

***Enemy of the Truth:
Myths, Forensics and the Kennedy Assassination***
by Sherry P. Fiester

“We must continually re-examine what we perceive to be true and hold it accountable to new information, research, and technological advances.”

—Fiester (p. xv)

“Thousands of young men are willing to die for the truth. But few are willing to study for five years [to learn] what the truth is.”

—Fyodor Dostoyevsky¹

“One thing that happens to theories that hang around past their time is that they’re nibbled to death by ‘routine findings.’ ”

--Jerry Fodor and Massimo Piattelli-Palmarini²

**JFK X-rays, Headshots, and the Zapruder Film:
A Demythologizing Book Review**
by David W. Mantik

Abstract: This is a valiant book that sometimes stumbles and falls short of its proclaimed goal, especially as expressed in the first quotation above. On the other hand, the author does a skillful job on several core topics: the incompetence of the Dallas police, the unreliability of ear witnesses, the unreliability of skull beveling, the futility of neutron activation analysis (for the JFK case), and the single bullet theory.

I especially applaud the author for the renewed focus on the south side of the triple overpass (opposite the Grassy Knoll) for a possible headshot—the same site often nominated for the throat shot. She may even be right about seeing back spatter in Z-313. Since we are largely in agreement on these issues, I say little about them in this review.

However, I disagree strongly on some other fundamental matters, as detailed below. For impatient readers, I list these disagreements more concisely in the Conclusions. In the following discussion I use subtitles as they appear in the book (underlined here). Statements from the book are in italics and enclosed by quotation marks. I also use italics for my own emphases.

[Introduction:] The Magic of Myth

Enemy of the Truth (EoT) defines myth (p. xv) as “...*lacking historical or scientific sustenance*.” A rather different definition is traditionally used in folklore:

¹ Although I have been unable to locate the original source, Doug Fabian attributes this to Dostoyevsky. If Fyodor did not say this, then he should have: <http://www.humanevents.com/2013/07/03/the-liquidation-cycle-and-wall-street-fireworks/>.

² Jerry Fodor and Massimo Piattelli-Palmarini, *What Darwin Got Wrong* (2010), p. 55. I was thinking here not just about the lone gunman theory, but also about Zapruder film authenticity.

a traditional [usually pre-scientific and pre-literate] story of ostensibly historical events that illustrates the world view of a people or explains a practice, belief, or natural phenomenon.³

EoT clearly avoids this folkloric definition: instead the author uses “myth” as a pejorative—meaning a misconception, false belief, or mistake. To avoid this semantic bog she might instead have used one of these latter words.

EoT claims that “myths” and “facts” are irreconcilable (p. xvi), i.e., in the author’s (black and white) view myths are false and facts are true. While the author does not distinguish between facts and theories, that distinction is also nonetheless critical to this discussion: “facts” can be defined as claims that are both true and verifiable (this restricts them to finite portions of space-time). On the other hand, scientific theories (which are not restricted to local portions of space-time) can in principle be false (e.g., the geocentric model).

Furthermore, theories can be superseded—without necessarily re-labeling them as “myths.” For example, even though Newtonian physics is now a special case of Einstein’s theory of relativity, no historian or scientist would therefore describe Newton’s Laws as “myths.” It is curious though, that in making her case, the author actually assumes the unqualified applicability of Newton’s laws, even though these laws (since they have been replaced by relativity) might well meet her definition of a myth.⁴

Even more troubling though is this: myths can be inspired by facts. As examples, Troy (Heinrich Schliemann), Ur (Sir Leonard Wooley), and Minos (Sir Arthur Evans) were once regarded as myths, but today these sites are widely accepted as archaeological reality (although the stories are another matter). Therefore, if facts can become myths and myths can be recognized as fact-based, perhaps EoT should not so quickly conclude that myth cannot become truth.

This semantic confusion burrows even deeper, however. One of EoT’s alleged “myths” is that the Zapruder film does not represent reality.⁵ At the very least, EoT should regard this as an hypothesis rather than as a myth; in particular, it is an hypothesis that can be subjected to experiment—and therefore to possible disproof. For example, just recently I viewed yet more objective evidence that strongly suggests alteration in several frames. (This quantitative data will likely be reported later this year.) Many readers, like me, will therefore be disconcerted by EoT’s unwarranted and unnecessary verdict on the extant Z-film. On the contrary, will we again see “myth” turn into reality?

Another EoT claim tends to trivialize the difference between truth and reality—the author implies that assertions or characterizations about reality may not actually correspond to the way things are: “*Consequently, truth is often a matter of perspective—not irrefutable fact*” (p. xv). If the author truly believes this (as the subsequent discussion seems to imply), then she has joined the post-modernists, who doubt the existence of objective physical reality.⁶

³ Adapted from Wikipedia.

⁴ “*When scientific methods prove a theory true, it becomes a fact. When scientific methods prove a theory false, it becomes a myth*” (Fiester, p. 331).

⁵ Paradoxically, Jim Marrs (Foreword) states: “There are even legitimate arguments that the famous film of Abraham Zapruder has been altered from the original.” EoT definitely does not say that.

⁶ See the breathtaking hoax by physicist Alan Sokal, cited in my review of Vincent Bugliosi’s *Reclaiming History* (2007) (<http://www.assassinationsscience.com/v5n1mantik.pdf>). Sokal has stated: “And I’m a

This is a serious issue, for if truth need not reflect reality, then the entire basis for EoT begins to evaporate. And such discussion about “truth” and “reality”—in opposition to myths and misconceptions—then assumes a different level of meaning, i.e., it seems that one myth is simply replaced by another (in such a post-modernist scheme).

Chapter 1. Dallas PD followed Protocol

“The Dallas Police Department in the 1960s was comprised of men who were doing the best job they possibly could” (p. 4). Almost the same statement appears again (p. 50).

“...the Dallas Police Department’s crime scene work is decisively inadequate; discounting forever the myth, they followed contemporaneous protocol and standards....” (p. 57).

In view of the severe criticism of the DPD throughout this chapter, what can EoT possibly mean by the high praise in the first quotation here, *especially since it is repeated* near the end of the chapter? And if the author truly believes that the DPD was a first-rate organization in the 1960s, what evidence is cited? The answer is—none at all.

EoT claims that fingerprints are unique to each individual (p. 33). Even if that is theoretically true, however, a critical revolution in matching prints has occurred over the past decade. These new findings view fingerprints in a totally new light. See my book review of John McAdams.⁷

The author states that latent fingerprints can be developed with silver nitrate (p. 35) via a reaction with silver chloride deposited by the body in any print. (If that were true, instead of killing Aztecs in his search for silver, Hernán Cortés could instead merely have fingerprinted them!) Of course, “silver chloride” should read “*sodium* chloride.”

Chapter 2. Ear Witnesses

This chapter cites the acoustic experiments of the House Select Committee on Assassinations (HSCA) and concludes that subsequent studies have been conflicting. On the contrary, if the *reductio ad absurdum* argument produced by Linsker and Garwin⁸ is accepted (which seems inescapable), then this issue has been settled—the acoustics data are irrelevant. (It is only a matter of understanding the argument, which does require a little effort.) Believers in the acoustic data cite the 5% (i.e., low) probability that (in

stodgy old scientist who believes, naively, that there exists an external world, that there exist objective truths about that world....” (http://en.wikipedia.org/wiki/Alan_Sokal). Post-modernists take exception to this, in surprising agreement with EoT.

⁷ “How to Think Like John McAdams” (http://www.ctka.net/reviews/McAdams_Mantik.html).

⁸ See my review of Don Thomas’s book: http://www.ctka.net/reviews/mantik_thomas_review_pt1.html. Enrico Fermi once called Richard Garwin the only true genius he had ever met (William J. Broad, “Physicist and Rebel is Bruised, Not Beaten,” *New York Times*, November 16, 1999—<http://www.nytimes.com/1999/11/16/science/scientist-at-work-richard-l-garwin-physicist-and-rebel-is-bruised-not-beaten.html?pagewanted=all&src=pm>). In 1952, Garwin designed the plan for the first hydrogen bomb.

effect) a lone gunman did it. As a comparison, however, for the opening coin flip in five consecutive Super Bowls (2009-2013), heads came up each time.⁹ The chances of this are 1 in 32 (3%), which is even less than the 5% chance cited for a lone gunman—yet these coin tosses supposedly happened by pure chance and for no other reason.

Furthermore, in nine consecutive Super Bowls (1998 - 2006), tails came up eight times; the probability of getting eight tails in nine tries (in any order) is less than 2%.¹⁰ Moreover, as John Ioannidis explains, via a convincing mathematical argument, many scientific (especially medical) claims are false.¹¹ I strongly suspect that the acoustic data fall into this category, i.e., 5% claims most certainly can be wrong (by chance alone).

That is why physicists demand much higher levels of certainty—witness the announcement of the Higgs boson on July 4, 2012.¹² I can only fantasize that medicine will also some day require higher levels of certainty. Many patients have already paid a price for not requiring it. These wrong medical results have typically come from randomized, controlled clinical trials—often claimed to be the best that medicine can offer.

In this same chapter on ear witnesses we read:

“This means that witnesses in Dealey Plaza close to the path of the bullet were very likely incorrect in their judgment on the source of the sound and the placement of the shooter” (p. 82).

What is striking (and paradoxical) here is that EoT later cites (pp. 219-221) ear witnesses who support the author’s proposal of a gunman on the south side of the triple overpass (opposite the Grassy Knoll).¹³ But if ear witnesses are so unreliable (as seems likely) how then can the author justify using them to support her case?

Chapter 3: Blood in Zapruder is Faked

“...the assertion that the blood in the Zapruder film is faked is absolutely identified as a myth” (p. 120).

EoT concludes that the bloody mist in Z-313 is back spatter (which may be true), while leaving unexamined the curious bright reflection (e.g., in Z-335 and Z-337) on

⁹ <http://www.docsports.com/super-bowl-coin-toss-history.html>.

¹⁰ <http://www.mathcelebrity.com/cointoss.php?hts=&hct=1&tct=8&calc=2&fct=>=no+more+than&nmnl=&htpick=heads&tossct=+3&montect=+500&pl=Calculate+Probability>.

¹¹ “Why Most Published Research Findings are False,” *PLoS Med* 2, No. 8 (2005): e124. Also see *The Half-Life of Facts* (2008), Samuel Arbesman, chapter 8 and “Sifting the evidence—what’s wrong with significance tests?” by Jonathon A. C. Sterne, *British Medical Journal* 2001; 322 (7280): 226-231.

¹² “Each experiment quotes a likelihood of very close to ‘5 sigma,’ meaning the likelihood that the events were produced by chance is less than one in 3.5 million. Yet in spite of this, the only claim that has been made so far is that the new particle is real and ‘Higgs-like.’ The existing data set is still too small to statistically determine with precise accuracy that the data is consistent with the standard model” (http://www.slate.com/articles/technology/future_tense/2012/07/higgs_boson_announcement_from_cern_w_hy_the_god_particle_is_so_important.html).

¹³ If their recollections were actually useful, most of these witnesses could also be cited to suggest a shot from the north side of the overpass—i.e., their statements are usually not specific for the south side. (In this review, this south side is sometimes called the South Knoll.)

JFK's pre-auricular/temple area.¹⁴ At chapter's end, the reader is left uncertain about the author's opinion of this bright spot. Is it also blood? Was this faked? If it is real, why is its movement in the film so erratic? And why did no one see anything unusual in this area at Parkland?¹⁵

EoT seems uninterested in this puzzling issue; despite this, however, the author proclaims that faked blood (presumably including this bright site) in the Z-film is a myth—with “absolute” certainty. (This degree of certainty goes well beyond even the enthusiasm of most physicists for their favorite physical theories.¹⁶) One observer who clearly disagreed with EoT (regarding this area), is Dr. Roderick T. Ryan, an Eastman Kodak Gold Medal Award Winner, who told Noel Twyman that this object looked as though it had been painted in.¹⁷

Insofar as the mist in front of JFK, EoT cites Bill Newman, who described this as about two feet in diameter (p. 340). Oddly enough, in his video interview with Douglas Horne (July 9, 2011), Dino Brugioni viewed the mist in the extant film and recalled (with great certainty) that the mist was larger in the (original) film that he had seen during the weekend of the assassination (November 23-24, 1963).

In this video, I watched him outline on a projected image of Z-313 how much larger this mist had been in 1963.¹⁸ Unfortunately, EoT was too incurious to ask Newman if the size of the mist in the extant film agreed with his own recollections.¹⁹ Furthermore, Brugioni recalled that the mist he had seen in the (original) Z-film in 1963 had been *white, not red*. If Brugioni's recollection is correct, then the red mist in Z-313 is artwork—not authentic back spatter—that was painted on an animation cell during the film's alteration (possibly using an optical printer modified to perform aerial imaging visual effects). This image might even have been copied from a later portion of the Z-film. In that case, this image would bypass EoT's argument that no one knew how to create backspatter in 1963. (However, even if Z-313 supposedly depicts the *sole* headshot, a profound paradox emerges when the particle trail on the lateral X-ray film is scrutinized; this is discussed below.)

Remarkable evidence, including (altered) surveyor's data sheets,²⁰ exists for a headshot distinctly farther down Elm Street, i.e., closer to the stairs that ascend the

¹⁴ In *High Treason II* (1992), p. 363, Harry Livingstone describes a “blob,” which is “half a foot wide.” The object in question here though is the very bright area just anterior to the ear, only several inches across.

¹⁵ In June 1970, Lifton viewed the frames after Z-334 (the last one published by the Warren Commission) and discovered that the supposed right facial wound of JFK (not seen by anyone at Parkland) was enormous—and that it appeared merely to be artwork. Provoked by this, Lifton then studied “Insert Matte Photography” and suggested that the “blacking out” effect [e.g., in Z-317] might also be artwork (“Pig on a Leash,” David S. Lifton, *The Great Zapruder Film Hoax* (2003), edited by James Fetzer).

¹⁶ “We now understand that all physical theories are merely effective theories that describe nature on a certain range of scales. There is no such thing as absolute scientific truth...” (*Quantum Man: Richard Feynman's Life in Science* (2011), Lawrence Krauss, chapter 17).

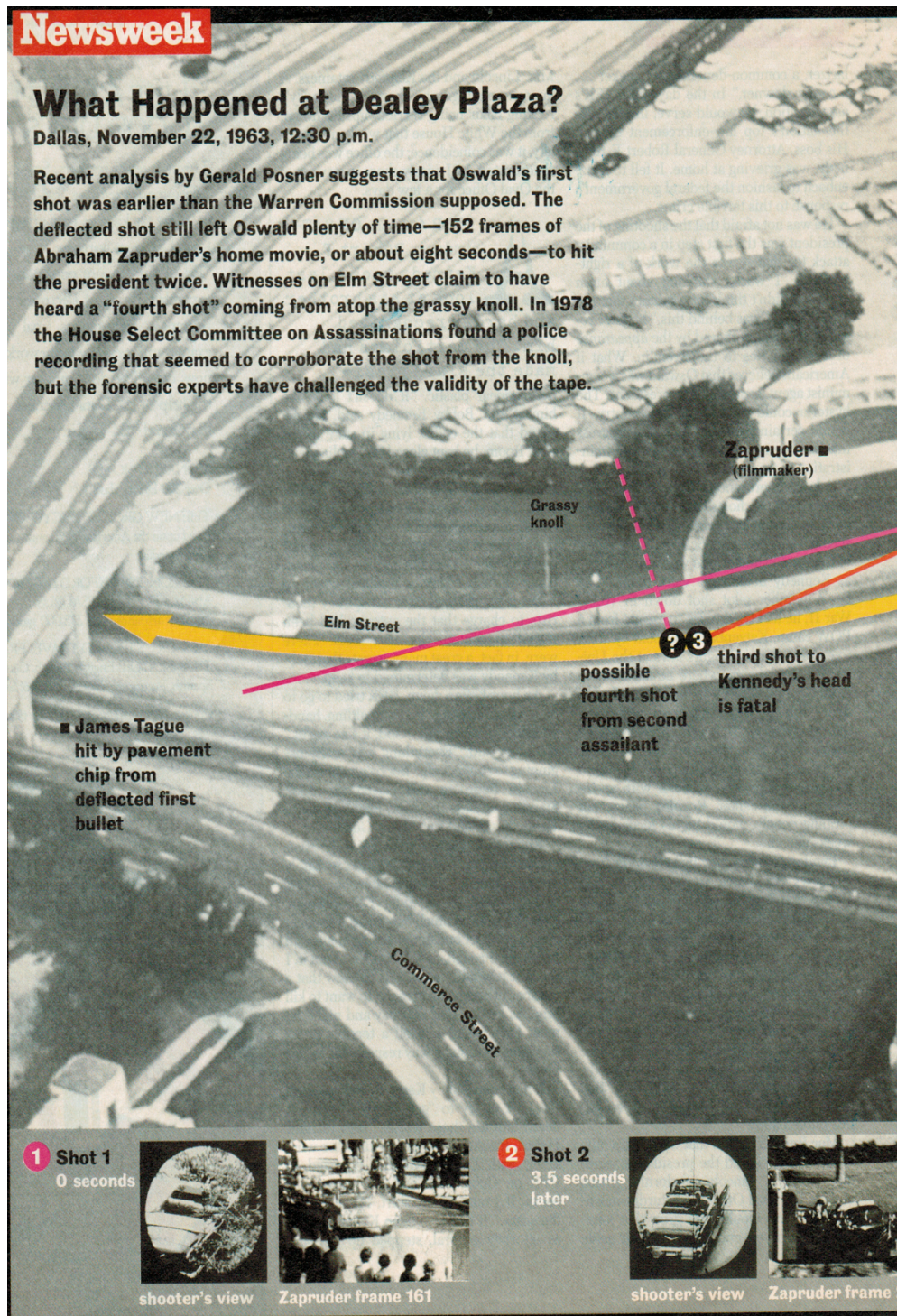
¹⁷ Noel Twyman, *Bloody Treason* (1997), p. 160.

¹⁸ Also see Brugioni's comments in *Mary's Mosaic* (2012) by Peter Janney, pp. 287-293, 477.

¹⁹ Readers can, however, do their own investigations: just draw a two foot circle on an enlarged (or projected) image of Z-313 and then determine whether that matches the size of the visible mist.

²⁰ “The JFK Assassination Re-enactment” by Chuck Marler, in *Assassination Science* (1998), edited by James Fetzer, pp. 249-261. This astounding summary is essential reading.

Grassy Knoll. As another example, *Newsweek* displayed a map (from the Warren Commission (WC)) showing just such a shot (Figures 1A and 1B).²¹



²¹ Clint Hill also recalls seeing the results of a head shot a discernible time interval *after* Z-313:
<http://www.veteranstoday.com/2011/07/25/jfk-whos-telling-the-truth-clint-hill-or-the-zapruder-film/>.



Secret Service reconstruction of positions of Presidential car at first (above) and second and third shots (road markers), like FBI's, says Governor Connally was hit by a separate bullet. This denies the basic conclusion of the Report.



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Figures 2A and 2B. This Secret Service photograph was taken shortly after the assassination. Traffic cones mark the supposed three shots on Elm Street. But the final cone (red arrow) is well beyond Z-313, as can be seen by the large floral memorial that aligns with the blue arrow closer to Z-313 (Harold Weisberg, *Whitewash II* (1966), p. 248).²²

So the question naturally arises: *Were two headshots conflated?* We shall return to this question. But an even more profound question is this: *What really happened at Z-313*²³?

But here is my chief criticism of this chapter: If back spatter is so obvious in the film (as may be true), why then is forward spatter so hard to see? According to Figure 5

²² Also see Weisberg 1966, p. 243 for the official surveyor's map.

²³ The December 6, 1963 survey (CE-585) places three "X" marks on Elm Street (to represent three shots) at Z-208, Z-276, and Z-358. Note that Z-313 is missing! (Fetzer 1998, p. 252—this is from Marler's paper, cited in footnote 20.) Now look again at the *Newsweek* image: Z-313 is also missing there.

in EoT (the MFRC video), forward and back spatter are visible in the *same* frame.²⁴ So where is the forward spatter in the Z-film? To further highlight this paradox, note that EoT quotes Hargis as easily seeing (during the actual event) such *forward* spatter (p. 341):

“He described to me how the blood left the back of the President’s head in copious amounts. He stated that as the expelled blood hung in the air, he drove into it, thereby getting blood and bits of bone and brain on his motorcycle, clothing, and person. ...he said, ‘It was as if a bucket of blood was thrown from the back of his head; it spread out and hung in the air for a minute.’ ”

EoT even reports that Hargis’s wife, too, noticed solid matter on Hargis when he returned home (p. 341). But about the absence of such forward spatter in the Z-film, EoT remains oddly silent.²⁵

Costella’s analysis of the streaking fragments (in successive frames) suggests that the bullet impact likely occurred “...just after the end of the exposure of Frame 312, which is about half a frame before the start of the exposure of Frame 313.”²⁶ If so, then it is even more likely (since both spatter events occur promptly with the bullet strike, according to EoT) that *both* events should be visible in Z-313. In fact, EoT states that back spatter dissipates *faster* than forward spatter (p. 102, item 5). If so, then where is the forward spatter in Z-313? After all, it should appear at about the same time as back spatter and it should last longer.

Another issue that entirely escapes the author’s attention is the distance that the back spatter supposedly traveled: according to Frazier (pp. 114, 342-344), *both* sides of the windshield, the entire exterior, and the hood ornament (at the front of the limousine) were all coated with tissue debris. On the other hand, according to EoT, back spatter only travels four feet (p. 101) or perhaps just three feet (p. 118).²⁷ But the distance from JFK

²⁴ This appears to be the video cited by EoT: [https://www.mfrc.ameslab.gov/files/index.php?folder=Qmxvb2RsZXR0aW5nIE11Y2hhbmlzbSBWaWRlb3M=7Ab1.44 cal bullet impacting bloodied sponge from 182 cm.avi](https://www.mfrc.ameslab.gov/files/index.php?folder=Qmxvb2RsZXR0aW5nIE11Y2hhbmlzbSBWaWRlb3M=7Ab1.44%20cal%20bullet%20impacting%20bloodied%20sponge%20from%20182%20cm.avi). Note (a) the near simultaneous appearance of back spatter and forward spatter, (b) the persistence of the mist (in both directions) until the video stops at 0.023 seconds (one Z-film exposure is 0.025 seconds), and (c) the very similar size of the mist in both directions. Then ask yourself this question: Why is forward spatter not seen in the Z-film? Viewing this MFRC video, especially with these questions in mind, is strongly encouraged.

²⁵ There may be one enigmatic exception (p. 102): “*Blood spatter analysts observed forward and back spatter in the Zapruder film. Forward spatter had a greater velocity than back spatter and moved away from the immediate area of the President much faster than back spatter. One easily identified portion of the forward spatter in the Zapruder film is the whitish object projected from the head, forward [sic] of the President.*”

I find this most perplexing because EoT has previously defined forward spatter as traveling in the direction of the exiting bullet (i.e., away from the back of JFK’s head)—not *forward* of JFK, as is stated here. For my part, I do not see obvious forward spatter in the Z-film, i.e., any mist traveling toward the rear of the limousine (from the back of JFK’s head), even though that should be visible based on (a) the MFRC video, (b) Hargis’s statement, (c) surveyors of Dealey Plaza, shortly after the assassination, who saw such debris in *multiple* frames, (d) witnesses who saw (a great deal of) debris on the limousine trunk, and (e) those who saw debris fly to the left rear (both in Dealey Plaza and on Zapruder-like films).

²⁶ “A Scientist’s Verdict: the Film is a Fabrication,” by John P. Costella, in *The Great Zapruder Film Hoax* (2003), edited by James Fetzer, p. 186.

²⁷ In this same paragraph, the author strangely confuses “momentum” with “distance.”

to the hood ornament is way over four feet—and the wind was blowing (strongly) toward the rear of the limousine (see the coats of Moorman and Jean Hill in the Muchmore film²⁸).

So the problem is obvious: *How did back spatter reach the hood ornament?*²⁹ (Recall that EoT insists on only one headshot.) But perhaps we should change focus here: Do exploding bullets behave differently from the (apparently) metal-tipped bullet shown in EoT's figures? In particular, do such exploding bullets fail to produce forward and back spatter? Could they produce enough debris to cover the limousine and its occupants? Regrettably, this question is not addressed anywhere in EoT.

The cited witnesses (Frazier at pp. 110, 114,³⁰ 342-344 and Clint Hill at pp. 109, 114) also recall that the trunk was well covered with tissue debris (and perhaps blood), none of which is seen in the Z-film. Hill, in particular, describes it as “all over the rear portion of the car.” So where did it go? Was it selectively erased during (illicit) film editing, so as not to suggest a shot from the front? EoT does not address this issue, although the author does admit that no extant photographs show blood on the *exterior* of the vehicle—even though blood on the interior was obvious in photographs (p. 343).

EoT argues (p. 114) that tissue debris is not seen on the limousine trunk because dried blood is difficult to spot on a dark surface (although JFK's blood would still have been fresh). But Thompson displays a photograph of obvious debris on the trunk, as seen in the Nix film.³¹ So the question is obvious: *Why don't we see this debris in the Z-film?*

A different question might also be asked: If forgers were at work, why did they not also erase the incriminating mist in Z-313? The answer may well lie in the state of knowledge in 1963 (as EoT notes—pp. 235 and 243): in their innocence, the forgers may have interpreted the mist in Z-313 as forward spatter and therefore as evidence of a shot from the rear. Such a shot, of course, was acceptable to them because Oswald was behind the limousine. It would be interesting today to ask them how they interpreted the mist.

Chapter 4. The Limo Stop

In this chapter, EoT introduces an hypothesis (subjective time deceleration for witnesses under stress) but then this hypothesis, without further ado, is promptly promoted into a conclusion.³² The subjective slowing of time and the simultaneous remarkable awareness of detail are certainly real (as they have been for me personally), but how do we know that this happened to nearly *every* eye witness in Dealey Plaza? The fact is that we don't know this. What is worse, there is no way that we can ever know this. Just because something *might* have happened is no proof that it *did* happen.

Consider this: as a historical parallel, during the shooting of Archduke Ferdinand,

²⁸ Josiah Thompson, *Six Seconds in Dallas* (1967), p. 187.

²⁹ Kellerman (in the right front seat of the limousine) also recalled that he had “stuff” all over his coat (p. 113). He sat well over 3-4 feet from JFK. Nellie Connally also saw debris falling on herself and all over the limousine (p. 109).

³⁰ Strangely, the end of Frazier's quotation (p. 114) cites Finck, not Frazier!

³¹ Thompson 1967, p. 99.

³² Somewhat paradoxically, on this same page, we find this statement: “*A belief is trustworthy information we evaluate as accurate because it originates in a reliable cognitive process; primarily that process is vision.*” If the author truly believes that “vision” is so reliable, then why does she not want to believe the limousine stop witnesses?

the motorcade stopped. Does EoT also wish to imply that this stop was an illusion? After all, this event closely parallels the Dealey Plaza event.³³ If so, what else in history might be false, merely based on the notion of subjective time deceleration? Such a revision of history might go on endlessly. To my knowledge (after reviewing many books on historiography) no historian has ever made such a suggestion.

All four of the closest motorcyclists recalled the limousine stop. An actual stop would surely have caused some instability in their bikes—most likely they had to work to keep their bikes balanced while the limousine paused. Does EoT truly suppose that these men were mistaken in recalling how they managed their bikes during such a stop? Why would the psychological slowing of time have contemporaneously produced inaccurate memories in these men—about stabilizing their own bikes?

Here is another question not asked (or answered) by EoT: Why do first-time viewers of the Z-film fail to comment on the limousine stop (or at least report a dramatic slowing)? Why are they not likewise affected by the psychological slowing of time? Is seeing such an event on film different from a live event?³⁴ EoT offers no comments on these perplexing issues.

The author does admit (p. 132) that most Dealey Plaza observers agreed that the limousine slowed, but is this what first-time viewers of the extant Z-film report? (After showing the Z-film many times to students, that has not been my impression.) Readers might also ask this: Were they themselves personally impressed by a remarkable slowing of the limousine the first time they saw the Z-film? Or better yet: Did they recall an actual stop after first viewing the extant Z-film? After all, that is what so many Plaza witnesses did recall.

Although EoT claims that few witnesses recall a limousine stop, this is clearly misleading. I have previously listed the ten closest witnesses³⁵ to the limousine (including motorcyclist Hargis). They all recalled a stop (their most common response) or they said that it “hesitated.” The reader is strongly encouraged to review their direct words, as EoT’s conclusion surely does not agree with these witnesses. Furthermore, Vince Palamara has compiled over 50 witnesses who also reported an event different from the extant Z-film.³⁶ Many Dealey Plaza witnesses also recall the abrupt acceleration after the stop. That, also, is not typically reported by viewers of the extant film.

To her credit the author does agree that the Muchmore film shows the brake lights on for about nine frames.^{37, 38} But then EoT cites the Nix and Muchmore films as evidence against a limousine stop. Unfortunately, that evidence is heavily tainted, as I

³³ “Paradoxes of the JFK Assassination: The Zapruder Film Controversy” by David W. Mantik, in *Murder in Dealey Plaza* (2000), edited by James Fetzer, p. 326.

³⁴ EoT cites a reference (top of page 360) to “Emotion and time perception: effects of film-induced mood.” If merely watching a film can indeed induce a sense of time deceleration (as this paper concludes), then first-time observers of the extant Z-film should be just as likely to report a limousine stop as did the Dealey Plaza witnesses. On the contrary, it is my strong impression that first-time viewers do not report a stop (or even a dramatic slowing)—nor do they report the dramatic acceleration after the stop (that the Dealey Plaza witnesses recall). I have read this paper closely and it does indeed conclude that time slows (modestly) when subjects are first primed by viewing a film designed to induce a fearful mood.

³⁵ Fetzer 2000, pp. 341-342.

³⁶ “59 Witnesses: Delay on Elm Street,” by Vincent Palamara, *ibid.*, p. 119.

³⁷ I first described this in Fetzer 1998, p. 301.

³⁸ <http://www.youtube.com/watch?v=hrX8lsb2Wtk>.

have previously noted.³⁹ Gayle Nix told *Inside Edition* that her grandfather believed that the government had altered his film, though she did not know the truth.⁴⁰

In a conversation (May 1993) with Millicent Cranor, Gayle stated that her grandfather believed that frames had been removed.⁴¹ Insofar as the Muchmore film is concerned, Robert Groden notes that, while UPI had the original, it “was cut or mutilated at the frame that showed the moment of the headshot.”⁴² The original cannot be located. In a technical report (21 December 1995) Charles Mayn states that the copy in the Archives is not the camera original.

Z-film alteration is not merely suggested by eyewitnesses⁴³ but, on the contrary, is based on a great deal of objective data. I cite only one example here, as described by John Costella. He cites Z-232 and shows that the image is physically impossible: either the entire limousine or the entire background should be blurred by an obvious amount (which he displays in his Figure 20).⁴⁴ On the contrary, such blurring is not seen. Thus, this frame represents an actual image from the original Z-film only if the limousine had come to a stop. Believers in Z-film authenticity have been reluctant to address this paradox.

Multiple witnesses have seen a Zapruder-like film that is different from the extant Z-film. Brugioni is a recent addition to this list.⁴⁵ Just two others are Rich Della Rosa⁴⁶ and Scott Myers. There are more.⁴⁷ Does EoT truly believe that each one of these individuals is lying—or unbelievably mistaken (often in the *same* way)?

In order for EoT’s explanation of the limousine stop to work, virtually all of these (limousine stop) witnesses must have experienced the *same* psychological sense of time deceleration, but this cannot be true—after all, many did not even know it was an assassination. For example, some thought that firecrackers were going off, while others

³⁹ Fetzer 1998, pp. 302-304. Although EoT places great confidence in the accuracy of films (p. 132), the author seems unaware of the widespread use of film alteration for propaganda purposes—ever since 1894! See my discussion (with references) of this unholy marriage of film and half-truths in Fetzer 2003, pp. 291-307.

⁴⁰ Richard B. Trask, *Pictures of the Pain* (1994), p. 197. His source is *Inside Edition* [Television Program] 12/27/1991.

⁴¹ Cranor told me this in a personal conversation.

⁴² Robert Groden, *The Killing of a President* (1993), p. 37.

⁴³ Even Zapruder is one of these witnesses. He reported filming the limousine as it turned from Houston onto Elm Street (Fiester, pp. 86-87), a turn that is absent from the extant film. (Some viewers of a Zapruder-like film have seen this turn.) Furthermore, when testifying before the WC, Zapruder seemed confused about the images he was shown—from his own film—which he recalled watching so often that weekend that he had nightmares about it. He even described several events not seen in the extant film (<http://www.jfk-info.com/wc-zapr.htm>), e.g., “That’s correct. I started shooting—when the motorcade started coming in, I believe I started and wanted to get it coming in from Houston Street.”

⁴⁴ Fetzer 2003, pp. 180-181.

⁴⁵ In the same video cited above, Brugioni is certain that the mist was visible for longer (in the original film) than in the extant film, both of which he examined frame by frame. About the extant film (while watching it as a movie) he says, “That just doesn’t look right” and “It doesn’t shock me like it did when I first saw it; I just gasped—so did everyone else” and “Something has been cut out of this” and “I saw more matter in the air than that” and “I thought there were missing frames” and (regarding the black patch over JFK’s head in Z-317) “That’s an anomaly.” He also stated (regarding the mist), “It was *white, not red*,” a color difference that EoT does not discuss (although the author may not have been aware of it).

⁴⁶ <http://www.youtube.com/watch?v=XrRbkY9gEnQ>.

⁴⁷ Fetzer 2003, pp. 463-465. Milicent Cranor has described her 1992 experience (Fetzer 1998, p. 299); just this week I have spoken to two others. My impression is that these viewers do not contradict one another.

described the backfire of a motorcycle.⁴⁸ And then we have the remarkable recollection of Abraham Zapruder himself:⁴⁹

...and I was walking back toward my office and screaming...and the people that I met on the way didn't even know what happened and they kept yelling, "What happened, what happened, what happened?" It seemed that they had heard a shot but they didn't know exactly what had happened as the car sped away, and, I kept on just yelling....

We can only wonder: *Did these witnesses—who did not know that an assassination had occurred—also experience a dramatic subjective slowing of time? If so, why?*

EoT also cites Alvarez as not supporting a limousine stop—merely because he calculated that the limousine slowed from 12 to 8 mph in the extant film. But that quite misses the point—what the Dealey Plaza witnesses reported was a stop (or a near stop), *not a decrease by 1/3 in speed*. To assess for an authentic stop, Alvarez's calculations (and the physicists who agreed with him) are quite irrelevant. After all, Alvarez never addressed (and probably never even imagined addressing) the question we face today: Was the Z-film altered?

Chapter 5. Ballistics Prove one Shooter

Of course, despite the chapter title here, EoT does *not* support the lone gunman scenario. On the contrary, the author focuses here primarily on the neutron activation analysis data, which no longer support the lone gunman scenario, even though Robert Blakey once described it as the "linch-pin" of the case. I agree with the author's conclusions.

EoT notes that traces of copper were found on JFK's shirt (p. 148). Although the author later (p. 282) reminds us that minute traces of copper were found on JFK's jacket, she omits (in this later discussion) to remind us that it had also been found on the shirt.

Chapter 6. The Grassy Knoll Headshot

"However, there is no credible evidence to support identification of a specific, definitive point of entry or exit wound to the head" (p. 169).

On the contrary, the trail of metallic debris across the top of JFK's skull (on the X-rays) strongly suggests a bullet trajectory. (To add grist to the mill, EoT always assumes a single straight line trajectory.⁵⁰) For the general case, EoT states (p. 206):

⁴⁸ Fifty (50) witnesses described firecrackers, while nineteen (19) described backfire in *Murder from Within* (1974) by Newcomb and Adams, p. 86.

⁴⁹ <http://www.jfk-info.com/wc-zapr.htm>.

⁵⁰ This assumption may not be universally true, however. DiMaio states: "Thus [for headshots], internal ricochet is fairly common, occurring in anywhere from 10 to 25% of the cases, depending on the caliber of the weapons and the diligence [sic] with which the evidence of internal ricochet is sought. As a general rule, internal ricochet is more commonly associated with lead bullets and bullets of small caliber" (Vincent J. M. DiMaio, *Gunshot Wounds* (1985), p. 219).

“The fragment distribution pattern identifies the projectile’s direction of travel. The fragment pattern begins near the point of entry....”

If this is true in general, why is JFK’s trail not a candidate for just such a trajectory?⁵¹ Furthermore, many eyewitnesses recall a frontal entry wound (near the hairline above the right eye) that matches the X-ray trail astonishingly well: Malcolm Kilduff, Charles Crenshaw, Ronald Jones, David Stewart, Robert McClelland, Tom Robinson, Dennis David, Joe O’Donnell (a friend of Robert Knudsen), and others.⁵²

Of course, the autopsy photographs show an *incision* (not an entry wound) at exactly this site. This is most peculiar because the Parkland witnesses saw no such incision. In other words, precisely where we would expect to see an entry wound, the autopsy photographs now show an incision (likely produced by the pathologists). Is this mere chance, or was it deliberate?⁵³

We now come to a moment of truth: Is this trail of metallic debris on the X-rays consistent with a frontal shot at Z-313? Note that agreement between these two items is the fundamental—and never-questioned— assumption throughout EoT. But the answer is truly disturbing: *No, this X-ray trail cannot derive from a frontal shot (from the overpass) at Z-313!*⁵⁴ Here is why. First note JFK’s head orientation in Z-312 (p. 178 in Fiester—but also displayed here in Figure 3); then compare this image to the trail of metallic debris on the X-rays (Figures 4 and 6).⁵⁵

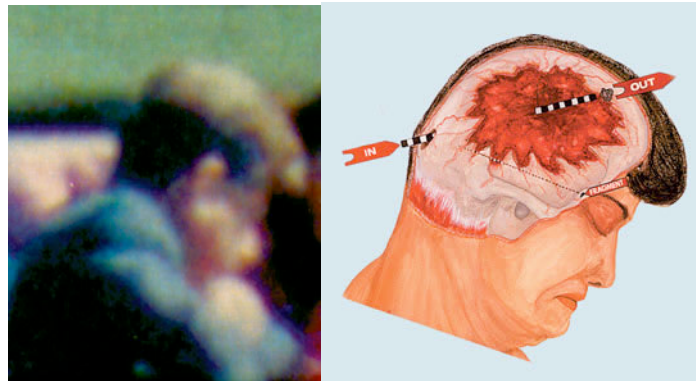


Figure 3. Z-312 (left) and Warren Commission Exhibit CE-388. An entry site shown here (in CE-388) is probably correct.

⁵¹ EoT notes that most of these particles lie in the anterior half of the skull (p. 212)—which implies that they arose from a frontal shot. I agree. I would also note that two of the largest particles lie in the posterior half of the skull. Since heavier particles travel farther, this is yet one more argument that the trail represents a frontal shot. That these particles most likely represent a bullet trail was also supported by Dr. John J. Fitzpatrick, the forensic radiologist for the Assassination Records Review Board (ARRB):

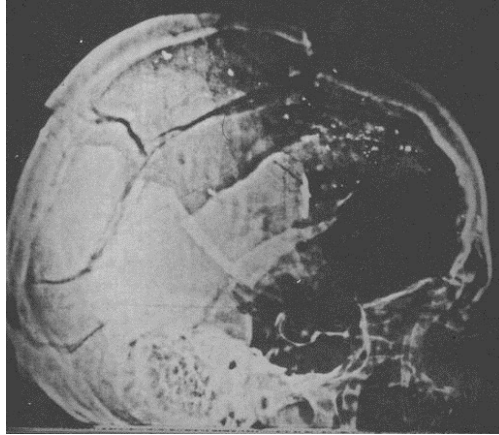
<http://www.maryferrell.org/mffweb/archive/viewer/showDoc.do?docId=145280&relPageId=225>.

⁵² Fetzer 2000, pp. 249-252.

⁵³ Douglas Horne, *Inside the ARRB*, Volume III, pp. 732-733, 764-765.

⁵⁴ Since JFK’s head is tilted so far forward in Z-312, this statement covers both ends of the overpass.

⁵⁵ Z-312 here is a surrogate for Z-313. An image of Z-313 appears on page 228 (Fiester).



**Figure 4. JFK lateral skull X-ray.
The trail of debris here is far above the
entry site in CE-388, which suggests
a second headshot, most likely frontal.**

An immediate paradox arises: for a shot from the triple overpass (specifically for EoT, the South Knoll) after Z-312, the orientation of the *expected* trail of debris is radically different from what the X-rays show. To be more precise, since EoT claims (p. 218) that the top of the limousine and the top of the overpass (the handrail) are at nearly the same elevation, then the trajectory for this proposed frontal shot should appear on Z-312 as a nearly *horizontal* line. In Z-312 such a trajectory would pass through JFK's upper orbit and also through his ear canal (Figure 5).

Placing that horizontal trajectory on CE-388 (Figure 5) shows that this trajectory is almost parallel to the WC's trajectory, but inferior to it. (The directions are opposite, of course.⁵⁶) But here is the point: the author's expected trajectory is a gross mismatch to the metallic trail on the lateral X-rays.⁵⁷ So the unavoidable conclusion faces us: *Although Z-313 may show a headshot, the particle trail on the X-rays definitely cannot result from this headshot!*

If the author cannot resolve this paradox, then at least two headshots (total) are required. Just one headshot is quite inadequate to the task. This conclusion delivers a severe blow to EoT, which concludes that just one headshot explains everything. That simply cannot be true.

⁵⁶ The WC's trajectory is also outrageously misaligned with the metallic trail, but no one noticed that because the X-rays were not available.

⁵⁷ I first publicly presented this observation a long while ago (probably decades ago), but its profound significance is still often overlooked today, as here in EoT. One source is "How the Film of the Century was Edited," Fetzer 1998, p. 286.

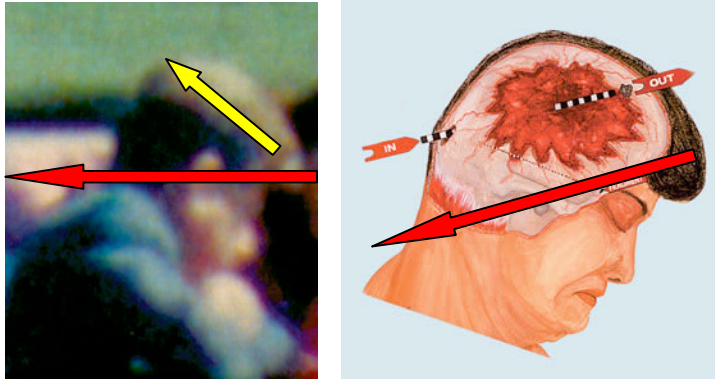


Figure 5. The solid red arrow (in both images here) shows the approximate path of a bullet in Z-312 (a nearly horizontal trajectory) for a shot from the South Knoll, as proposed by the author. The yellow arrow represents the trail of metallic debris on the JFK lateral X-rays. This is a gross paradox. The solid red arrow must be wrong. But the yellow trajectory (which is real) could not have resulted from a shot at Z-312; instead it must have occurred when JFK was more nearly erect, well after Z-312.

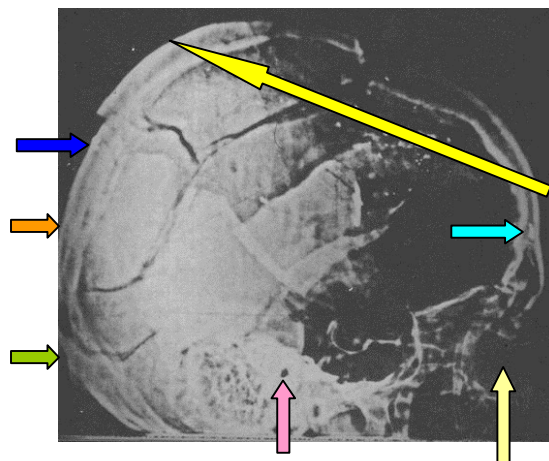


Figure 6. The yellow arrow represents the trail of metallic debris on this JFK lateral skull X-ray. The cyan arrow identifies the 7 x 2 mm metal fragment—removed by Humes at the autopsy. The dark blue arrow identifies the small fragment at the rear, which is seen as a phantom image through the 6.5 mm object on the AP skull X-ray. The beige arrow locates the orbit, while the green arrow identifies the EOP (external occipital protuberance). The violet arrow locates the ear canal, and the orange arrow *approximately* locates the orange-sized hole reported by most witnesses. I have explained elsewhere why such a

hole would likely *not* be visible on a lateral skull film.⁵⁸

But we are still not done with this issue. Let us agree that this trail of debris (Figure 6) does represent a bullet trajectory. (No one has seriously challenged the authenticity of these metallic particles—nor can I.) This trail is *inconsistent* with several other fundamental pieces of data in this JFK case, as follows:⁵⁹

1. It is inconsistent with the orange-sized hole in JFK's right rear skull (Figure 6) that was so widely reported, both at Parkland and at Bethesda. *The debris trail is far too superior.*
2. It is truly inconsistent with the location of the 7x2 mm fragment above JFK's right eye (the same fragment that Humes likely removed). *This 7x2 mm fragment lies well off the debris trail* (Figure 6).
3. It disagrees utterly with the beveled skull site near the EOP (Figures 5 and 6) that the pathologists took for the entry of a posterior bullet. *The debris trail is simply far too superior.*⁶⁰

A *third* headshot could solve this impasse (see Figure 7):

1. (Yellow in Figure 7). That someone shot from the rear is nearly universally accepted—after all, James Tague was struck by something. A shot from the rear (e.g., from a lower story of the Dal-Tex building) may have entered at the pathologists' beveled site just right of the external occipital protuberance (EOP). My reconstruction of the Harper fragment, with the lead deposit precisely at the pathologists' site, may be considered objective proof of their honesty and accuracy on this issue.⁶¹ If additional metal fragments were deposited with this shot, they were removed before the official autopsy began.⁶²

The autopsy report describes a fragment trail from the EOP to the right parietal bone. This trail is not present in the extant X-rays, but perhaps such a trail did exist before these fragments were removed, i.e., perhaps Humes told the truth in his autopsy report! It is even possible, if not likely, that the 7x2 mm metal fragment above the right orbit was part of that trail.⁶³ There is also eye witness evidence for a successful posterior headshot: early viewers of the film described a brief and abrupt leftward “jerk” of JFK's head (no longer seen in the film). Such a

⁵⁸ http://www.ctka.net/reviews/mantik_speer.html. In particular, the defect left by the Harper fragment would not be expected to be visible on this lateral X-ray.

⁵⁹ None of these paradoxes is confronted in EoT.

⁶⁰ Someone could conceivably argue that the pathologists' beveled site represents the exit of the (single) head shot espoused by EoT, rather than the entrance site proposed by Humes. However, such an exit site (along with a forehead entry) would still require a trajectory that was radically inconsistent with the trail of metallic particles—so the paradox would persist. There is no escape by that scenario.

⁶¹ Fetzer 2000, p. 227. My updated essay on the Harper fragment is pending.

⁶² Horne, Volume IV, pp. 1000-1013.

⁶³ On the overhead view of the skull (7HSCA230), note that this 7x2 mm metal fragment must lie very close to (if not actually on) the (extrapolated) trail from the EOP to Angel's exit site (adjacent to the coronal suture). Angel's images are also here: <http://www.history-matters.com/essays/jfkmed/ADemonstrableImpossibility/ADemonstrableImpossibility.htm>.

rotation could have been induced by a shot striking the right rear of the skull (the torque would have been appropriately counterclockwise).⁶⁴

It is even possible, if not likely, that early viewers of the film took this jerking motion as evidence for a successful shot.⁶⁵ On the other hand, a frontal shot from the South Knoll, i.e., the south end of the triple overpass, could not have caused such a rotation unless it struck the *left* skull, e.g., behind the left ear, but no evidence suggests such a shot.

Another posterior shot (different from the one that hit near the EOP), one that first struck the street, is also strongly implied—by four clues: (a) a metallic fragment in the *left* scalp (visible on most public images of the skull X-rays), (b) the metallic fragment in the posterior scalp (Figure 6—dark blue arrow) that appears as a phantom image inside the 6.5 mm object on the AP X-ray,⁶⁶ (c) an unknown projectile that caused the superficial back wound, and (d) five witnesses (including three cited in the WC) who recalled a shot that struck the street (an event that may have produced these ricochet fragments that hit JFK).⁶⁷ The final argument for a *successful* posterior shot is the presence of debris on the inside of the windshield and on the hood ornament. Forward spatter from a posterior shot might explain this debris, but a frontal shot almost certainly cannot.⁶⁸

2. (Red in Figure 7). A frontal shot most likely produced the particle trail on the X-rays. This entered high on the right forehead, near the hairline (where the incision is seen in the autopsy photographs). For a shot from (anywhere on) the overpass, the observed particle trail is really only possible when JFK's head is nearly erect, i.e., it cannot occur with the forward head orientation in Z-312 (or in Z-313).⁶⁹ If JFK's head had been rotated to the left (as in EoT's scenario), then this particle trail might derive from a South Knoll shot, although not immediately after Z-312. On the other hand, since the moment of this shot is not precisely known, so is JFK's head orientation also unknown at this moment. That leaves open the possibility that the shot might have come from elsewhere, e.g., the north side of the overpass. However—and this is critical—this shot cannot explain the orange-sized hole at JFK's right rear (the one that so many witnesses recalled)—after all, *the particle trail is much too superior*.

3. (Green in Figure 7). Another frontal bullet may have struck tangentially⁷⁰ (e.g., from the *north end* of the triple overpass, perhaps from the storm drain),⁷¹ entered

⁶⁴ Fetzer 1998, pp. 298-299.

⁶⁵ See "Interviews with Former NPIC Employees: the Zapruder Film in 1963," by Douglas P. Horne, Fetzer 2000, pp. 311-324.

⁶⁶ http://www.ctka.net/reviews/mantik_speer.html, Figure 3.

⁶⁷ Bonar Menninger, *Mortal Error* (1992), pp. 67-78.

⁶⁸ Dr. Robert Grossman executed a wound diagram for the ARRB in 1997 (Horne, Volume I, Figure 23) that depicted a "trap door" (that could open and close) due to a right parietal bone flap. Although no one at Parkland except Grossman recalled this, it would explain the (1) vertical head explosion described by Brugioni and (2) the debris on *both* sides of the windshield and all over the occupants of the limousine. Such an explosion through the top of the skull might well be expected due to cavitation from any headshot.

⁶⁹ Fetzer 1998, p. 286.

⁷⁰ Even EoT seems to consider a tangential strike (p. 198).

anterior to the right ear, and then exited to yield the orange-sized hole at the right rear. It is quite unlikely that such a tangential headshot could have deposited the 7x2 mm fragment, however. Such a tangential shot would have entered too far posterior (as well as too far inferior) to leave that fragment behind. This shot (#3) could well have produced the forward spatter that Hargis encountered. On the other hand, shot #2 is an unlikely candidate for that spatter. If shot #2 (from the South Knoll) had produced forward spatter, that spatter should have gone to the *right rear*, which does not match the witness reports. Clint Hill's recollection⁷² implies that this shot (#3) was the *last* shot. Finally, most witnesses quite specifically recall that JFK's final movement was to "slump" forward.⁷³

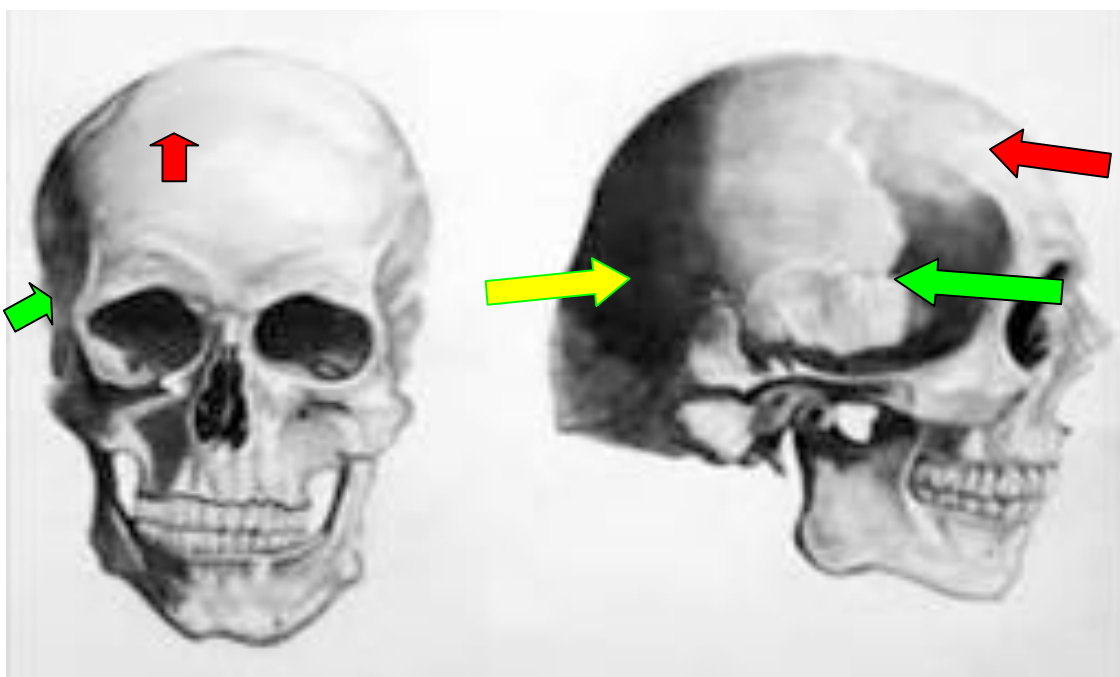


Figure 7. Schematic illustration of three possible headshots. Entry sites are only approximate. Each color defines a different shot.⁷⁴

⁷¹ Recall that ear witnesses to an overpass shot did not discriminate well between the north and south ends (if they are to be believed at all).

⁷² Clint Hill: "As I approached the vehicle there was a third shot. It hit the President in the head, upper right rear of the right ear, caused a gaping hole in his head...." (<http://www.veteranstoday.com/2011/07/25/jfk-whos-telling-the-truth-clint-hill-or-the-zapruder-film/>).

⁷³ Fetzer 1998, pp. 285-295.

⁷⁴ A curious, but now increasingly credible story from Clarence Israel was related by Janie Taylor, a biologist at NIH, across the street from the Bethesda Hospital. Israel's brother (now deceased), one of two orderlies in the morgue that night, reported that *one* doctor was waiting in the autopsy room for some time before the body (*or any other physicians*) arrived. "When the body arrived, many people were forced out of the room and the doctor performed some type of mutilation of *three* bullet punctures to the head area. The doctor was working at a very 'hurried' pace and was done within a few minutes, at which point he left the autopsy room." (Horne, Volume IV, pp. 1063-64).

It is far beyond the scope of a book review to address these complex matters in much more detail.⁷⁵ Yet I would make several observations: Tom Robinson watched as the pathologists removed about ten small metal fragments from the brain (these are not in the official record)⁷⁶ and put them into a test tube or vial; the largest was about ¼ of an inch.⁷⁷ And Dennis David typed a memo that described enough bullet fragments to constitute *more than one bullet*⁷⁸ (perhaps the 7x2 mm fragment was accidentally overlooked by these nefarious collectors).

Consistent with shot #3 above, Dr. Kemp Clark (neurosurgeon) described a tangential strike, and several close witnesses (e.g., Bill and Gayle Newman, and also Abraham Zapruder) saw trauma in front of JFK's right ear, perhaps caused by this bullet's entry. Gayle Newman also recalled that JFK grabbed his right ear (p. 339).⁷⁹ Also note Clint Hill's comment about the "upper right rear of the right ear" (footnote 72).

Then there is the memo of A. H. Belmont (at FBI headquarters), dated November 22, 1963, with a handwritten annotation of the time as 9:18 PM:

I told SAC Shanklin that Secret Service had one of the bullets that struck President Kennedy and that *the other is lodged behind the President's ear* [emphasis added] and we are arranging to get both of these.⁸⁰

In retrospect, a Belmont bullet (behind the ear) may have caused the tangential strike (shot #3 above); if so, then that bullet⁸¹ was removed (or its fragments were removed) by

⁷⁵ Gary Aguilar, MD, has recently advised me, based on Josiah Thompson's position graphs of JFK's head (Thompson (1997), p. 91—or see Harrison Livingstone, *Killing Kennedy and the Hoax of the Century* (1995), p. 139), that the head moved most rapidly near Z-328. (Livingston had made this observation long ago; see his p. 138). At these frames, JFK is nearly vertical (i.e., not tilted forward or backward, although he is tilted toward Jackie).

In this review, I have (again) stated that the particle trail in the X-rays could only occur for a frontal shot while JFK was nearly erect (meaning not tilted forward, in particular). And here is another coincidence (or maybe not): Clint Hill reached the limousine at about this same moment (Z-328)—and only then did he hear his "third" (and final) shot—*long after* Z-313. So we can now ask: Is this when the final shot (#3 above) struck? I discussed this possibility 15 years ago in Fetzer 1998, pp. 285-295.

⁷⁶ <http://www.maryferrell.org/mffweb/archive/viewer/showDoc.do?docId=711&relPageId=3>.

⁷⁷ <http://www.maryferrell.org/mffweb/archive/viewer/showDoc.do?docId=327&relPageId=9>.

⁷⁸ Law, pp. 12-13. Curiously, Harrison Livingstone, *High Treason* (1998), pp. 562-563, even displays a photograph of a bullet fragment said to have been removed from JFK.

⁷⁹ Note that this movement by JFK's hand is not seen in the extant Z-film, but Gayle was not alone: based on 75 viewings of the Z-film, William Manchester reported that JFK lifted his hand to his head in *The Death of a President* (1967), p. 158. Even Jackie said, "And then he sort of did this [indicating], put his hand to his forehead and fell in my lap" (5H180).

⁸⁰ <http://www.jfklancer.com/hunt/mystery.html>, Figure 6.

⁸¹ Douglas Horne adds this comment (e-mail of August 22, 2013): "On Nov 29th Hoover and LBJ had a long phone call, which (the part I refer to) is reproduced verbatim on page 54 of Michael Beschloss's book *Taking Charge*. In that conversation Hoover tells LBJ that '**A complete bullet rolled out of the President's head.**' That has bothered me for many years, since no one else ever said that, to my knowledge, and here was the nation's top law enforcement officer saying it. For years I have thought that this was proof of his complete senility and incompetence. In this conversation with LBJ, Hoover says that the complete bullet fell out of JFK's head during cardiac massage at the hospital, and was found on his stretcher. So what we know from this conversation is that, **IN HOOVER'S MIND**, this was the source of the 'stretcher bullet,' even though it is NOT the explanation offered up by his own agents Sibert and

the pathologists. In fact, the disappearance of 2-3 skull X-rays (p. 330) may well be further evidence for this conclusion—i.e., these missing X-rays (taken shortly after the body arrived) showed the pathologists precisely what fragments needed to be collected before the official autopsy began; if so, it was then critical (for a successful cover-up) for these early X-rays to disappear.⁸² Although others may wish to pursue this issue, it is well beyond my purposes here to propose specific sequences for multiple headshots.⁸³

Oddly, EoT does not actually pinpoint the site of origin (on JFK's skull) for either forward spatter from JFK (which is cited on page 102) or for back spatter.⁸⁴ The autopsy

O'Neill, who quoted Humes's speculation (in their FD-302) that it fell out of JFK's **BACK** during cardiac massage. For years I thought Hoover was a senile idiot who didn't even know the basic facts in this case. BUT WHAT IF HE KNEW ALL ABOUT THE BELMONT BULLET DESCRIBED IN THE MEMO, and for that reason (forgetting that it was not 'in the official record'), got it confused with the stretcher bullet that Humes announced (to S & O) had obviously fallen out of JFK's back? This must be the case, because I am not aware of anyone the day of the assassination speculating that the stretcher bullet came from JFK's head. In other words, Hoover is still an idiot, but the nature of his slip here when speaking to LBJ may very well indicate *that he was privy to evidence removed during clandestine surgery at Bethesda*, and got confused (because he was getting senile) and simply said the wrong thing about the stretcher bullet when speaking to LBJ...indicating only to us, years later, that he must have been thinking of the bullet Belmont wrote about."

⁸² Note that, although Belmont is FBI, his source is not the two FBI agents (Sibert and O'Neill), who were assigned to the morgue that night. Most likely the FBI was not permitted in the morgue when the pathologists collected these initial fragments—and illegally failed to report them. (Also see Dr. Humes's comments, about the absence of the FBI in the morgue, in the CBS memo of January 10, 1967 (<http://www.maryferrell.org/mffweb/archive/viewer/showDoc.do?docId=145280&relPageId=184>). If Sibert and O'Neill had actually been there, it would mean that they also illegally failed to report these fragments.

In an e-mail of August 24, 2013 from Douglas Horne, he states his sense of the characters of S & O: Based on observing them during several hours of questioning during their ARRB depositions they were innocents—honest men sent to the autopsy simply to obtain bullet fragments—and they were not concealing any autopsy evidence collected after 8 PM, when they were belatedly admitted to the morgue. In particular, Horne believes that they told the truth—under oath—that they saw only two minuscule metal fragments removed from JFK's cranium.

In support of this scenario, the FBI report makes no mention of these many earlier fragments (i.e., those of Robinson, David and Belmont). Douglas Horne has discussed this scenario (the Belmont memo and the exclusion of S & O) in great detail (Horne, Volume III, pp. 705-708, 713-726). Another possible origin for the bullet behind the ear is the EOP shot (#1 above). Of course, Dennis David's report (of fragments constituting *more than one bullet*) suggests that Humes collected fragments from *both* the EOP shot (#1) and the tangential shot (#3), which may be true.

⁸³ Inquisitive souls might begin with Clint Hill's report of the "third shot" as he reached the limousine—while also noting that *he reached the limousine well after Z-313*. See the Clint Hill footnote above (#72).

⁸⁴ Tim Nicholson has performed a detailed analysis of the physics of the Z-313 streaks, although the following comments are my own. Extrapolating the two largest streaks backward on Z-313 strongly suggests that they converge—at the same point—on JFK's *forehead* (Commission Exhibit 390, WC Volume XVI, p. 986). Oddly, however, the forehead was actually intact (according to both the witnesses and the autopsy photographs) and the forehead therefore is not a likely source for these bone fragments (to say nothing of *two* fragments from the same point—at the same moment).

To further perplex us, the physical anthropologist (Angel) for the HSCA (likely correctly) identified the largest, late arriving bone fragment (found in the limousine, according to Humes and Kellerman—but see Horne, Volume III, pp. 710-711) as frontal bone, where these two streaking fragments also *supposedly* originated! So the question becomes: *How could all three of these bone fragments originate from the same site in the skull?* But there is yet one more puzzle: *Why would one of these bone fragments merely fall into the limousine while the other two zoomed off at high speeds* (p. 257)? Possible

photographs in particular show no obvious site of origin for either back spatter or for forward spatter, but EoT skips over both of these issues. We might ask the film forgers a similar question: If they believed, as seems likely, that the mist (in Z-313) represented forward spatter, then exactly where on JFK's head did that spatter exit, based on the autopsy photographs?

EoT then goes on to recall that, for the HSCA, Humes raised his posterior skull entry site by 10 centimeters; the author implies that this was his final verdict (p. 175). That of course is false, because Humes later shamelessly reverted to his original site, near the EOP.⁸⁵

EoT also states that the HSCA concluded that no evidence suggested a second shooter (p. 187). On the contrary, the main HSCA conclusion was just the opposite—the acoustic evidence strongly implied (to them) a second (but inaccurate) shooter behind the fence on the Grassy Knoll.

On another issue, EoT brings us current on skull beveling: once considered the “gold standard,” it is now considered less reliable (pp. 198, 211-212, and 248-249).⁸⁶ For example, a [bone] fragment can break off and leave behind (at that site) apparent beveling, quite unrelated to entry or exit. In further support of this, I have previously cited the experiments conducted for Roger McCarthy, in which he noticed random beveling that was unrelated to entry or exit.⁸⁷ The beveled skull site identified as an exit by the HSCA was likely an example of such irrelevance. After all, in their autopsy report, none of the pathologists had identified it as an exit.⁸⁸ To further confound us, the HSCA

answers include (1) two different headshots were at play, or (2) the streaks are not authentic, or (3) as Horne suggests, perhaps the large bone fragment was removed by Humes during his illicit surgery.

Witnesses in Dealey Plaza and early viewers of the Z-film offered a different scenario, e.g., “...and one fragment, larger than the rest, rises over Kennedy's falling shoulders and seems to hang there and then drift toward the rear (William Manchester, *The Death of a President* (1967), p. 160.) This fragment may actually be visible in Mary Moorman's famous photograph, on top of JFK's right shoulder. Jackie also saw a piece of the skull (5H180)—an unlikely event if it traveled at the high speeds of the streaks in Z-313. Charles Brehm is another who saw a skull fragment flying to the left rear (Thompson 1967, p. 99.) There are more such witnesses.

⁸⁵ Breo DL. *JAMA*, 267:2794. Reproduced in [ARRB Medical Document #22, see p. 2794](#).

⁸⁶ Ibid. Humes pompously proclaimed that his beveling rule was valid forever: “It happens 100 times out of 100, and I will defend it until I die. This is the essence of our autopsy, and it is supreme ignorance to argue any other scenario. This is a law of physics and it is foolproof—absolutely, unequivocally, and without question.” Humes is now dead, and so is his so-called law. For more on the utility (or futility) of beveling, see footnote 352 in “How Five Investigations into JFK's Medical Autopsy Evidence Got It Wrong” by Gary L. Aguilar, MD, and Kathy Cunningham (May 2003): http://history-matters.com/essays/jfkmed/How5Investigations/How5InvestigationsGotItWrong_6.htm#_edn351.

⁸⁷ Livingstone (1995), p. 313.

⁸⁸ In the Military Review of January 1967 they were, however, persuaded to change their minds; they signed the document that had been prepared for them by the Justice Department. In this document a beveled exit wound was reported at the junction of the frontal and parietal bone, at the periphery of the large skull defect. Before the ARRB, when pressed by Jeremy Gunn (at Horne's suggestion) about this change, Humes put his head in his hands, stared down at the document, and said, “I don't know who wrote this” (Horne e-mail of July 9, 2013).

has identified this beveled site as lying within frontal bone⁸⁹ (pp. 184-185; 1HSCA253), which is actually absent (on the skull X-rays)!⁹⁰

In support of the South Knoll headshot, EoT then focuses on JFK's head orientation at Z-312 (pp. 213-218). For this, the author adopts the work of Dale Myers: JFK was rotated away from Zapruder at 25.7° past profile (left), tilted left 18.1°, and nodding forward (pitch) 27.1°. EoT states the margin of error as 2°, but notes (p. 213) that the HSCA disagreed with Myers regarding the pitch. In particular, Myers's angle is 16° steeper than Canning's (for the HSCA)!⁹¹ That is not a small amount.

Chapter 7. Two Headshots

EoT claims that the presence of back spatter in Z-313 proves that this frame (at least) is authentic. However, this assertion overlooks the possibility that the mist was merely borrowed from a later frame and superimposed onto an original image. (The mist might also merely have been copied, e.g., by hand, based on a later image.)

The author concludes this chapter with a presumptuous claim (p. 265):

“Current forensic research supports a single gunshot originating in front of the President, and front is not the Grassy Knoll. All other explanations are myths and are to be discounted as such.”

I agree that a *successful* Grassy Knoll shot is not supported by the medical evidence. However, so long as EoT is unwilling to discount the acoustics data (which implied a gunman on the Knoll), how then can the author conclude that *no shooter* (even one who missed) stood on the Grassy Knoll? For that matter, any gunman who missed (from whatever site) cannot easily be excluded, no matter how often the author uses the word “myth.” (I am not close-minded about an inaccurate shooter on the Knoll, even though the acoustics data cannot be used as evidence for one. As usual, we must turn to the witnesses for such evidence.)

EoT claims (p. 225) that some projectiles can remain within the target. Does this describe the particle trail in the X-rays? Is forward spatter absent because nothing exited

⁸⁹ See Figure H-4 by John Hunt, which is a copy of HSCA Exhibit F-66. This figure shows the frontal bone intact all the way back to the coronal suture (<http://www.history-matters.com/essays/jfkmed/ADemonstrableImpossibility/ADemonstrableImpossibility.htm>).

⁹⁰ I have often discussed this misinterpretation by the HSCA. John Hunt has listed those who report absent frontal bone: Boswell, Finck, Canning, and McDonnell (ibid.). See my sketch here: Fetzer 2000, p. 251. Dr. John J. Fitzpatrick, the forensic radiologist for the ARRB, also agreed with me that the frontal bone was present *only up to the hairline*. Although Angel would have agreed with him, the HSCA would not have welcomed Fitzpatrick's conclusion (<http://www.maryferrell.org/mffweb/archive/viewer/showDoc.do?docId=145280&relPageId=225>).

⁹¹ Tim Nicholson notes (e-mails of August 12 and 22, 2013) that he has “JFK's head orientation as 27-33° nodded forward [pitch], turned left 10°, tilted left 15-30° (see Moorman photo). Sherry [Fiester] says the head is turned 25° to the left. She apparently does not specify the other angles. In the attached images [of Z -312] the forward tilt of the skull is 27° and 33°.” Nicholson's major disagreement with Fiester appears to be JFK's leftward rotation: 10° (Nicholson) vs. 25° (Fiester). That is significant, particularly as this angle determines whether the particle trail could have originated from the South Knoll. On reviewing Nicholson's images I was struck by how subjective these conclusions are—and how imprecise these angles must be (for any observer).

from the back of JFK's head with this particular shot? (Maybe so.) Based on the fuzzy borders of these particles (I have observed these many times at the National Archives, with quite myopic eyes), I have asked if they derived from an exploding mercury bullet. I also wonder: Would exit debris usually be absent with a mercury bullet? (I don't know.) If two frontal headshots occurred, then perhaps the tangential one did cause forward spatter (as encountered by Hargis)—but then this spatter was subsequently excised from the film by felons who (illegally) altered it; after all, their goal was to erase any evidence of a frontal shot.

EoT places great emphasis on the retrograde (toward the shooter) movement of ballistic gelatin (pp. 250-253), and offers this as an explanation for the initial forward movement of JFK's head in the Z-film. The chief problem with this, of course, is that JFK's head was not gelatin—after all, the brain was surrounded by a bony skeleton, which is quite another matter.⁹² To be fair, though, EoT does cite (p. 203) Robin Coupland, who apparently used “model” skulls filled with gelatin. A “bulge” was observed in the skull where the bullet entered. In my opinion, however, this is quite different from the *entire* skull moving toward the bullet.

Chapter 8. The Single Bullet Theory

EoT claims (p. 294) that vertebral body T1 was fractured. But that was not the conclusion of the Clark Panel radiologist. (I agree with him.) The Panel concluded that only artifacts were seen at that site.⁹³

EoT carefully presents (p. 294) the trajectory through JFK. For additional (corroborating) anatomic information, see my essay on this subject.⁹⁴

The Witnesses (this final chapter is unnumbered)

I have already cited several of the witnesses from this chapter. I would in addition, however, refer the reader to the many witness statements that suggest two (or more) headshots.⁹⁵

A Potpourri of Curiosities in EoT (my comments)

1. Despite the frequent references to back spatter in the Z-film, only two tiny figures (pp. 178 and 228) show any Z-frames—and these are in black and white, with low resolution.
2. EoT contains no index. This was a major handicap during my review.
3. “*When scientific methods prove a theory true, it becomes a fact. When scientific methods prove a theory false, it becomes a myth*” (p. 331). Here again we see the

⁹² Tim Nicholson has offered this assessment (e-mail of August 11, 2013): “The gelatin does deform when the bullet hits it, showing this retrograde effect. This happens because of internal pressure and because there is nothing constraining the gelatin from such deformation. If it were inside a closed inflexible container you would not see this effect.”

⁹³ Aguilar and Cunningham (May 2003); see Section III (The Clark Panel), paragraph 1: “Metal Fragments Present in JFK's Neck X-rays.”

⁹⁴ Fetzer 2000, pp. 252-260.

⁹⁵ Fetzer 1998, pp. 285-295.

- conflation of “truth” with “fact.” This is careless use of language. More puzzling though is this: the current attitude in science is quite different from EoT’s. Most scientists would agree that even widely accepted theories (e.g., Maxwell’s classical electrodynamics of the 1800s) were not considered immutable, but were rather always open to falsification—and *never finally proved*. Furthermore, older theories are not always considered myths. For example, although Newton’s Laws have been superseded by Einstein’s relativity, these Laws are still useful for launching satellites into the solar system—and Maxwell’s Equations still find wide application today. Surely these accomplishments of Newton and Maxwell should not be called myths.
4. “*Physics is a complicated subject*” (p. 259). On the contrary, physicists would say that sociology, economics, and psychology are complicated subjects. Models in physics can be reduced to bare essentials, thereby simplifying the problems and allowing testable predictions. Such an approach rarely works in these other disciplines, just because of their inherent complexity.
 5. “*Newton’s Second Law of Motion*⁹⁶ states that when a force acts on an object, it causes the object to move” (p. 205). Of course, “move” should read “accelerate” [force = mass x acceleration]. “Move” is better reserved for “velocity.” The statement itself reflects the (incorrect) thinking of Aristotle, i.e., in his opinion even a constant velocity was impossible without a continuous force.
 6. EoT persistently cites Oliver (p. 180) as a participant in shooting experiments at the Edgewood Army Arsenal. In fact, Oliver was a professor of classical philology at the University of Illinois, who had written an article about Oswald, titled “Marxmanship in Dallas.”⁹⁷ The man who participated in the shooting experiments was Alfred Olivier.^{98, 99}

Copy Editing in EoT

1. These pages have misspellings: pp. 98, 116, 132, 153, 154, 184, 251, 264, 265, 271, 281, 310, 314, 330, and 335.
2. These pages contain mangled syntax (or missing words, or incorrect words, or repeated words): pp. 35, 89, 91, 99, 102, 118, 119, 146, 177, 198, 199, 214, 253, 273, 291, 301, 303, 315, and 331.
3. Nearly the same MFRC image is shown on too many pages: 100, 103, 117, 231, 253, and 291.

⁹⁶ EoT cites this Law as if it were currently used in physics. That assumption, however, contains an unintentional irony, i.e., according to EoT, because this Law has been replaced by relativity, it should be considered a “myth.”

⁹⁷ http://www.revilo-oliver.com/rpo/Warren_Commission_Testimony.html.

⁹⁸ <http://www.jfk-info.com/fragment.htm>. Bizarrely enough, however, this website states: “Dr. Oliver [sic] shot the wrists of cadavers for the Commission. Olivier [sic] was a supervisory research veterinarian....” One can only wonder who was shooting whom for the WC. With typos flying almost as thick as bullets, perhaps we should ask whether “veterinarian” was supposed to be “vegetarian.”

⁹⁹ Aguilar and Cunningham (May 2003). This is a wonderful review of the government’s relentless incompetence at investigating JFK’s murder. Olivier (but not Oliver) is cited here. (To add further unneeded confusion, Cunningham has married Evans, and now uses that name, even when searching for silver ingots.)

4. Radiating fracture lines are repeatedly discussed, in almost identical phrases: pp. 97-99, 199, and 226-227.
5. An almost identical discussion of cavity formation occurs on pp. 98, 227, and 254-255.
6. Radiating fracture lines in the skull are repeatedly shown (with nearly the same image): pp. 99, 200, 250, and 255.¹⁰⁰
7. Differences and similarities between back spatter and forward spatter are discussed over and over, in virtually the same language (which gives the reader a curious case of *déjà vu*): pp. 101, 209-210, and 232-233.
8. Thicknesses of skull bones are (unnecessarily) cited twice: pp. 197 and 249.
9. In the Bibliography, beginning with the second appearance of AFTE (p. 362), eighteen references are repeated (i.e., it is their second coming).
10. Figure 31 is discussed (p. 291), but the displayed image is clearly the wrong one. The correct one does not appear anywhere.
11. Z-312 supposedly shows spatter (p. 91), but then, paradoxically, Z-312 is said (p. 186) to have been exposed *before* the headshot! This twisted my mind for a while—after all, how could spatter appear *before* the headshot?—but I suspect that the first appearance here of Z-312 is a typo and that it should read Z-313. If not, some serious conceptual challenges await us.¹⁰¹

My Conclusions (just the unpleasant ones)

[Note: I have listed my *agreements* with EoT in the opening abstract.]

1. The title would be better served by using “fallacies” instead of “myths.”
2. The author should clearly state her own view of the external world: Does she indeed side with the post-modernists?
3. The acoustical data are red herrings.
4. The extant Z-film misleads us about tissue debris—on the contrary, much other evidence places it in the air (especially to the left rear) and all over the outside of the limousine. In addition, the mist in the extant Z-313 may not agree with the original Z-313. Perhaps the mist was copied (by hand) imprecisely, i.e., from a later Z-frame. If so, that could explain why it looks like back spatter. (The forgers may have regarded it as forward spatter from a shot from the rear.)
5. Even if Z-313 shows back spatter, that alone cannot prove that the entire Z- film is authentic. It may not even prove that Z-313 is wholly authentic.

¹⁰⁰ Although EoT renounces any specific entry site for its sole frontal head shot (p.169), each one of these images places an entry exactly where the metallic trail of debris on the X-rays fits best. This is also the same site where the forehead incision is seen in the autopsy photographs.

Is the author subconsciously aware that this is indeed a very specific (and likely correct) entry site—and may even fit with a shot from her favored site, i.e., the South Knoll? If so, she does not tell us. (Of course, this trail could not have resulted from a shot at Z-312—or at Z-313—but might have occurred later, when JFK’s head was nearly erect.)

¹⁰¹ I eventually discovered one final comment on this matter (p. 206): “Frame 312 [sic] also reveals blood spatter leaving the head because of a gunshot wound to the head” [sic]. I am now hopelessly confused. May I even ask: Just which head shot caused spatter in Z-312?

6. A shot from (anywhere on) the overpass immediately after Z-312 is grossly inconsistent with the trail of metallic particles on the X-rays. If Z-313 displays a headshot, then that shot cannot cause the particle trail in the X-rays. That trail must have arisen from a *different* headshot, more likely later when JFK's head was more erect.
7. Multiple headshots occurred (Figure 7)—in radical disagreement with EoT. However, at least two of these shots were likely separated by well over one or two Z-frames; unfortunately, EoT only considers a very short time interval. Multiple headshots are also strongly suggested by many witnesses—likewise separated by well over one or two Z-frames.
8. The skull X-rays (not considered by EoT), when correlated with all of the evidence, provide very powerful, perhaps even irrefutable, evidence of multiple headshots. The set of three headshots (Figure 7) is the only one to date that correlates all of the X-ray evidence with the Z-film and the eyewitnesses.
9. The absence of forward spatter (from a frontal shot) in the Z-film is an enigma—curiously nowhere even discussed by EoT. If the bullet that produced the particle trail on the X-rays did not exit (which may be true) then that could explain the absence of forward spatter (for that shot). Or if government-employed felons deliberately erased evidence of forward spatter (i.e., from shot #3 above—the tangential shot) then that forgery could account for its absence (from that shot). EoT does not discuss any of these issues.
10. Most likely the limousine actually did stop, although only briefly. Subjective time deceleration cannot explain away all of these witnesses. (There is also photographic evidence—not discussed in this review¹⁰²—of at least a dramatic slowing of the limousine.)
11. Only artifacts are seen near the T1 vertebra on the neck X-rays. They contribute nothing to this case.
12. If another printing of this book is planned, then a copy editor with a critical eye should be hired. Finally, an index would be priceless.

Acknowledgments

Because this essay metamorphosed well beyond a standard book review, I must thank the following individuals. Jim DiEugenio initially persuaded me to read (and to review) the book. Greg Burnham offered his historical knowledge of the Zapruder film, was a careful listener to my theses, and made specific suggestions for increased clarity. Tim Nicholson provided precise quantitative analyses that provoked further thoughts; he also commented on the retrograde movement of gelatin targets. Jim Fetzer's editorial skills led to a more readable format; Jim also proposed some of the illustrations. Gary Aguilar inspired some new ideas about the movement of JFK's head at a critical moment (based on Thompson's graph). Douglas Horne once again displayed his profound knowledge of this case via frequent invaluable and critical insights. As a result, this review is more lucid, more nuanced, and richer in detail than it would otherwise have been. Unfortunately, all of the left over mistakes are mine. I only wish I knew where they were.

¹⁰² Fetzer 1998, pp. 301-302.

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