubans (although conspiracy devotees are divided as to whether they were pro-Castro or anti-Castro). If any group or individual had a hidden side to them, they were invariably accused of at least a passing involvement in the assassination.

A wealth of books have been published which try to implicate various parties. In most cases, the authors promote their personal agendas, so they indict the opposing party of their choice. One of the most comprehensive examinations of means, motives, and opportunities is provided by Marrs (1989), who calls on the carpet, one by one, the Russians, the Cubans (both pro- and anti-Castro), the Mafia, the CIA, the FBI, the military industrial complex, and "rednecks and oilmen." The only stone left unturned by Marrs is an alien involvement (but he did suggest in his 1997 *Alien Agenda* that other-worldly influences were at work in Roswell).

It is interesting to note all of the various individuals and groups that are fingered in conspiracy theories, for they demonstrate many of the fears prevalent in America, both then and now. There is one thing all had in common: they represent the darker side of life in the early 1960s. The Cuba component in the equation, for example, is understandable in this context. With the bungled Bay of Pigs operation and failed CIA attempts to kill Castro, it is not a particularly long stretch to conclude that Fidel was trying to exact revenge by killing the president. It was not beyond the realm of possibility that Castro could have had mercenaries in Dallas on that fateful day.

Neither was it impossible for anti-Castro zealots, angered at our failure at the Bay of Pigs, to have targeted Kennedy to get back at what they saw as his backing away from eliminating Castro for them. There were anti-Castro encampments in both Miami and New Orleans in the early-1960s, and, it is theorized, any of these groups could have made a road trip to Dallas.

And what about Khrushchev? Hadn't the U.S. violated Russia's territory with the Gary Powers U2 incident? The U.S. was embroiled

in a bad case of saber-rattling with the USSR, and we were falling behind in the space race. Fallout shelters were the family room of the 1950s, and the prospects of a nuclear war loomed large in the minds of many. In a Spy vs. Spy era, the idea that Khrushchev could have been behind a plot to kill the President seemed plausible to the Russophobic.

Then there are those who think that the CIA was behind the assassination, partly because of the Bay of Pigs affair, and partly because of the escalating conflict in southeast Asia. The CIA's Director, Allen Dulles, was not particularly happy about what happened (and did not happen) in Cuba. It is argued that the CIA, the most visible of U.S. intelligence agencies, was disturbed that the president was soft on our enemies, and was chomping at the bit to show our military prowess.

Related to this is the argument that the military industrial complex, a hodgepodge of large companies with lucrative defense contracts, was also anxious to see if their high-tech weaponry could really work. The embarrassment in Cuba was a thorn in their side, and some conspiracy advocates see this as the entree for the defense industry to dispose of a leader who shied away from confrontation.

Other conspiracy theorists point to J. Edgar Hoover, the erstwhile Director of the FBI. Not one to be ruled or restrained, Hoover was not particularly pleased with the way Kennedy and Company were leading the country. Thus, we are left with suggestions that Hoover orchestrated the assassination.

The Mafia cannot be overlooked, either. The President's younger brother Robert had declared war on the Mafia. Why kill Jack when Robert was the aggressor? Conspiracy theorists love to recite an old mantra about getting rid of the dog that wags the tail—get rid of the dog, and the tail goes with it. Jack was the target, in order to silence Bobby. That the Mafia was often suspected of involvement is not surprising. During that time, the Mafia was particularly strong in many U.S. cities, including New Orleans and Dallas. Given allegations of the President's infidelities as well as his relations with people suspected of mob connections, the plot thickens. The name that pops up the most is Carlos Marcello, the New Orleans "Mafia Kingfish" (Davis 1989).

Finally, in an all-out exhaustive effort to implicate anyone with a passing interest in national politics, right-wing extremists, rednecks, oilmen, and the like are accused of silencing Kennedy. After all, conservatives had placed large critical ads in local newspapers concurrent with the President's visit to Dallas. Furthermore, Texas is and was a very conservative state, and Kennedy stood for many things that did not sit well with "proper" Texans.

In spite of all the well-worded treatises on whodunit, none can go further than basic innuendo. It is quite easy to suggest that a person or organization had means, motive, and opportunity. But that does not prove the complicity of anyone. Tossing around names of possible conspirators, but without the proof to back it up, is like saying that October's Hurricane Mitch was really a Contra plot to get

back at the Sandinistas.

As it stands, none of these individuals or organizations had much to gain by disposing of Kennedy. In fact, most had much to lose by doing so. Khrushchev could have started a nuclear war if he had been behind the plot. Castro would have invited a more serious military invasion if he were involved. The anti-Castroites would not have solved any of their problems by removing Kennedy. And if the CIA or FBI were involved, it would mean that we were at Civil War once again.

Perhaps it is in our nature to pin blame on other powers—particularly powers that are nefarious or fear-inspiring. But unless proof positive can be supplied, the conjectures are mere speculation, and entertaining at best.

OSWALD IN NEW ORLEANS

Another line of argument against the Oswald-only account is the strange trail he left before the assassination occurred, particularly in New Orleans. Oswald's behavior was so strange in The Big Easy that many conspiracy advocates use it as the focal point of their work. New Orleans District Attorney Jim Garrison (1988) was so convinced of Oswald's connections there that Garrison staged a post-mortem trial in 1967 to try to prove a conspiracy. And Hollywood's biggest conspiratorialist, Oliver Stone, used Garrison's case as the centerpiece of his pro-conspiracy JFK film.

There is no question that Oswald at one time lived in New Orleans. It is what he did, or might have done, in New Orleans that has conspiring minds churning out theories. Admittedly, Oswald led a strange life in New Orleans. Some of the various "eyewitness" accounts of his activities and associations are of dubious value (such as his alleged trip to Clinton, Louisiana, with two other men to participate in a voter registration drive). But with "shady" characters such as Guy Bannister, David Ferrie, and Clay Shaw walking the streets of New Orleans, as well as Carlos Marcello's henchmen ruling the underworld, it is easy to jump to conclusions. Never mind that Oswald made public appearances espousing his support of Castro's Cuba. Oswald single-handedly formed a local chapter of the Fair Play for Cuba Committee (albeit an imaginary one, not recognized by the national organization), and paid for and distributed leaflets promoting Fidel Castro (his new hero, following his disenchantment with Soviet socialism).

Garrison's discovery that Oswald was using an address, 544 Camp Street, that was "in the very heart of the local intelligence community (Garrison 1988)," propelled an investigation that did not end until Garrison was deflated in a courtroom. Marrs (1989) argues that it was at this address that the paths of Oswald, the FBI, the CIA, anti-Castro Cubans, and the Mafia all crossed (a strange intersection, indeed).

Bannister was a former FBI agent with ties to Naval Intelligence who had become a private investigator. One of his frequent



**"I urge
rationalists out
there to snap up
this book."**

—James Randi

**"...entertaining,
enlightening,
strongly recommend."**

—Martin Gardner

Believing in Magic: The Psychology of Superstition By Stuart Vyse

Connecticut College Psychology Professor Stuart A. Vyse examines current behavioral research that suggests that everyday superstitions are the natural result of several well-understood psychological processes. Vyse entertainingly demonstrates how complex and paradoxical human behaviors can be understood through scientific investigation, and profiles personality traits associated with superstition and the role of superstitious beliefs in one's actions. Vyse acknowledges that superstition is a normal part of human culture, but suggests we learn to critically evaluate the source of our beliefs in order to develop alternative methods to coping with life's little, yet sometimes overwhelming, uncertainties. A significant contribution to the skeptical literature that should be in every skeptic's library.

Stuart Vyse on:

Chain letters:

"Now, if we very cautiously estimate that only two of 20 recipients would actually continue the chain, the number of participants in a year circulation is equal to 2^{45} or 35,184,372,088,832 (this is 35 million millions). Obviously, this number far exceeds the population of the planet (which is approximately 5.3 billion)."

Triskaidekaphobia (fear of the number 13):

"In France there is a company that provides emergency guests for dinner parties to make sure 13 people never sit at one table."

Superstition and Gender:

"A large number of studies have shown that women are more superstitious and have a greater belief in paranormal phenomena than men...Psychologists Jerome Tobacyk and Gary Milford found that college women had a greater belief in precognition...but men showed significantly greater belief in extraordinary life forms, such as Bigfoot and the Loch Ness monster."

Order on the colored tear card at the front of the magazine. *Believing in Magic: The Psychology of Superstition* By Stuart Vyse. \$25.00 Hardback, 258 pages. Oxford University Press. No. B58HB.

visitors was Ferrie, who was a fervent anti-Communist (and a quite memorable person, given his colorful hairpiece). Both Bannister and Ferrie did work for anti-Castro groups and Marcello's attorney. Conspiracy advocates frequently cite the testimony of Delphine Roberts, Bannister's former secretary. Roberts testified that Oswald had visited Bannister's office several times. As Posner (1993) showed, though, Roberts' testimony was of questionable value. Roberts' daughter, with the same name and who worked in the same building on Camp Street, said that Oswald kept his pro-Cuba pamphlets in an office at that address, and that he came there frequently and knew Bannister.

Posner dismisses Oswald's connections to 544 Camp Street as merely a false address used by Oswald (he likely walked past the building many times, and could have chosen that address from among many), or an effort by Oswald to besmirch the name of a fervent anti-Castro group that had a legitimate office at that address one year prior. Furthermore, as Posner points out, it is unlikely that Oswald could have afforded the rent on Camp Street.

Did Oswald know Ferrie? Some pro-conspiracy writers say that Oswald knew Ferrie in 1955, when Oswald was in the Civil Air Patrol. Garrison and others allege that Ferrie initiated Oswald into the CIA. The only problem with these hypotheses is that Ferrie had been relieved of his duties with the CAP for several years in the mid-1950s, and did not resume working in that capacity until 1958 (Posner 1993).

Oswald's supposed trip to Clinton, LA, is even more far-fetched. "Witnesses" placed him there in the company of Ferrie and Clay Shaw, a New Orleans businessman. This being Garrison's turf, he hunted far and wide for persons who could place Oswald in the company of these questionable characters. The event in Clinton was characteristic of the changing social milieu: blacks were being encouraged to register to vote, and the voter drive in Clinton had brought out numerous blacks to register, and many whites to make sure that blacks weren't being encouraged too much. Garrison's six witnesses reported seeing the unusual spectacle of a white man standing in line with blacks. That this white man arrived in Clinton in an expensive car with two other white companions makes the appearance even more intriguing.

Garrison's witnesses, however, were discredited by Posner, who showed that Garrison's team had to coax and coach the witnesses extensively to get their stories straight. But there were other inconsistencies with the eyewitness accounts, such as the timing of the incident (it could not have been in October, when Oswald no longer lived in New Orleans). Numerous internal contradictions render the Clinton story a probable falsehood.

The fact that many people swore they saw Oswald in a variety of locations and in the company of a number shady characters *after* they had seen Oswald in the news following the assassination is not at all surprising. It is akin to the difference between recall and recognition in advertising research. Of the two, recall is certainly the most

powerful indicator of an ad's ability to maintain top-of-mind prominence. Recall tests are open-ended questions, with no cues for the respondent. Recognition, however, only requires respondents to declare if they remember seeing or hearing a particular advertisement. In order to avoid looking stupid and inattentive, people are likely to overstate what they think they saw or heard. With television broadcasting Oswald's likeness into the living rooms of millions of Americans, it is therefore not surprising that many people swore they saw Oswald in a variety of potentially compromising and indicting acts. His face indelibly etched on the minds of an emotionally upset public, it is to be expected that Oswald sightings came from all corners.

But given the chance encounters that we have with hundreds of people daily, it is unlikely that anyone could remember a stranger they saw today, much less months or years prior. Even if a person engaged in particularly memorable behaviors, it is doubtful that "witnesses" would be able to recall more than very general information.

In other words, unless there is a specific reason to focus on the physical features of a person (like someone robbing a bank, or a physical attacker), we are not likely recall many specific details of our day. For example, we are exposed daily to hundreds and even thousands of advertising stimuli, yet it is unlikely that we could accurately name even five that we encountered in the last 24 hours. Oswald sightings would have been much easier (and more reliable) in the 1990s, when camcorders, TV crews, and public observation cameras became commonplace. But that was not the case in 1963, when a small percentage of people (like Zapruder) had the means to document events on film.

Of one thing we are certain, though: Oswald did pass out pro-Castro leaflets in New Orleans, and Oswald was arrested for disturbing the peace in a confrontation with anti-Castro activists. There is photographic proof of this, as well as the police record. But as for Oswald's other alleged New Orleans connections and activities, we can only conclude that they probably did not happen. Without definitive evidence, the Oswald-Bannister-Ferrie triad is more wishful thinking than reality.

THE MANY FACETS OF LEE HARVEY OSWALD

Yet another wrinkle in the Oswald case is his use of aliases, as well as speculation that he (or a "second" Oswald) made carefully-staged public appearances in Louisiana, Texas, and even Mexico City. More questions surround his double defection between the U.S. and Russia in the 1950s.

The Mannlicher-Carcano bolt-action rifle that Oswald used to kill Kennedy was purchased from a mail-order firm. Oswald would likely never have caused such a stir if he had simply used his real name. Instead, he used "A. Hidell," unwittingly helping pro-conspiracy theorists. Furthermore, he had ordered Fair Play for Cuba liter-

ature in New Orleans using the name Lee Osborne, but stamped these documents with his A. J. Hidell alias (Posner 1993).

If anyone involved in the assassination warrants a close investigation, it is Oswald himself. Here is a man who left behind a confusing trail: a disruptive childhood, a military career that took him to some decidedly sensitive places (e.g., Atsugi, Japan, the base for the U2), disenchantment with capitalism, defection to the USSR, disenchantment with Soviet socialism, re-defection to the U.S., and public support of Castro's Cuba. If ever there were a person of questionable character, it was Oswald.

Was Oswald an agent for either the U.S. or the USSR (or both)? While it may be possible, it is doubtful. Oswald had proven himself in years past to be unstable, not exactly the right trait for a spy. He lacked the raw intelligence and discretion necessary for such a role, and seemingly left an intentional trail of evidence behind that led straight to him.

If anything, Oswald was a disgruntled idealist. Dissatisfied with capitalism and its inherent social and economic inequities, he left for the USSR. There, he met his wife, Marina, but did not find the utopia he sought. Political drifter that he was, he returned to his homeland, not so much because he embraced its ideologies, but more likely because he had no place better to go.

Back in the U.S., he took up Castro's cause. But he was hard to take seriously, for here was an American, an Anglo at that, publicly promoting the policies of a perceived despot. It is no wonder that he attracted attention in New Orleans when he was handing out leaflets.

Conspiracy theorists love to bring up the back yard photographs taken by Oswald's wife. There, in his Oak Cliff neighborhood of Dallas, Oswald posed in the bright sunlight holding the Mannlicher-Carcano and various leftist newsletters. Critics contend that the photos were clever fakes, meant to indict Oswald. They argue that Oswald's face was photographically superimposed on another photo.

If JFK had been killed in 1998, this would have been a very believable proposition. With photo retouching software such as Photoshop widely available, it would have taken only a few mouse clicks to put Oswald's face on another person's body. But JFK was killed in 1963. While it was technically feasible for someone with darkroom and retouching experience to compile a photographic collage, analysis of the photos does not support this. As Posner points out, the grains in the photo are consistent throughout, proving that there had been no juxtaposition of faces and bodies. In reality, the photos show a person with a twisted mentality, bent on proving something.

Oswald sightings in Dallas and other parts of Texas are about as common as are his "sightings" in Louisiana. Once his face was broadcast, it seemed that everyone had seen Oswald...test-driving a car, practicing at a shooting range, in the company of Cubans...even appearing at a U.S. embassy in Mexico City. While it

is likely that Oswald did get around the Dallas Metro area (after all, he had a job and tried to lead some semblance of a "normal" life), these reported sightings are probably just colorful imaginations.

What is strange is that Oswald left the damning photographs behind of his backyard poses, yet tried to cover his trail by using aliases in other instances. If anything, this illustrates his mental instability. At one moment, he tries to cover his trail in New Orleans by purchasing his tracts with an assumed name (and using several addresses for his pro-Cuba committee chapter), but then is naive enough to get arrested for disturbing the peace while promoting the same cause. Furthermore, while he used an alias to purchase the Mannlicher-Carcano, he then posed with it, and ultimately left it behind in the sniper's nest, complete with fingerprints. This inconsistency further attests to Oswald's questionable mental state.

If anything can be concluded about Oswald it is that he was indeed a lone nut, and most probably the assassin that the Warren Commission, Posner, and other authors (Belin 1988, Moore 1990) have concluded he was.

CONCLUSIONS

There are many other areas of inquiry that could have been covered for this analysis. Certainly the autopsy of President Kennedy left much to be desired, and left numerous unanswered questions. Many book chapters have been penned alleging botched or even faked autopsy (see Livingstone 1992, for a thorough discussion of alleged forgery of autopsy photos and X-rays). Cyril Wecht (1993), in his book on pathology and crime, still contends that the autopsy is one of the worst cases of abuse of medical science that ever existed.

As Posner recently said on the *Today Show*, the Kennedy family itself was partly to blame for this situation, because they didn't want the president's illness to become known. But a botched autopsy does not a conspiracy make. Nor do any of the other countless incongruities, inconsistencies, or fantastic concoctions imagined by those with conspiratorial tendencies.

If anything, the conspiracy crowd has sought to complicate a situation which is really quite simple—almost too simple to be taken at face value. Judging by the number of conspiracy theories surrounding numerous domestic tragedies of late, it seems it has now become an ingrained part of our culture to need to believe that unseen powers are orchestrating the tragedies we see reported on television. Oklahoma City...Waco...the World Trade Center...TWA Flight 800...Lockerbie...Martin Luther King, Jr....the list goes on. And one more: Kurt Cobain (of Nirvana angst and acclaim) did not commit suicide...he was killed!

The JFK case, however, remains the Rosetta Stone of conspiracy theories. A president who inspired widespread admiration was snatched prematurely from a celebrity-worshiping American public. The Camelot lifestyle of the young and attractive first couple had

captured the hearts of a citizenry suffering through the anxieties of the Cold War. While it is admirable that our country should grieve its fallen leader, the act of grieving alone does not prove a conspiracy existed.

The pro-conspiracy proposition suffers from a number of serious shortcomings. Foremost among them is that the burden of proof is on those who allege a conspiracy to name the individuals responsible for the conspiracy and to present their evidence for making that charge. The burden of proof is on the plaintiff as TV's Judge Wapner was wont to say. Instead, the C-buffs try to deflect attention away from their lack of proof onto problems they detect with the Warren Commission findings. But nitpicking through 23 volumes in search of errors to be able to discredit the lone assassin theory is no different from sifting through the 66 books of the Bible for historical or spiritual inconsistencies so as to vilify Christians. While there are errors in the Warren Commission report (and in the Bible, for that matter), this alone does not signify conspiracy or cover-up.

A second problem with the pro-conspiracy position is that none of the points they have made either singularly or collectively prove a conspiracy. They raise interesting questions, and then leave the reader to draw his own conclusions.

In addition, pro-conspiracy advocates have failed to produce any of the mythical accomplices. Lee Harvey Oswald was the only perpetrator caught, and in 35 years, no one else has been apprehended. It is easy to point fingers and imply that certain individuals or groups "coulda/woulda" been a part of such a conspiracy, but in the absence of such a person or persons, their position crumbles.

These would be conspirators are like the mythical "Raoul" concocted by James Earl Ray, in prison up until his death this year for the murder of Martin Luther King, Jr. Ray, an uneducated con-man with loads of jail experience even before the murder, dreamed up this figure as his co-conspirator. Even the King family fell for Ray's story, and contends that Ray was at most only partially guilty for their patriarch's death. Posner (1998) handily debunks this "conspiracy" in his recent book on what is rapidly becoming the second-

most popular conspiracy theory in the U.S.

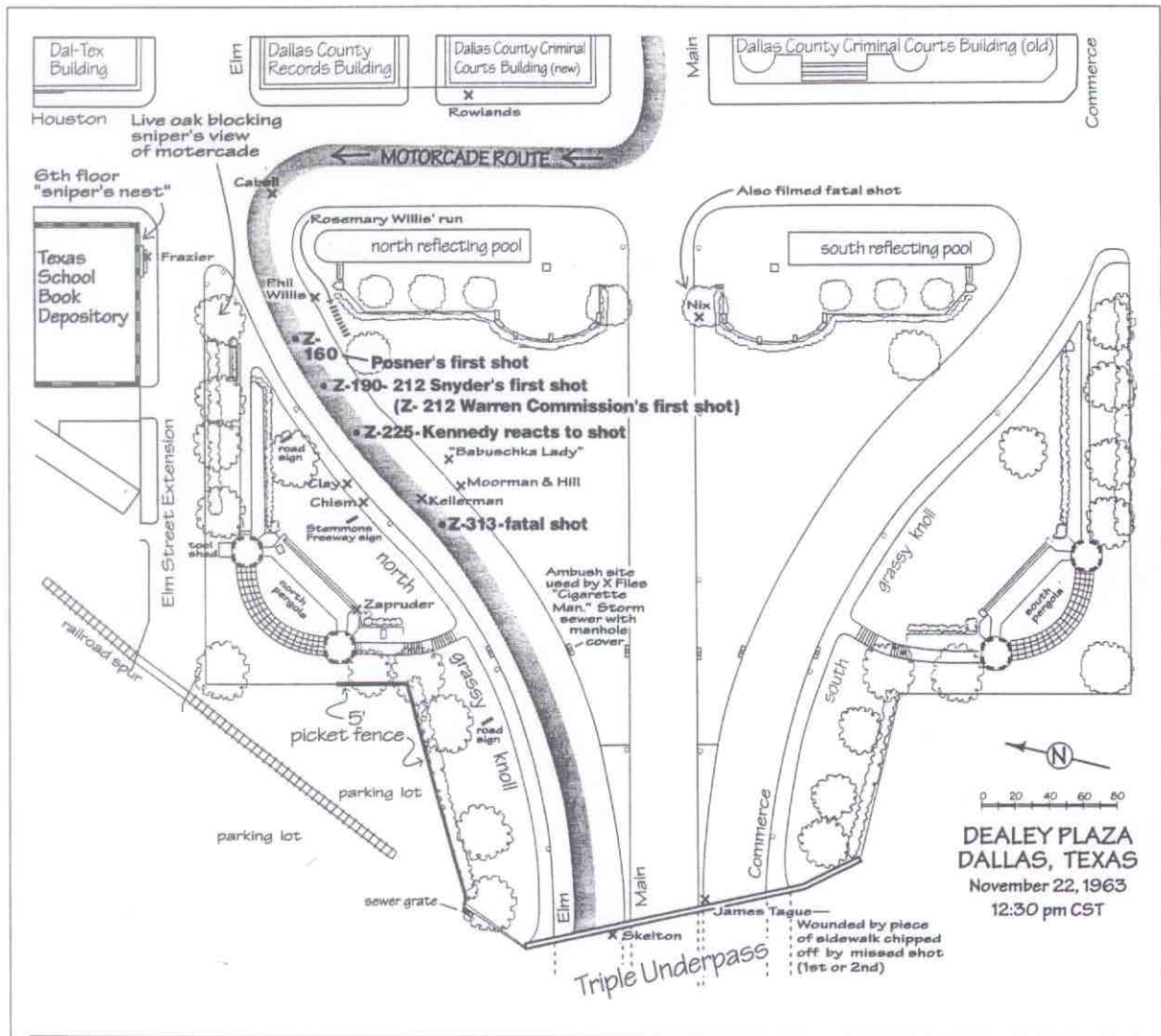
Another serious blow to the pro-conspiracy devotees is that there is division in the camp. About the only thing they can agree on is that they do not agree with the Warren Commission. After that, everyone goes their separate ways with the disparate targets and agendas. Scheim (1988) thinks the Mafia did it. Blakey and Billings (1981) contend that the CIA was in on it. Zirbel (1991) promotes his "Texas Connection" hypothesis that Vice President Lyndon Johnson was somehow involved (and had the hubris to pull off the crime in his own state!). And Garrison (1988), his theories championed in film by Oliver Stone, felt that criminal elements in his own New Orleans were responsible.

Making things even worse is the seemingly annual confession in another book or sizzling tabloid tell-all by someone who claims to either have been in Dealey Plaza that fateful day and can finger the other person(s) involved, or who claims to have been Jack Ruby's business associate (see Oliver 1994). Menninger (1992) goes so far as to say that a Secret Service agent accidentally fired the third shot, the one that actually killed Kennedy. Murder has even been elevated to scientific status in *Assassination Science* (Fetzer 1998), and Russell (1992), in an agonizingly long tome, spins a tale of a Soviet plot to use an American agent named Nagell to kill Oswald in order to prevent the Kennedy assassination. Aside from attempting to cash in on what is arguably one of America's most lucrative cottage industries, these tomes and treatises do nothing to further the cause of the pro-conspiracists, but are typically published just in time to mark another anniversary of the President's death with the same predictability of daffodils in Spring and candy at Halloween.

While disagreement between the followers does not itself destroy the pro-conspiracy position (if it did, most religions would be down the drain, too), it is the collection of these inherent weaknesses that makes their allegations untenable. Their method has been to systematically chip away at the Warren Commission, one brick at a time. Yet the core conclusion of Warren Commission report still stands—Oswald did it alone. □

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THIS MAP CONTAINS ITEMS MENTIONED IN BOTH THE GERLICH ARTICLE PRECEDING IT AND THE SNYDER ARTICLE THAT FOLLOWS.

SELECTIVE CITING OF WITNESSES BY POSNER— FROM THE SNYDER ARTICLE

Witnesses cited by Posner as evidence

of an early first shot:

- Royce Skelton (on the bridge over the Triple Underpass)
- Barbara and Arnold Rowland (in front of the new Dallas Co. Criminal Courts Building)
- Buell Wesley Frazier (on the steps in front of the Texas School Book Depository)

Witnesses pointing to a later first shot

not cited by Posner:

- Secret Service Agent Roy Kellerman—right after we passed the Stemmons sign (riding shotgun in the President's limousine)
- Mrs. Billie Clay—a few seconds after the car passed (10 ft. in front of the Stemmons sign)
- Mayor Earle Cabell—just as we turned the corner (riding 5 cars back in the motorcade)
- Chism—just in front of me (right in front of the sign)
- Governor Connally—150-200 ft. after the turn (in jump seat in front of President and Mrs. Kennedy)

CASE STILL OPEN

Skepticism and the Assassination of JFK

By Arthur and Margaret Snyder

ON NOVEMBER 22, 1963, PRESIDENT JOHN F. KENNEDY was assassinated in Dallas, Texas. The FBI investigation of the assassination was bungled. The autopsy was bungled. The Warren Commission appointed by President Johnson to investigate the murder was misdirected by the FBI, which reported to the Commission only evidence supporting Director Hoover's preconceived theory of the case. Warren Commission staff systematically selected witnesses that supported the comfortable lone assassin theory. As a result, the 1964 *Warren Report* was bungled.

The Warren Commission concluded that Lee Harvey Oswald, acting alone, killed the President. Gerald Posner, in his 1993 book *Case Closed*, vigorously defends the Commission's conclusion and attempts to discredit Commission critics. Although he admits the Warren Commission's investigation was flawed (see his chapter 17), he contends that it came to the correct conclusion.

Some skeptics take Posner seriously. Nick Gerlich (1997) characterizes *Case Closed* as the "definitive Oswald-did-it book," and SKEPTIC editor Michael Shermer (1997) in his article "The Belief Module" writes, "...the evidence, as presented by Gerald Posner in his 1993 book *Case Closed*, supports the theory that Oswald did the job all by himself." The mainstream media were also impressed. The cover of *The U.S. News and World Report* special issue with excerpts from *Case Closed* reads: "After 30 years of conspiracy theories, a brilliant new book finally proves who killed Kennedy" (1993).

Case Closed is convincing. The evidence as presented fits the theory, contrary evidence is debunked, and critics are made to look like fools or charlatans. However, a critical reading shows that the evidence has been cut-to-fit. The case is far from closed.

The primary thrust of this article will be to examine the evidence as presented in *Case Closed* and to demonstrate that it is incomplete, distorted, and theory-driven. We will not propound a theory of the case, but it will become evident that the lone assassin scenario suffers from serious inconsistencies. However, before beginning this daunting task, we pause to examine the attitude skeptics should take toward conspiracy theories.

SKEPTICISM VS. CONSPIRACY THEORIES?

Recent articles in SKEPTIC and *Skeptical Inquirer* (e.g., Lier, 1996; Henry, 1995; Gerlich, 1997; Shermer, 1997) appear to lump the possibility of a conspiracy in the Kennedy assassination with

UFOs, dowsing, clairvoyance, and other extraordinary claims. Conspiracy "buffs" are portrayed as "nuts" or "true believers." Yet there is nothing extraordinary about conspiracies, many examples of which make it clear they can and do happen:

- John Wilkes Booth led a conspiracy that killed Abraham Lincoln, and attempted to kill Secretary of State Seward and Vice President Andrew Johnson. There is considerable evidence that Booth was an agent of the Confederate government, although he was acting without authorization in choosing to kill President Lincoln rather than kidnap him (Gaddy, 1997).
- The Dreyfus affair was a conspiracy by high ranking French army officers to frame Alfred Dreyfus for treason actually committed by Count Esterhazy (Snyder, 1973). While not an assassination, it shows how a widespread and enduring conspiracy can function without centrally directed planning.
- In 1950 Puerto Rican nationalists attempted to kill Harry Truman and succeeded in bombing the Capitol (Smith, 1998).
- Eight attempts were made on the life of Charles de Gaulle. The conspiracy by L'Organisation Armee Secret (OAS) involved elements of the French military services that opposed Algerian independence (Sifakis, 1991).
- The CIA was involved in the overthrow and the resulting murder of Chilean President Salvador Allende (Hersh, 1983, 264-296). They aided the French dissidents attempting to kill De Gaulle. The CIA conspired with the Mafia in numerous failed attempts to kill Castro (Church, 1976; Conover, 1997). A CIA hit on Dominican President Trujillo succeeded, but Congolese President Lumumba was killed by political enemies before CIA-sponsored assassins could get to him (Vankin, 1995, 11-15). See William Blum's 1986 book *The CIA: A Forgotten History* for details of these and other CIA plots.

Both conspiracies and "lone nuts" are common in the history of political assassinations. Leon Czolgosz killed McKinley. Charles Guiteau killed Garfield. They acted alone with at most imagined support. The only way to tell conspiracies from the actions of such "lone nuts" is to look at the evidence in each case.

Perhaps skeptics regard it as irrational to mistrust our Government's official conclusions. The Warren Commission "looked" at the evidence and concluded that Lee Harvey Oswald acting alone killed President Kennedy. Could it be they were not telling the truth? Or that they might not have been told the truth?

Government lying is not extraordinary. Ours has lied on numerous well-documented occasions, including the U2 incident, the Bay of Pigs invasion, the Gulf of Tonkin incident, the secret invasions of Cambodia and Laos, Watergate, and Iran-Contra. The FBI in "the most exhaustive investigation since the assassination of JFK" concluded that the Nixon White House was innocent of Watergate wrongdoing (Emery, 1994, 217).

Government deception is common. It has happened throughout history, and it occurred in the JFK assassination investigation. Within hours of Oswald's arrest, FBI Director J. Edgar Hoover decided that Oswald alone committed the crime (HSCA Report, 128 and 244). The FBI rank-and-file proved eager to demonstrate that their prescient boss was right. FBI Agent James Hosty, who had received a note allegedly from Oswald 10 days before the assassination, destroyed it following orders from the Dallas Special Agent in Charge Gordon Shanklin. Hosty characterized it as an "angry note telling me to knock it off and stop harassing his [Oswald's] wife" (Hosty, 1996, 27). Nannie Lee Fenner, the receptionist who accepted the note and later identified Oswald as the man who brought it in, claimed it said "Let this be a warning I will blow up the FBI or the Dallas police if you do not stop bothering my wife" (HSCA, Vol. 11, 278). Whatever its content, its existence was withheld from the Warren Commission, and Hosty's name, address, and phone number were omitted from the list prepared for the Commission from Oswald's address book (Hurt, 1985).

Another example can be seen in two FBI memos dated November 30, 1963, reporting on the FBI laboratory's analysis of the paper bag that allegedly hid Oswald's rifle as he brought it into the book depository: one given to the Commission and cited in their report links it to paper Oswald had access to at the depository; the other, which surfaced 16 years later, in nearly identical wording, denies there was a link (Hurt, 1985, 251). FBI agents pressured Nelson Delgado (a Marine comrade of Oswald's) and many others to change their stories to support Hoover's theory (Warren, Vol. VIII, 228).

The following exchange from declassified minutes of a Commission meeting (North, 1991, 515) illustrates that the Commission was not oblivious to the problem:

McCloy: ... the time has come—is almost overdue—for us to have a better perspective of the FBI investigation than we now have.... We are so dependent on them for our facts...

Rankin: Part of our difficulty in regard to it is that they have no problem. They have decided that no one else is involved...

Russell: They have tried the case and reached a verdict on every aspect.

Boggs: You have put your finger on it.

The *Warren Report* made no mention of these difficulties. Instead it proclaimed: "Because of the diligence, cooperation, and facilities of Federal investigative agencies, it was unnecessary for the Commission to employ investigators other than the members of the Commission's legal staff."

Should conspiracy be rejected simply because a lone assassin provides a simpler explanation? We refer to this argument as *Ritual Occam's Razor Abuse*: Occam's razor is elevated to an absolute preference for simplicity, a rule of "reasoning"—"of two theories choose the simplest"—(Henry, 1994), instead of the rule of thumb "Entities should not be multiplied more than necessary" (Occam, 1300). If there is evidence for them, multiplying entities may be necessary.

If history is to be a science (Shermer, 1996), a conspiracy theory needs to be judged on the same basis as any other theory. Is it testable? Does it explain anything in a concrete, meaningful way? On this basis some theories can be rejected out of hand; for example, the numerological fantasies of Rev. Farrakhan (Brackman, 1996). More rational theories need to be investigated. They should be judged on the evidence.

Case Closed is considered to be the definitive work on the JFK assassination by both skeptics and the mainstream media. But the distortions and blunders in *Case Closed* are numerous and have been documented by a number of authors. See, for example, Harold Weisberg's 1994 book *Case Open*, as well as articles by Gary Aguilar, Martin Shackelford, Peter Dale Scott, Milicent Cranor, Jerry Rose, James Folliard, M. M. Dworetzky, Barb Junkkarinen, Wallace Milam and David Starks published in various journals (see the bibliography, but most can be found on the Web from <http://home.cynet.net/jfk/issue1.htm>). For this article we have relied on the above works as well as the advice, observations and ideas of Gary Aguilar, Milicent Cranor, Paul Hoch, Joe Riley, Martin Shackelford and Stuart Wexler. To demonstrate that *Case Closed* fails to close the case we will dissect a few critical examples of Posner's approach to the evidence.

THE HEAD SNAP

The head snap refers to the backward motion of President Kennedy's head seen in the Zapruder film. As Posner puts it: "But if the President was struck in the head by a bullet fired from the rear, then why does he jerk so violently backward on the Zapruder film which recorded the assassination? To most people, the rapid backward movement at the moment of the shot means the President was struck from the front." Posner begins by trying to dismiss the significance of the head snap with a quote from respected forensic pathologist Dr. Michael Baden: "People have no conception of how real life works with bullet wounds. It's not like Hollywood, where someone gets shot and falls over backwards." Dr. Baden is right about people, but heads are more than an order of magnitude lighter than a person. The velocity imparted to a head by a stopping bullet is given by conservation of momentum:

$$V_{head} = V_{bullet} (M_{bullet} / M_{head})$$

where V is velocity and M is mass. For a 10 gm bullet moving at 550 meter/sec hitting a 5 Kg head this is ~1 meter/sec; or

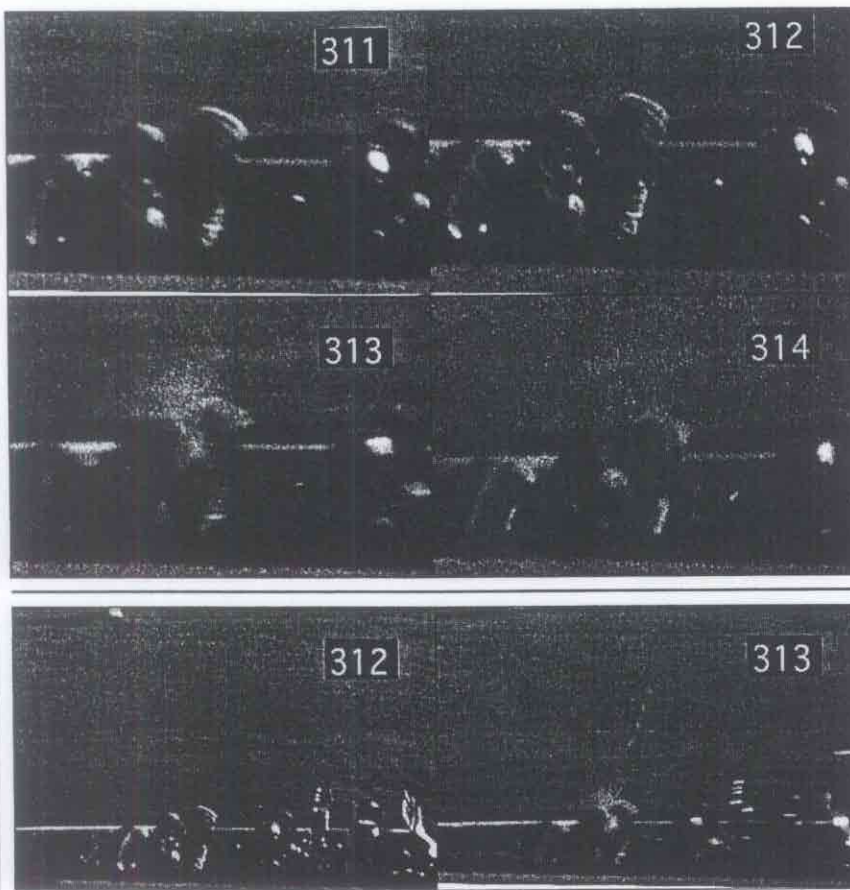


FIGURE 1a
Frames Z311-Z314, closeup
The fatal shot sequence. There appears to be a forward movement of Kennedy's head between frames Z312 and Z313 as measured by the patch of chrome behind his head which appears to increase in length in from frame Z312 to Z313.

FIGURE 1b
Frames Z312-Z313 (below)
A wider view of the same fatal shot sequence. While the increase in size of the patch of chrome in frame Z313 creates the appearance of a forward movement of Kennedy's head between Z312 and Z313, the increase is an artifact of blurring. Compare the highlights on other places on the car and you will see that they too have "grown" due to blurring by the same amount as the bright patch that has been used to measure the position of Kennedy's head. The actual forward movement must be measured by comparing Z312 to Z314, rather than the blurry Z313.

to put it another way ~2.4 inches per Zapruder frame.

Having used Dr. Baden to dismiss the possibility that a bullet strike could cause head motion, Posner twists around and in the next paragraph notes that Itek Corporation, using a "computer enhancement" (Itek, 1975), discovered that JFK "first jerked forward 2.3 inches before starting his rapid movement backward." Itek did not "discover" this forward motion. Caltech physicist Richard Feynman noticed it in 1966 when David Lifton showed him the Zapruder frames published in *Life* (Lifton, 1980, 48). Warren critic Josiah Thompson published measurements made on black and white copies in his 1967 book *Six Seconds in Dallas* (Thompson, 1967, 90).

The measurements of Itek and Thompson are almost inconsistent with a shot from a Mannlicher-Carcano. The motion is so large that nearly all the momentum of the bullet is needed to account for it. However, quantitatively Thompson and Itek were mistaken. The apparent motion between Zapruder frames Z312 and Z313 (see FIGURE 1a, frames 311-314) is an artifact of the blurring of frame Z313 (Snyder, 1997). This is not to say that JFK's head did not move forward between frames Z312 and Z313, but that the Z313 blur obscures the motion so that it cannot be measured using these

frames. The actual forward motion (~0.3 meter/sec) can be estimated by comparing Z312 to Z314. It is about 1/3 the value obtained using the Itek or Thompson measurements—consistent with a Carcano bullet imparting ~1/3 its momentum and ~1/2 its energy.

What is the purpose of Posner's dance around the forward motion? He trots out Dr. Baden to deny that the direction of motion tells us anything, then uses the observed forward motion to verify a shot from the rear. None of this explains why the head went backwards ~100 msec later.

An explanation for the backward motion was proposed by Nobel laureate Luis Alvarez, in his 1976 article in the *American Journal of Physics*. Posner's description of Alvarez's work is ludicrous:

"Dubbed the 'jet effect,' Alvarez established it both through physical experiments that recreated the head shot and extensive laboratory calculations. He found that when the brain and blood tissue exploded out of JFK's head, they carried more momentum than was brought in by the bullet. That caused the head to be thrust backward—in an opposite direction—as a rocket does when its jet fuel is ejected.

The "recreation" of the head shot consisted of shooting 2-3 pound melons wrapped in strapping tape with the wrong gun (30.06) and the wrong ammunition (hunting instead of jacketed military ammunition). The "extensive laboratory calculations" consisted of a "back of the envelope" calculation Alvarez did in his hotel room at the 1969 meeting of the American Physical Society in St. Louis (Alvarez, 1976, 819). The calculation demonstrates that the jet-effect is kinematically allowed. It does not establish that ejected material "carried more momentum than was brought in by the bullet," but only that this is possible.

The possibility of the jet-effect arises from the relationship between kinetic energy and momentum:

$$P = \sqrt{2ME}$$

Where P is momentum, M is mass and E is kinetic energy. If a large enough mass is ejected it can carry more momentum than the incoming bullet deposits using only a fraction of the bullet's energy. For example if 0.2 Kg of material were expelled carrying 10% of the bullet's energy it would carry 7.8 Kg-m/sec of momentum—enough to overcome the maximum possible momentum a Carcano bullet can deposit (6 Kg-m/sec). Kinematics allows jet-effect to occur but only the detailed interaction of the bullet with the target determines if it actually occurs under a given set of circumstances.

Alvarez's melon shooting experiment demonstrated that there are circumstances under which the jet-effect occurs. Dr. J.K. Lattimer (1980) did experiments using the correct rifle and ammunition. Lattimer claimed his targets—whether skulls or melons—"always" went backwards. Edgewood Arsenal did experiments on skulls (Edgewood, 1964; HSCA, Vol. 1, 404). All skulls shot by Edgewood moved away from the shooter.

Posner makes the situation with regard to the jet-effect seem neat, straightforward, and scientifically well established when it actually is messy and confused.

Since the publication of *Case Closed* there have been new experiments by Dr. Doug DeSalles and Dick Hobbs (DeSalles and Hobbs, 1994) and by us (Snyder, 1996). DeSalles and Hobbs shot tape-wrapped melons using a Carcano rifle and jacketed ammunition. In 11 shots they saw no jet-effect. In 1996 we undertook to resolve the apparent discrepancy. We shot a variety of melons with two different guns (30.06 and Carcano) and both jacketed and soft-nosed hunting ammunition. The results were surprisingly simple: *Hunting bullets produced a jet-effect. Jacketed bullets did not produce a jet-effect.*

This confirms Alvarez's results using hunting ammunition. Lattimer's results on melons appear to be inconsistent with our experiments and those of DeSalles and Hobbs.

From these results one might conclude that the jet-effect cannot explain the head snap. However, a melon is not a head. In our next experiment we will attempt to ascertain if the presence of a hard skull-like material around the target melon can cause a

jacketed bullet to fragment and act like a hunting bullet.

At this point in time the jet-effect issue is not resolved. In his explanation of the head snap Posner employs, in addition to the jet-effect, a so-called "neuromuscular spasm." His full explanation might be described as jet-assisted neuromuscular spasm. Posner writes, "First, when the bullet destroyed the President's cortex, it caused a neuromuscular spasm, which sent a massive discharge of neurologic impulses from the injured brain down the spine to every muscle in the body."

The authority for this statement is the House Special Committee on Assassinations forensic pathology panel. The HSCA is not as definite as Posner: "The panel further recognizes the possibility of the body stiffening, with an upward and backward lunge, which might have resulted from a massive downward rush of neurologic stimuli to all efferent nerves" (HSCA, 1974, 174-175).

The HSCA also suggested that "decerebrate rigidity" or DR as described by Sherrington (1898) "could contribute to the President's backward motion." No practicing neurologist or neuro-scientist testified that DR or a "massive downward rush of neurologic stimuli" could explain the head snap. DR is due to the absence of nerve signals that keep opposed muscles in equilibrium rather than "a massive discharge of neurologic impulses." Since JFK is positioned facing to the left at the moment of the fatal shot, any "upward and backward lunge" whatever its cause would have pushed JFK to the right, not the left.

The HSCA also noticed that "such decerebrate rigidity as Sherrington described usually does not commence for several minutes after separation of the upper brain centers from the brain stem and spinal cord," but included DR in their stew of possibilities anyway (HSCA, Vol. 7, 174). Again Posner has it wrong. Again he portrays a confusing and difficult subject as if it was simple and well understood.

The other obvious explanation for the backward motion of JFK's head—a shot from the front—is problematic too. A shot from the grassy knoll should have left an exit wound in the left rear. There was none. A frangible bullet that stopped without exiting either should have deposited more fragments than are visible in the extant X-rays or it would have had to have been made of an exotic material such as glycerin ice (McCarthy, 1992). However, fragments could have been expelled during the assassination or removed before the X-rays were taken. A shot that skipped along the right edge of JFK's head has to come from a very forward position, but might have deflected to JFK's right, accounting for the leftward movement starting in Z315. This would, however, conflict with the majority of witnesses, who placed a shot on the grassy knoll (Thompson, 1967, 244). While none of the proposed scenarios are satisfactory, a frontal shot cannot be ruled out either. At this point, it is no more implausible than neuromuscular spasm. The jet-effect may soon be ruled out. *Case Closed* presents oversimplified explanations of the head snap that are just plain wrong.

THE FIRST SHOT

The timing of the first shot and whether it hit or missed has long been a matter of controversy. The Warren Commission placed it ~6 seconds before the fatal head shot. Posner moves it two seconds earlier thereby giving Oswald more time to fire three shots. Even in the 8 seconds Posner provides, firing three shots, re-acquiring the target and aiming twice through the limited field-of-view (18°) of the misaligned 4x scope would not have been easy. The scope was so badly aligned that shims had to be put in to make testing possible (Warren, Vol. 3, 443). Thus, it is not a question of the scope just being knocked out of whack by post-assassination handling. It is more reasonable to suppose Oswald used the iron sights, but even this would not have been easy for someone with Oswald's modest attainments as a marksman. Only highly skilled marksmen in test situations have been able to accomplish this feat in the Warren Commission's six seconds.

Posner selects ear-witnesses who suggest a shot near frame Z160. He paraphrases them, one after another, describing how the first shot occurred "just" after the limousine turned the corner onto Elm. Other witnesses place the shot later. Posner does not mention them.

Among his just-after-the-turn witnesses, Posner contrives to make their testimony seem more definite than it was. Two of his selected witnesses were not very close. Royce Skelton was way down by the triple underpass at the far end of Dealey Plaza (see the map on page 50). Barbara Rowland was with her husband near the corner of Houston and Main. Mr. Rowland testified before the Warren Commission as follows: "The then the [sic] motorcade turned on Elm and was obscured from our vision by the crowd, and we were discussing Mrs. Kennedy's clothes at that time. My wife likes clothes." Mrs. Rowland said "...as they turned the corner I heard a shot..." She was not in a good location to see how far down Elm the car had progressed.

Posner's other selected witnesses are in reasonable locations to determine the time of the shot. For example, Wesley Frazier was on the steps of the School Book Depository building. He recalled, "Well, I say, just right after he went by he hadn't hardly got by, I heard a sound and if you have ever been around motorcycles you know how they backfire, and so I thought one of them motorcycles backfired because right before his car came down, now there were several of these motorcycle policemen, and they took off down toward the underpass down there..." This supports Posner's thesis of an early shot even though Frazier thought the sound came from down the street instead of the 6th floor window directly overhead.

Here are a few witnesses Posner fails to call:

Secret Service Agent Roy Kellerman, who was riding shotgun in the front seat of JFK's limousine: "As we turned off Houston onto Elm and made the short little dip to the left going down grade, as I said, we were away from the buildings, and were—there was a sign

on one side of the road which I don't recall what it was or what it said, but we no more than passed that and you are out in the open, and there is a report like a firecracker, pop."

Mrs. Billie P. Clay, who was standing about 10 feet up the street from the Stemmons Freeway sign, which obscures JFK in the Zapruder film from frames Z200 to Z224: "Just a few seconds after the car in which President John F. Kennedy was riding passed the location where I was standing, I heard a shot."

John Chism, who was standing immediately in front of the Stemmons freeway sign: "And just as he got just about in front of me, he turned and waved at the crowd on this side of the street, the right side; at this point I heard what sounded like one shot."

Dallas Mayor Earle Cabell was five cars back from the presidential limousine. As his car turned the corner, the presidential car was approaching the Stemmons sign: "We were just rounding the corner of Market [sic] and Elm, making the left turn, when the first shot rang out."

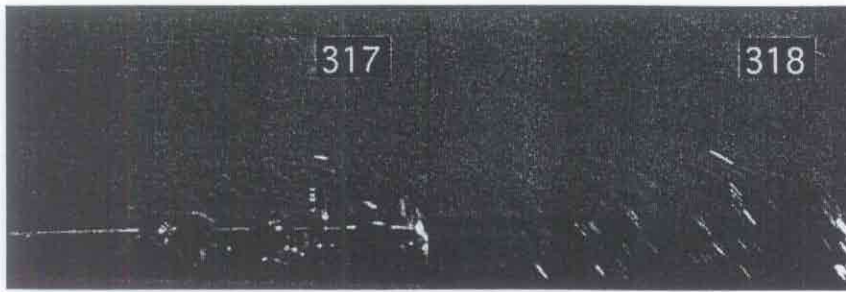
Thompson, in *Six Seconds in Dallas*, cites the testimony of 12 witnesses (a few of which we have reproduced above) that point to the first shot occurring as the car approaches the Stemmons sign (Thompson, 1967, 32). Posner mentions only one of the 12—Texas Governor John Connally. Connally's testimony is distorted by leaving out his estimate of the distance they had traveled down Elm (150 to 200 feet) when he heard the first shot.

Witnesses do sometimes contradict each other. Posner selects witnesses and trims their testimony to support his version of events.

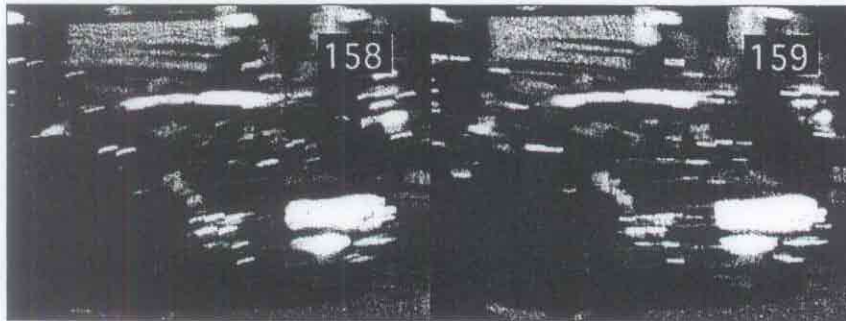
The keystone of Posner's time shift is the behavior of Rosemary Willis in Z160-Z190. He describes Rosemary's run as follows:

New Zapruder enhancements, however, confirm the ear-witness testimony that an early shot missed the President and the Governor. Beginning in frame 160, a young girl in a red skirt and white top who was running along the left side of the President's car, began turning to her right. By frame 187 less than 1.5 seconds later, the enhancement clearly shows she had stopped, twisted completely away from the motorcade, and was staring back at the School Book Depository.

You do not need "new Zapruder enhancements" to see Rosemary running, stopping and turning. Posner uses the so-called "new Zapruder enhancements" of Dr. Michael West. Martin Shackelford (1998) notes that West's "enhancements" are only simple enlargements with circles for emphasis made for Dr. West by news photographer Johann Rush. They are not "computer enhancements" as stated on page 317 of *Case Closed*. David Lui, at the time a 15-year-old high school student, spotted Rosemary in a bootleg copy of the Zapruder film in 1979. You do not need "enhancements" to see that she did not begin to slow and turn in at Z160. She continued running and glancing at the President's limousine until about Z180. By Z187 she was looking back in the direction of the School Book Depository. Her father, Phil Willis, was also standing back there. Nobody else in the



**FIGURE 2—
Frames Z317-Z318**
A Comparison of these two frames shows the rapid angular acceleration of the camera as Zapruder reacts to the Z313 shot.



**FIGURE 3—
Frames Z158-Z159**
Are these jiggles an indication of an "early shot"?



**FIGURE 4—
Frames Z223-Z224**
The lapel flip—an indication that Connally has just been wounded, or just the wind?

crowd turns to look back at Willis or the Book Depository.

Posner notes that when Rosemary was asked "why she had stopped running with the President's car, she said 'I stopped when I heard the shot.'" The question was asked by David Lui for his article "The Little Girl Must have Heard" which was syndicated by the *Los Angeles Times* (Weisberg, 1994, 25-30). It would not have made a very interesting story if all the little girl had heard was her father yelling at her to stop. Posner grants that, "Some believe the girl's reaction was because her father, Phil Willis, standing only 10 feet away told her to stop and come back to him." In a footnote he acknowledges that Willis himself is one of the "some" who believe he called out for her to stop. He trots out the "enhanced Zapruder film" to debunk Willis, claiming that Willis was taking pictures when Rosemary turned. In fact, as is easily seen in any half reasonable copy of the film, Willis does not have the camera "in front of his face" for the entire Z160-Z190 interval. At about Z187 he is raising it to his eye again, but if Rosemary was responding to his command rather than a shot, he would have had to yell out well before Z187.

The picture Willis was about to take is very interesting. Willis testified to the Warren Commission in 1964 that "the shot caused me to squeeze the camera shutter, and I got a picture as the President was hit with the first shot." Analysis undertaken for the HSCA (HSCA, 1979, Vol. 15, 695-697) later determined that this picture was taken at Zapruder frame 202. This contradicts Rosemary's statement to David Lui 16 years later. It places the first shot during the period when the view of the President from the sixth floor "sniper's nest" was obscured (though not completely) by a Texas live oak.

Posner uses "jiggle analysis" proposed by Luis Alvarez in the same paper where he develops the idea of the jet-effect (Alvarez, 1976) to provide "additional evidence of the moment of the first shot." Jiggle analysis seeks to identify times when shots could have occurred by looking for frames where the Zapruder film is blurred either because he was startled by a shot or because the shock wave produced by a bullet directly affected the camera. Posner recognizes "a jiggle...could be caused by many other factors."

Blurs are common. There are a large number in frames

Z1-Z132 (before the President's limousine appears) that nobody attributes to shots. Posner says: "The largest spastic movement by Zapruder came at frames Z313-Z314, the moment of the head shot." Z313 is blurry but far from the blurriest frame in the film. To attribute the blurring of Z313 to a spastic response by Zapruder is absurd. He could not have responded so fast. Alvarez attributed the blurring of Z313 to the shock wave produced by the bullet which would have hit Zapruder's camera at almost the same time the bullet hit JFK. Alvarez interpreted the very blurry frames Z318-319 (FIGURE 2) as Zapruder flinching in response to the shot and used them to calibrate Zapruder's response time at about 5 frames. Z158 and Z159 are also very blurry. Like Z318, Z158 shows a large increase in the blurring compared to the previous frame indicating a rapid acceleration of the camera. Z158-159 (FIGURE 3) are consistent with an early shot at about Z153, but they are not positive evidence of

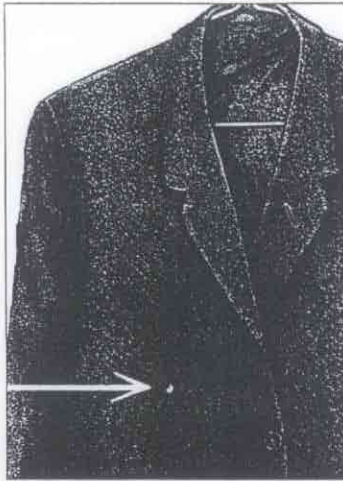


FIGURE 5: Governor Connally's coat. An arrow points to the location of the back-lit bullet hole.

such a shot. It might just have been a random jiggle. There are also jiggles consistent with the time implied by Phil Willis' picture and testimony.

Posner selects his witnesses and distorts what they said. Two were too far away to be able to make a reliable estimate. He ignores witnesses that do not support his thesis. At best, jiggle analysis is consistent with an early shot. Other than Rosemary Willis there is no response from the crowd or security personnel. Critically examined, Posner's case for an early shot is unconvincing.

THE SINGLE BULLET THEORY

The single bullet theory (SBT) refers to the hypothesis that a single bullet caused JFK's back and neck wounds and all of Governor Connally's five wounds. Without the SBT Oswald could not have fired all the shots.

Posner does not follow the Warren Commission's version of the SBT, which is untenable and was not accepted by three of the commissioners. Instead he appropriates the version developed by Robert Piziali and the team of experts he led for the prosecution at the American Bar Association mock trial of Oswald at their 1992 convention in San Francisco. Dr. Piziali and his team were supplied to the ABA by Failure Analysis Associates (FAA), a company that specializes in the application of technical expertise to legal problems. Posner fails to mention that FAA also supplied experts (led by CEO Roger McCarthy) for the defense side (McCarthy, 1995). Nor does he let his readers know that the jury, which heard both sides, could not agree on a verdict.

Posner uses the motion of Governor Connally's lapel between

frame Z223 and Z224 (FIGURE 4), noted by Jeff Lotz of Failure Analysis in his computer enhancement, to establish the time of the SBT shot. A computer enhancement is not needed to see the lapel

flip. It could just have been caused by the wind, which had nearly blown off Jackie Kennedy's hat a few minutes earlier, but Posner writes: "...this jacket movement may be one of the most important timing confirmations in the case, as it establishes the moment when the bullet hit him. The movement of the jacket took place at the exact area where the Governor's suit and shirt have a bullet hole, as the missile passed through his right shoulder blade and out under his right nipple." FIGURE 5 shows a drawing of Connally's suit back-lighted to show the bullet hole (Grodin, 1997). The hole is nowhere near the lapel.

Posner attempts to strengthen his case for a Z224 shot using what is one of the strongest pieces of evidence that Governor Connally's wrist was not hit then: "A film enhancement, done by Dr. Michael West, shows the Governor's light-colored Stetson hat, which he was holding in his right hand, near his chest start to rise. It flipped quickly up during frames Z227 and Z228 and then at Z229 it started coming rapidly down, and by the next frame it was at its original position."

Dr. West, a forensic dentist not a neurologist, is said to have called this "positive proof" of "a neurological reaction to physical trauma." Connally was not hit in the nervous system. Dr. West is one of Posner's favorite authorities, but he is not highly respected in the forensic science community. Mark Hansen (1996, 50), in an article that appeared in the *ABA Journal* notes: "The American Academy of Forensic Sciences ethics committee recommended that West be expelled for allegedly failing to meet professional standards of research, misrepresenting data to support a general acceptance of his techniques, and offering opinions that exceed a reasonable degree of scientific certainty." West was suspended in 1994 by the American Board of Forensic Odontology because he "had misrepresented evidence and testified outside his field of expertise." Dr. Charles Gregory, who operated on the wrist, testified (Warren, Vol. 4, 124), "[the] dorsal branch of the radial nerve, a sensory nerve in this immediate vicinity was partially transected together with one tendon leading to the thumb, which was totally transected." The rest of Connally visible in the film is unperturbed.

That Connally could have held onto his hat as his wrist was shattered and a tendon controlling the thumb was severed is not credible. The impact alone would have been enough to make him drop the hat. Under Posner's scenario, a 10g bullet lost 500 feet per second passing through the Governor's wrist (Posner, 478). This impact would have sent his wrist and hand flying at a velocity of ~5

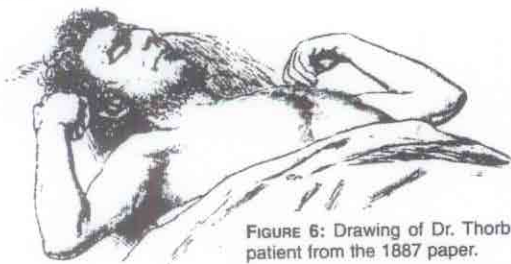


FIGURE 6: Drawing of Dr. Thorburn's patient from the 1887 paper.

feet per second—downward and to the right, rotating around his elbow. It would not have caused his hat to flip up. The hat would have been ripped from his hand.

In a footnote Posner again calls on Dr. Baden to say, "If he doesn't drop the hat, it doesn't mean a thing" and that it is a "moot point" since "...the Zapruder film never shows him dropping the hat." Note how artfully Posner words the latter quote (his paraphrase of Baden). True, the film "never shows him dropping the hat," but he was out of sight behind the Stemmons sign before frame Z223 and his hand and hat disappeared from view as Zapruder fails to track the limousine's downward motion between frames Z280 and Z310.

Even with a severed tendon the Governor might have been able to hold his hat or even pick it up, but he could not have held onto it under the impact of the bullet. If his wrist had been hit while it was in sight we would be able to see its motion (~3 inches per frame). The film never shows him dropping his hat or his wrist flying off. The wrist must have been hit off camera.

Posner, despite his faith in jiggle analysis in his brief for an early first shot, does not mention it in his SBT discussion. Perhaps this is because there is no jiggle to confirm his shot at Z224, Z227 and Z229 are somewhat blurred but nothing like the major reaction to the head shot in frame Z318.

It seems apparent to us that JFK was already reacting to a hit in Z225. This would have been impossible if he had just been hit at Z224, but since he is hidden by the Stemmons sign before Z225, it is not possible to be sure he is reacting. His posture seems odd and his arms and shoulders are starting to take on the splayed out position with his fist rising to his neck that is fully formed a few frames later. By Z226 he is clearly reacting.

Posner deals with JFK's rapid reaction by elevating the "Thorburn position"—promoted by urologist J.K. Lattimer as the reason JFK raised his fist in front of his face—to the status of a "neurological reflex" (Lattimer, 1980). Posner writes, "A spinal injury at the level of C-6 [sixth cervical vertebrae] is significant because it can cause an instantaneous reaction called 'Thorburn's position.'" Posner does not reference Thorburn directly but relies on Lattimer. Milicent Cranor has read Thorburn's original 1887 paper (Cranor, 1998; Thorburn, 1887). Dr. Thorburn did not see his patient until four days after the accident that injured his spine at C6. The patient's arms had already taken the awkward position shown in FIGURE 6, since called the Thorburn position. It is a specific indicator of damage at C6. Compare the position of JFK's arms in Z247 (FIGURE 7) with the position of Dr. Thorburn's patient. JFK's arms were not in Thorburn position.

Posner attempts—again—to use West's "enhanced" Zapruder film to support his muddled scenario:

Moreover, once C-6 is damaged, the arms would have remained locked in the raised position indefinitely... In the nearly five seconds that elapsed between the neck and the head wound, Mrs. Kennedy leaned over toward him to see what had happened. At one point, she grabbed his raised left arm with her right hand and tried to push it down. It stayed up. Then she reached with both hands and tried again to push it down, but the film clearly records his resistance. His arm did not lower.

That Mrs. Kennedy touched JFK's left arm during this period of time is clear on the Zapruder film. For example see Z247 in FIGURE 7. In motion it looks like she might be pushing. No "enhancement" is needed. A few frames later she reached over with her left arm and touched his left arm from below (Z256—not shown). If anything it looks like she might be pulling it. While his left arm remains up, his right arm comes down. Mrs. Kennedy is not pushing on his right arm. It is not "locked in the raised position indefinitely" (Z256 again). If Mrs. Kennedy is pushing or pulling on his left arm she succeeds in lowering it. By Z-275 both of JFK's arms are no longer "locked" in so called "Thorburn position."

While "computer enhancements" are not needed to see what's going on in the Zapruder film, color and motion help. Some of the

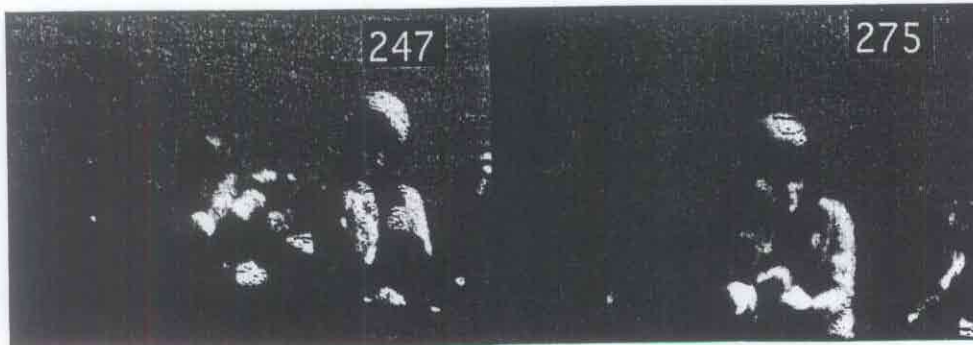


FIGURE 7—
Frame Z247—
JFK reacts to the first shot and Mrs. Kennedy reaches across to touch his left arm.
Frame Z-275—
Both arms are no longer "locked" in the so-called "Thorburn position."

effects described are hard to see on the black and white stills available with this article. Also, Rosemary's run, Mrs. Kennedy "pushing" on JFK's arm, and the fate of Connally's hat are difficult to follow in stills and, in any case, far more frames would be needed than can be reproduced here. The new videotape and DVD from MPI Home Video provide excellent color versions, but the old CD-ROM from Macmillan Digital is good enough.

To explain the delay in Governor Connally's response compared to JFK's, Posner uses Dr. Charles Gregory. Gregory is the only expert he has to explain this remarkably long delay. Let us line-by-line deconstruct Posner's treatment of this issue (Posner, 1993, 331). Posner begins: "At frames Z235-Z236, Connally's mouth opened wide, and by frame Z238 his cheeks puffed out and he turned sharply down and to the right." This is an accurate description of what happens to Connally in these frames.

Posner: "According to Dr. Charles Gregory, one of the surgeons who attended Connally at Parkland, when the bullet passed through the Governor, it compressed his chest wall, and the epiglottis involuntarily opened, forcing air out of his mouth." Dr. Gregory was the orthopedic surgeon who operated on Connally's wrist. Chest wounds or their effects were not his area of expertise.

Posner: "Dr. Gregory estimated that such an expulsion of air could come up to half a second after the bullet struck" Dr. Gregory estimated "on the order of 1/4 to 1/2 second" (Thompson, 1967). Posner's statement is consistent with this, but he phrases it to emphasize the 1/2 second he needs for his scenario. Posner: "Dr. Gregory had not seen the Zapruder film when he testified, instead basing his opinion on his medical expertise." The reference for Dr. Gregory is to page 89 of Josiah Thompson's *Six Seconds in Dallas*. (The page number is wrong. The correct page is 71.) Thompson is not referring to testimony by Dr. Gregory before the Warren Commission or anywhere else, but to Thompson's November 1966 interview with Gregory in a Dallas hotel room. We have spoken to Thompson (1998) about the interview. He points out that it was not an even formal interview much less testimony. No recording was made. No oaths were taken. Thompson and some *Life* magazine staffers met with Dr. Gregory in one of their hotel rooms. They showed him stills from the Zapruder film. It is not true that he had not previously seen the Zapruder film. In his Warren Commission testimony he refers to the film and indicated that in frames Z234-Z236 Con-

nally was in position to have incurred the wounds he suffered.

Posner continues: "His [Gregory's] estimate, when applied to the Zapruder film, would indicate that Connally was shot near frame 226." By a verbal slight of hand typical of Posner's approach to inconvenient facts, Gregory's informal upper limit has been transmuted into an estimate. Z226 is actually outside Gregory's range. We can hardly claim that Josiah Thompson's memory of Gregory's informal opinion excludes frame Z226, but it does not "indicate that Connally was shot near frame 226" either. When he testified before the Warren Commission, Dr. Gregory said: "I am not persuaded that this [SBT] is very probable" (Warren, 1964, Vol.

IV, 127).

The heart of the SBT is the bullet's trajectory. Failure Analysis constructed a trajectory "utilizing the information on the wounds" and their determination of the position of the two victims and the car at frame Z225. The positions of JFK's wounds are not as unambiguously established as Posner intimates.

For the back wound they relied on the results of the autopsy which Dr. Baden (1989, 5) has described as follows: "Where bungled autopsies are concerned, President Kennedy's is the exemplar... From the beginning it was surrounded with confusion and secrecy and papered over with an enormous concern for appear-

ances." The New York State Medical Examiner at the time of the autopsy, Dr. Milton Helpert, commented as follows (Houts, 1967, 55): "The tragic, tragic thing is that a relatively simple case was horribly snarled up from the very beginning; and then the errors were compounded at almost every other step along the way."

FIGURE 8 shows one of the two surviving photographs of JFK's back taken during the autopsy. The autopsy surgeons identify the uppermost blemish as a bullet wound. They measured it to be 14 cm below the mastoid process, an odd and unreliable reference point. They probed it with a finger and with a wire. They failed to dissect the path of the bullet as they should have (Wilber, 1978). Probing the wound does not definitively establish the bullet's track.

FIGURE 9 shows that the holes in JFK's clothing are not consistent with the autopsy position for the back entry wound. The hole in JFK's suit coat was 5 3/8 inches below the top of the collar and 1 3/4 inches to right of the midline. The hole in his shirt was 5 3/4 inches below the collar and 1 7/8 inches to the right. Posner treats this problem in a footnote on page 305:

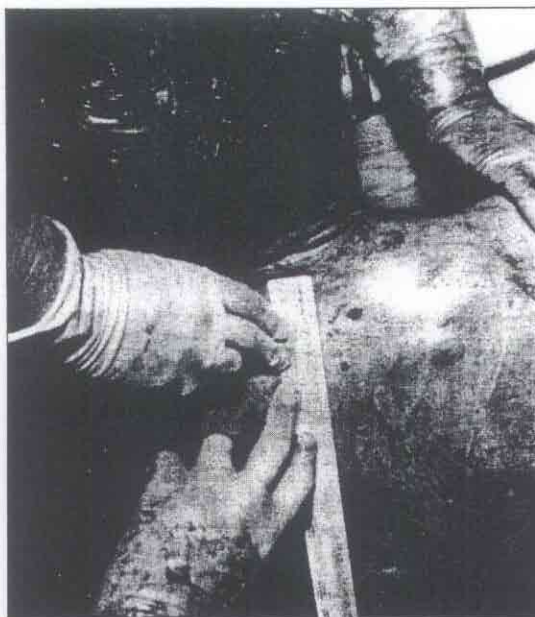


FIGURE 8: One of two surviving autopsy photos of the back wound.

There is also some question as to why the location of the entry wound at the rear base of the President's neck is several inches higher than is indicated by the bullet holes in his suit jacket and shirt. Photographs taken during the motorcade show the President's jacket was often bunched up and riding up his back as a result of his waving to the crowd. His back brace also pushed his clothing up. Therefore, measuring placement of the holes in the clothing is not an accurate means of determining precisely where the bullet entered the body.

One might call this the cheap suit theory (CST).

The jacket and shirt would have had to ride up ~4 inches to match the upper blemish. Since the holes in the shirt and jacket are nearly on top of one another, they would have had to ride straight up almost identical distances. At frame Z225 the President was not waving to the crowd, but was holding his arms in front of his chest.

His suit does not look bunched up. The picture taken earlier in the motorcade and offered by Lattimer (1980, 205), as evidence of the suit "riding up" does not show it bunched up anything like 4 inches. The back brace was a simple corset worn under his clothing around his waist (Warren, 1964, Vol. 2, 125). It would not have pushed his clothing

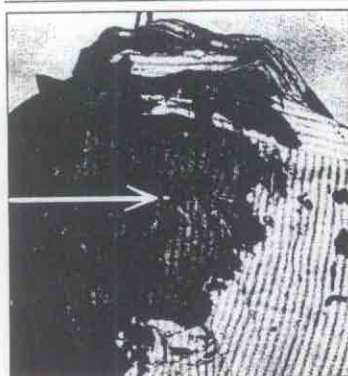


FIGURE 9: Pictures of the back of JFK's shirt and jacket showing where the bullet entered.

up. A close look at the Willis photo discussed above shows the shirt was not riding up ~1.2 sec earlier (Thompson, 1967, 223).

Posner is correct that the clothing holes are "not an accurate means of determining precisely where the bullet entered..." but it does not require much accuracy or precision to see that the clothing holes are inconsistent with an entry point ~4 inches higher. The size of entry wounds is too variable and the back photos are too cluttered to establish that there is no other candidate for an entrance wound. The situation in contrast to Posner's presentation of it is confused.

While accepting the autopsy position for the back wound, the FAA prosecution team and Posner reject the autopsy finding that the bullet entered JFK's skull "above and to the right of the external occipital protuberance (EOP)" (Warren, 1964, Autopsy Report, 543). All three pathologists marked the location of the entry wound on a skull within 1 cm of the EOP (HSCA, Vol. 7, 1976, 115). A bullet from the 6th floor of the depository that entered near the EOP would have exited through the face. JFK's face was not damaged. The HSCA moved the entrance wound ~4 inches higher out of the occipital bone and into the parietal. This choice of location gives a trajectory consistent with a shot from the 6th floor.

Posner claimed in 1993 testimony before the Legislation and

National Security Subcommittee of the House Committee on Government Operations that two of the pathologists—Drs. Humes and Boswell—admitted to him that they had changed their minds about the low entry point of the skull wound (LNSS, 1994). In recorded interviews with Dr. Gary Aguilar, both Humes and Boswell denied changing their minds on the wound location. Moreover, Dr. Boswell said he had never spoken with Posner (Aguilar, 1996, 1994). In 1995 testimony before the Assassination Records Review Board (ARRB), Humes and Boswell insisted that JFK's wound was low and in occipital bone. The ARRB asked Posner twice for the tapes of his Humes and Boswell interviews, but as of October 1998 when the ARRB closed down they had not received them (ARRB, 1998, Chapter 7).

Posner and the FAA prosecution team chose "the information

on the wounds" that gave the answers they wanted. They begged the question.

Dr. Baden estimated that the throat wound is anatomically ~10° higher than the back wound (HSCA, Vol. 1, 231, exhibit F-47). The FAA analysis Posner cites (which "achieved precision on the placement [of JFK and Connally] because it used a

sonic digitizer") claims the President's posture at Z225 was consistent with a shot from the 6th floor. A 6th floor shot would have had to slope downward at an angle of ~18°, so JFK would have to have been bent forward by ~28° to account for the upward trajectory. Elm Street slopes downward by ~3°, so JFK needed to be leaning forward at an angle of ~25° relative to the limousine. Neither a "sonic digitizer" nor a "Zapruder enhancement" is needed to see that JFK was not leaning forward ~25° in Z225.

After passing through JFK, the bullet is supposed to have hit Connally's right shoulder. Posner describes the resulting wound as follows: "[The] entry wound in [the] right shoulder was 1 1/4 inch long—the exact length of the bullet—indicating the bullet was tumbling." The wound was not 1 1/4 inch but 1.5 cm (Shackelford, 1994; Warren, 1964, Vol. 4, 104). The wound was consistent with either a tumbling bullet or a tangential entry. Both Drs. Shaw and Gregory were of the opinion that the bullet that entered Connally's back had not previously struck anybody else. Under questioning by Warren Commission counsel Arlen Specter, they admitted the possibility of a bullet that had only passed through soft tissue causing the injury.

The bullet then knocked out four inches of Connally's 5th right rib, exited below his right nipple and entered his wrist through the

dorsal side, Dr. Gregory, who operated on the wrist, observed that considerable material from the Governor's jacket sleeve was carried into the wound indicating, "It [the bullet] is in some way angular, it has edges or sharp edges or something of this sort. It is not rounded or pointed in the fashion of an ordinary missile." He conceded to Specter that a missile traveling backwards could possibly account for the material carried into the wound. The bullet having passed through the wrist, shattering bone, severing nerve and tendon, came to rest in Connally's thigh. All this is supposed to have been accomplished by CE399—the minimally damaged bullet found on a stretcher at Parkland hospital. Again Dr. Baden is trotted out: "This is a damaged bullet and is not pristine. It is deformed; it would be very difficult to take a hammer and flatten it to the degree this is flattened. This is a partially deformed bullet with a heavy jacket."

It is not difficult to flatten a bullet with a hammer. A few gingerly blows from a hammer in our garage flattened a Carcano bullet far more than CE399. The bullets are made of soft lead surrounded by a thin copper jacket. They are designed to survive and not fragment when they hit head-on—not when tumbling.

The experiments with reduced velocity bullets that Posner cites to show that a bullet can shatter wrist or rib without being severely damaged involved non-tumbling, head-on collisions of the kind the jacket was designed to withstand. A blow to the side will subject the bullet to higher shear forces than a head-on hit. A head-on hit produces compression forces, which are easier to withstand.

According to the SBT the bullet had to hit the wrist going backwards in order to explain the material carried into the wound. The Carcano bullet is not a full metal jacketed bullet. The jacketing does not seal fully in the back. The FAA experiments shooting Carcano bullets at reduced velocities head-on through a cadaver's wrist do not test the relevant hypothesis. Dr. Lattimer is quoted saying "it [the bullet] never hit a hard surface, like bone, on its nose," but it is supposed to have shattered a rib at near full velocity in a weaker sideways orientation and punched through a living wrist bone with its unsealed rear jacketing.

Another pillar of the SBT is the neutron activation analysis (NAA) undertaken by Dr. Vincent Guinn for the HSCA (HSCA, Vol. 1, 490). Posner summarizes Guinn's results as follows: "Guinn's finding ended the speculation that CE 399 had been planted on the stretcher, since there was now indisputable evidence that it had traveled through Connally's body, leaving behind fragments." To support this statement he quotes from Dr. Guinn's HSCA testimony as follows:

"The stretcher bullet [CE399] matches the fragments in the wrist," Guinn said, "and that indicates indeed that that particular bullet did fracture the wrist." When asked if there was a chance that another Carcano bullet could have the same composition as Connally's fragments, he said, "Extremely unlikely, or very improbable, however you prefer."

The first quotation does not accurately reflect Dr. Guinn's testi-

mony. The full quotation reads: "The results merely say that the stretcher bullet matches the fragments in the wrist, and that indicates indeed that that particular bullet did fracture the wrist. It unfortunately can't tell you anything else because there were no other bits and pieces along the other wounds." Dr. Guinn only claims a match between CE399 and the wrist. He does not establish that CE399 caused all of Connally's wounds, much less JFK's back and throat wounds. However, even what Dr. Guinn did say goes beyond what his data will support.

NAA is a method for determining the proportion of trace elements in a sample. The amount of antimony in lead is the most relevant to us here. The procedure is to expose a sample to a flux of neutrons from a nuclear reactor and to count the characteristic decays of the radioactive isotopes induced. The result is a measure of the fraction of various trace elements in the sample. For the Western Cartridge Company (WCC) ammunition used in the assassination, the antimony fraction ranges from near 0 to about 1200 parts per million (PPM). Dr. Guinn measured the fraction of antimony and other trace elements in 14 WCC bullets from four different manufacturing lots (6000, 6001, 6002, and 6003). He also repeated the measurements four times each on four of the bullets and measured the bullets and testable fragments submitted to him including CE399 and one of the fragments from Connally's wrist.

Guinn found more variation from bullet to bullet than in multiple samples from a single bullet. This fact is the basis of his claim that it is "extremely unlikely, or very improbable" that CE 399 and the Connally fragments came from different bullets. However, while the intra-bullet variation is smaller than the inter-bullet variation, it is by no means small. TABLE 1 shows Guinn's antimony content results for the four bullets on which he made repeated measurements.

TABLE 1:
Intra-bullet antimony content (PPM)

Bullet/Sample	6001C	6002A	6003A	6001B
1	1139	358	667	621
2	1062	983	395	646
3	1235	869	363	646
4	1156	882	441	791
Mean	1148	732	466	667
RMS	71	281	137	78

CE399 measured 833 PPM of antimony. The measured wrist fragment had 797 PPM—a "match." However, TABLE 1 shows that it is impossible to falsify the contention that fragments match. Even if the Connally fragment had come out 358PPM, it would have been consistent with a single bullet as variable as 6002A. The probability of a bullet failing to "match" itself is ~40%. Nor is it "extremely improbable" that the wrist fragment match a bullet other than CE399. In TABLE 1 two bullets—6002A and 6001B—yielded values consistent with the Connally fragment. Among the 10 other bullets Guinn measured two more

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(6002B at 732 PPM and 6003A at 730 PPM) are reasonable matches.

As Guinn himself testified: "It is much easier to exclude; if you find two samples that differ markedly, it is easy to say definitively they did not have a common origin." Guinn's data are consistent with only WCC ammunition being used. All the fragments he tested had the low antimony content characteristic of Western Cartridge Carcano bullets. Most bullets have antimony contents at the level of 1% or more and would have been easy to detect if they were among Guinn's samples. However, Guinn's attempt to definitively link CE399 and the "fragments" from Connally goes beyond what the data will support.

The Posner/FAA version of the SBT is unconvincing. Presented with fancy graphics and hi-tech computer modeling, the analysis suffers from the garbage-in-garbage-out phenomenon. Guinn's results were overstated. NAA is merely consistent with CE399 being the bullet that hit Connally's wrist. That a tumbling bullet could have caused all the damage attributed to it and emerged as unscathed as CE399 is not plausible.

CASE STILL OPEN

The three examples above illustrate how the evidence as presented in *Case Closed* is distorted and misrepresented to support the lone assassin theory. Posner leads his readers to believe that advances in science and technology have allowed him to close the case, but science and technology serve only a rhetorical function in *Case Closed*. Computer models and fancy graphics are opinion not evidence; they only output what has been input. When Posner uses words like "enhanced" or "exact," he is misdirecting your attention, so that you will not look for yourselves and see that the evidence he is referring to does not support the claim he is making.

These are not just isolated errors. *Case Closed* is biased in its presentation of all the evidence. It is a brief for the prosecution, not a serious work of historical research. It is an apologetic—convincing to those who already believe. It fails as historical science. Although *Case Closed* has been thoroughly discredited by serious assassination researchers, many skeptics have swallowed it without a twinge of criticism and the mainstream media turn to Posner as the authority on the assassination whenever the subject arises. With the Assassination Records Review Board (ARRB) coming to its statutory end, Posner appeared on the *Today Show* to comment (NBC, September 30, 1998) and *Newsweek* chose him to write a column on the legacy of the ARRB (Posner, 1998, 49). Ironically the media called on Posner to comment on the final report of the ARRB, which by releasing long-closed files, had conclusively demonstrated that the case was not closed. That the media which, as John Stossell pointed out on *The Power of Belief* (ABC, October 6, 1998), routinely features channelers, psychic detectives and

"alternative" healing, should rely on Posner is not that surprising, but one might hope for a higher standard of critical thinking from skeptics.

What can we conclude about the JFK assassination? There is no "smoking gun" that proves conspiracy. On the other hand to accept the lone assassin theory requires us to swallow myriad inconsistencies, implausible explanations of key evidence and numerous odd

coincidences. One does not have to scour the evidence like a defense attorney hunting for something to confuse a jury to find these problems. They crop up everywhere, not just in the examples we have discussed, but in every aspect of the case.

Thirty-five years after the assassination the case is still open. Skeptics should keep an open mind. Skeptics should be more skeptical. □

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