## Dear Mr. Joy,

I'm about to leave for a brief trip. I'll answer your letter of 1/4, which arrived today, as 4 read it.

While I do not sgree that the first shot was not before 2210, I do agree that it is the best foint for calculations. Does the surveyor's plat on 243 of WWII help? First shot is XI. This is evailable from the National Arbhives in an 8x10 print for \$1.50. I might be able to get a much larger copy, if that is important. I also have the plans for the awars of the area, which have surveyors points, curb lines, atc, but that is hard to mail and too large for me to photocopy.

Your thinking on the gressy knoll and the desire bility of escape is corfectly dound. How ver, you do not have the fact. There cannot no question, at the very least 2313 came from there and in all likelihood, the very first shot, in the front of the neck. There are two very good places from which the assessin would not have to flee. One, the trunk of one of the many cars there, some of which did leave immediately, and the second a sawer, of which I have pictures. The sever was the safer place and 1 t is consistent with sho ting from that area.

I think the garage to the west of the TSBD is close to a right angle.

How about the Dal-Tex Bldg for the read shot(s). And does it not as well suit your <sup>S</sup>mperor Claudius story, which is very pertinent.

I encourage you not to draw on Thompson. He came up with a commercial formula. Despite his cleim to scholarship, some of the stuft he has is quite obviously wrong, and I think he knew it. Either way, he is not much. He has taken the work of others and jazzed it a bit with error and irresponsibility to make it seem like he knows what he doesn't and to give answers no responsible man would try and give. He, too, has taken advantage of the longing of the recopie for definite statements...My own independent study of the A film in the late Spring of 1966 convinced me the 313 shot, without questions, was from the right front (WWII, 221). You must remember in enslyzing from the printed frames that 314-5 were reversed (PW145). And check 284. It is a dupe of 283. At about this point there was a sharp forward motion. The wind was about 10 mph, not amough to blow a piece of bone 25 feet south when there was no flaw on the south of laft side of the head.

There may be an unpublished pictures howing a large truck in front of the garage at that time. How would it would out of the so-called non-fatal shot dame from the front and the read wound was lower. The President was turned to his right, as the Z pictures before 210 show. And how would the Commally wounds trace backward toward the Dal-Tex Bldg, how high up' I have pictures taken from a number of points, including the jail, Records Bldg, Dal-Tex and the roof of the Bldg to itseast, an some from the south side of the Fleza. Please let we know which ones you'd like to see and I'll send them on my return. Please excuse the haste. I want to get this off before I leave and 4 have to prepare.

Sincerely yours.

Harala "at these

5809 East Rosewood S t. Tucson, Ariz., 85711 Jan. 4,1968.

Fear Mr. Weisberg: As I believe I said in the notes on the street sketch, I cannot be sure that any of the angles are quite exact and, of course, I am equally unsure that the positions are exact. I know of no way even to get an exact map of the street except to take a crew and in struments ,go there and measure and map it myself which, of course, I would not be allowed to do. Those things are drawn and then built but if the builder finds it more convenient not to make it quite like the drawings, and he frequently does, why that is the way it is built. The drawings may afterward be changed to "as built" but , in cases such as this, most likely not. However, a book just out by one Josiah Thompson of Life magazine and, I believes student of philosophy, says that a careful photographic analysis of various films agrees with frame 210 as the frame in which President Kennedy was first hit. My position was that it seemed close enough and, sb far as I could see, a few frames one way on the other did not matter. When the President was concealed from the sixth floor window mentioned so often by the big oak he was also concealed from all other floors except the first and the first has no windows. So the first shot was either fired from the sixth or seventh floor window, the site that seems best to me, or the shrubbery on the knoll. If the shot was fired from the knowl it was travelling to the right of the shooter and , if the bullet hit the President in the throat, would have made its exit at a lower point/bebw the left shoulder. There was never a whisper of such an exit wound. I recently saw, where I don't know at the moment, that a police officer said he saw the Fresident's bodyknocked to the left when the bullet struck. Of course a shot from the right front would have done this, probably, but a shot from the right rear would more certainly have done it. The reason is that from the right front the shot would knock him back against the back of the seat while one from tho right rear would knock him away from the seat back. Of course a shot from the sixth floor would hardly have knocked the body to the right.

I was born and raised in the hill country of West Texas and was able to do pretty well hunting with a .22 rifle when I was ten or a little older. Then and later I learned that a hunter needs cover when approaching his game and when shooting. Similarly during my years as a student in military school and college and in the army, I learned that a sniper needs a covered point from which to shoot and a covered route of escape. My objection to the knoll is that it has no covered escape route. The space back of the bushes is used by the Sheriff's office and some others as a parking space but with a crowd around the sniper would be taking a great chance of being caught, I myself would not select such a site unless there happened to be none better and the job had to be done. Since there is and was a better site, I would have chosen it and so, I believe, would the expert aniper who shot Kennedy. From the garage he could have fired earlier but the convenient spots would have been spots for which he could have used t-he two street light posts for preliminary aiming points, always desirable for moving targets. The second best shooting sites were probably in the building, on the sixth or seventh floor. When I first visited the site on Jan. 18, 1964, I wondered why the sniper did not fire when the car was approaching along Houston St. or just after it started down hill. But if the sniper happened not to be in the building, and I am sure he was not, then the wait was e-xplained. I would place the knoll as only the third best place from which to have done that shooting and the "second Oswald" knew his stuff.

In-a way this garage reminds me of the way Emperor Claudius found and noted that none of them mentioned a certain town. So he sent a sufficient number of troops to that town and...there were the eagles.

The garage is almost an ideal spot, as near ideal as one could expect to find. The heavy front doors are wide mesh but if the sniper stood back a few feet he would be invisible from the sid walk and the trees between him and the street are trimmed up to five feet or more so there would be no obstruction to his shooting. The garage is 20 feet wide and the side next to the building, a wall of the building, in fact, is the full depth of the building, about 100 feet. The west side of the garage is shorter, perhaps 65 or 70 feet. I could scale it but it is not that important. I saw a big five ton truck in there and several trucks and cars could be kept there. The car doors open onto Elm Street Extension, a brick paved length of street, at least it is paved for about 15 170 feet. In the back is a manx door with a sheet metal cover on the outside and a ¥ale type lock. If the sniper were discovered, he could get out that door long before anyone could reach it from the street. If not discovered, he could secrete his weapom and escape at his leisure and pick up the rifle at night. This is what he probably did...when he ran down the hill to get into the car as seen

The man who shot Connally was on the sixth or seventh floor, of c urse. He was probably the man seen running away by Worrel and Thompson goes farther with him, to a point south on Houston St. where he was picked up by a car which headed with on that street and west on Elm. I think this is probably correct.

head Thompson had somebody go through some long winded amalysis of Kennedy's hasky movements, plot graphs and so on, but all on an incorrect premise. Kennedy was a live man at the time and his head was dly an appendage. Knock the head to the left and the body would pull it back...unless the body went with It. He talks about Newtin's Second Law of Motion but his application is to an independent body, not an appendage. Lrive a tractor at the boom of a crane and you may knock the crane somewhat sidewise...but you will almost certainly turn it more or less around. He tries to establish that there was a second head shot from the knoll at about the instant of the first which he thinks w was fired from the sixth floor. He thinks this would be necessary to blow the adges of the occipital bone upward and more or less backward as they were. All this is worthless. He has had the Zapruder film at his disposal, more or less. Why didn't he study it?

I have seen nothing of that film but what Life has published in its issue of Nov. 25 ,1966 and xi in some issues since and those black and white reproduct--ons in VOLUME XVIII of the Hearings and Documents. Unless the whole of those film frames is faked, false, phony, manufactured lies, then there was one bullet to hit Kennedy in the nead and only one and that bullet was fired from a fairly low elevation to the right rear. Frame 313 shows a balloon of mist of flesh and brain matter and streaming out to the left front two large and a large number of smaller streamers which means that they were flying practically due south at that instant. The way the clothing of the women and girls as well as other things are blowing shows, what has been reported, that the wind was fairly strong that day. The EXM same things also show that the wind was blowing from practically due south. Yet the flore or less disintegrated flesh and brain mat\_ter is flying strong right into that wind. So the bullet was going in that direction and no other. There is not the slightest sign of a cross fire or a fire in the more or less opposite direction though, of course, at that point a shot from the knoll would have been almost precisely at right angles tox the path of the car and of the other bullet. The angle with the path of the other bullet would be smaller, of course.

Every single motion of Kennedy's body can be explained by three things: 1) His bending forward in his pain which must have been pretty severe. 2) The mothin of the car, and 3) Mrs. Kennedy's pulling him toward her. The lady reached out her left hand some time after frame it 250 and caught his right arm and began pulling. She then extended her right hand and ran it around his shoulders. By the time frame 332 or 333 is reached both arms are around his neck though hardly more than the hands are around the neck at that moment. At the last frame, 334, he has dropped forward so that his left shoulder is about on the seat of the car and his head in her lap or on her right thigh. In the last two frames his head is pushed upward just as it would be if his chin had come to rest on the lower part of her thigh. Thexage to of the head is turned more squarely to the camera and that wound is shown as a deep, white V with no hair visible toward the front.

Frame 314 is a bit indistinct but frame 315 shows quite clearly a V-shaped blaze of white opening out toward the front. In the clearer frames, of which 315 may not be one, this V shows sides slightly curved at the point of beginning, slightly above and in the rear of the right ear. In some slides the sides lookx more like straight lines, it seems to depend somewhat on the position of the head at the time the frame was taken. In frame 318 everything is blowing so that it would seem they mustic we been hit by a gust of wind. In one of the later frames the wound and head are somewhat indistinct but one can still see where they are. Mr. Kennedy's head was hit by no other bullet, neither from the knoll, the front or the rear. One fatal bullet, just one. That glaring, white V shows no cross slashes nor does it show any change except in the last frames which is not a dange in the wound but a change in its position relative to the camera. Of course if all those frames are faked, there could have been another wound. If they were not faked, then there could have been no other head wound. Mr. Thompson either did not look at those frames or his eyesight is very bad, even worse than a student of philos ophy should have. Yet the SatEvePost was whooping for Mr. Thompson and his "cbsely reasoned" work. No amount of reaso-ning is any good if it starts from the wrong premise. I have found Occam's Razor quite useful...The simplest answer is the most likely true.

Mr. Thompson thinks Connally was shot from the top of the Records Bldg. on the southeast corner of Elm and Houston. This would give about the right vertical angle but not the right horizontal angle. The bullet that struck Connally under the right armpit was travelling downward at an angle of something more than 20 degrees and to the left at an angle of about 15 degrees which is consistent with the 6th. or 7th. floor of the Depository but a bullet from the Records Bldg. would be travelling downward at an angle of about 27 degrees and at some slight angle to the right and would, most likely, not enter the chest at all but exit from the right side. These peopled on t handle angles very well, You'd think they never heard of Euclid. ..to say nothing of plane trigonometry yet I believe they are still high school courses.

Thompson also rejects the 45-60 degree downward angle in one place and seems to accept it finally. This is, of course, an impossible angle. Even the FBI ought to have known that.But they were faking from the start. Thompson adopts the once suggested idea that a fragment of a the bullet or of bone went down ward through the brain and made its exit through the throat wound. In support of that argument he offers a sketch of a head standing erect showing the spot of damage in the lower brain and a line with the usual arrow downward to the throat wound. But the line barely makes exit at that point with the head erect. If the head had been bowed forward toward the throat as Mr. Kennedy's was, that downward missile would xnomost likely not have made exit at all but wound have gone downward into the chest. Even as shown it could hardly have cleared Kennedy's clothing. So the draving blows that' idea sky high, The neck wound was a bullet wound and almost dertainly as Humes said though how he happened to be right I'll never know. Apprenticy they did not even make an incision into that wound though Humesdid mention the bruised apex of the right lobe of the lungs and of the pleura surrounding it. How he knew about that without an incision I'll never know. Or did he make an incision? It is damned hard to get anything to check out in this blasted mess. Oh, the criticisms of the critics checks out except in minor matters and I think you and some others have done good jobs. And Thompson is a critic, a pretty severe one even if he brings up ideas as to what happened that are very easily disproved.

Thompson digs up an explanation for the unmarred bullet 399. It seems it actually was on neither the stretcher of a the President Aor the Governor but on that of a little 2<sup>1</sup>/<sub>2</sub> year old boy who had a bad fall and was brought to the hospital 14 minurtes after Connally but had his stretcher parked blocking the mon's room before Connally's got there. Also something I had not encounted before...Tomlinson and Wright both failed to identify that Magic Bullet of Shyster Specter. They thought the bullet found on the stretcher was pointed.

Thompson also dug up a Mauser with a magazine faintly resembling that of the Carcano but where and of what year I don't know. Would War II models do not have that type of magazine nor do other models made in the 1920's. I believe those boys in Gallas actually found a Mauser, probably of smaller caliber than 7.65 but maybe not. Certainly thay can read and the Mauser was marked much as the Carcano and the Springfield The Mauser is noticeable larger in every dimension as is the Springfield...that is, the Mausers used by the Wehrmacht. There are a numver of types of that gun, all about alike in the action, and more than one company has made them under linenses. One type was made

in Brno.

Incidentally, you raised a question about "high velocity" saying that Frazier said the velocity of the Carcano was rather low. That is true, The term "high velocity" is , in a sense , historic and simply means a velocity too high for lead, bullets, hence the hard metal jackets. It was found about 1870 that wakwai at velocities approaching 2,000 feet per second, the rifling simply stripped the lead off the bullet until it was smooth and there might as well have been no rifling. So it only means around 2,000 feet per second or more. Most military rifles of 30 caliber or equival ent, AMercan, British, German and Russian to name a few have velocities much nearer 3,600 feet per second and that can be varied by varying the bullet weight and powder charge. Present military Springfield ammunition only has a velocity of about 2700 feet, I am told , though it used to be 2,950. In the 1920's the Springfield had a bullet weighing about 172 grains and a range of close to 5,000 yards. What the powder charge was I don't know but it must have been over 60 grains. An earlier, and a later, cartridge had it a charge of 58 grains and a bullet of nominally about 158 grains. The army cut out its 1,000 yard tests because with that 5,000 yard range, younever knew where the bullet would wind up if a shooter missed the butts which they sometimes did. I once had some 110 grain bullets for my Springfield which had a velocity of 3150 feet per second. There are some rifles with up to 4150 feet per second velocity. I incline to think Kennedy was shot with a small caliber, high velocity bullet, the type of thing that practically explodes when it hits anything solid. There are several such rifles ranging in caliber from .220 to .284, the last by Winchester, I believe. I have a .222 high velocity but I actually don't know certainly what it is, the velocity, I mean. The rifle is a Remington made by Savage.

I arrived at the angle by a simple calculation...that is, to one who has a little trigonometry and a war table of functions. I had a right triangle the hypoteheuse of which was the distance through the throat, stated as  $5\frac{1}{2}$  inches. The size opposite the angle is shown on the sketch as 3 3/4 inches, the length of a perpendicular from the entry wound to a line drawn through the neck wound parallel to the mid line of the head. The sine of the angle is 3 3/4 over  $5\frac{1}{2}$  which is 0.682 and from the table of functions, that is the sine of 43 degrees.

There is some confusion about the actual exit point. The doctors with one exception talk about the right and the FBI says the tie know was nicked to the right just about or below its mid point. But the collar band of the shirt is nicked to the left of the center of the button and for this I added x the 1/8 inch though the actual angle might have been more since I used  $18\frac{1}{4}$  inch as the shoulder width rather than 182 which might have been used. A shoulder width is something nobody seems to know with any precision. I got Kennedy's at second hand from his tailor, or so I presume. It was given me by a tailor who had checked. But when a man's tailor gets through his cutting and snipping to geta fit, I doubt that he could tell to within a quarter of an inch what dimension he actually started with. In any case, the dimension is never quite exact and it is not a medical dimension. I have had my own measurements taken in a number of connections and places but only a tailor ever measured my shoulder width and he had to make leter adjustments. In any case, Mr. Kennedy's body was wholly normal for a man of his essentially "raw boned" type and build. He would never have got really fat and a man freet  $\frac{1}{2}$  inch tall and weighing 170 pounds just naturally takes a 42 coat, they tell me, and that means  $18\frac{1}{4}$  inch to  $18\frac{1}{2}$  inch across the shoulders from point to poibt. Anyhow these medics are damned inexact , verbally at any rate, in such matters. And one medic did say that the traches had been pushed to the left. So I should say the nick in the collar band as shown on FBI Exhibit 60 is about as accutate an indicator as any. But if I dropped that 1/8 inch I would still get about 40 degrees.

On examining the site I found only one spot from which the shot could have been fired to produce both the vertical and the horizontal angles the wound had. That point, space rather, is within the garage. Thus unless the calculated angle were a way off, it could be considered correct. As it is anything overx#axaadxnowxx about 40 deg. and not much over 45 deg. would fit.

I figured the vertical angle in the same way since from "just over" the collar bone in back to about level with it in front could hardly have meant more than about 0.5 to 0.6 inch drop. 0.6 over 52 gives an angle of 62 degrees. The "lay of the land " at the site indicates that an angle of  $5\frac{1}{2}$  degrees might be closer though the sniper could have fired from some elevated point to be sure of clearing the head of anyone who might get between him and his target. In any case, the treds and the angles simply eliminate any space except the garage, those and the fact of no windows in the first floor of the building. The "wall" is about  $1\frac{1}{2}$  to 2 stories high and seems to be a part of a triangular structure of some kind. Incidentally, to facilitate entry and escape unseen, the back of the place is a mess of broken down fences, weeds, rubbish and even a few bushes. One could get out that back door and around to Houston Street or in the other direction to Elm with little chance of being seen. For a bullet to enter the back of the head as shown and make exit

For a bullet to enter the back of the head as shown and make exit through the top just short of the frontal bone the vertical angle could not have been much over 4 degrees. This figures the garage at a distance of 210 feet. The 15 degrees 21 minutes downward from the sixth floor could hardly have failed to demage the frontal bone which presumably was not damaged. At such an angle the bullet could hardly have inflicted the woundshown in the Zapruder frames.

I have written about 7,500 words explaining all this, words which could be reduced substantially by leaving out explanations. So far I have tried it on three people and have sent out inquiries and sketches to three more, no four more. Two inquiries are still out.

There is another article of about 5,500 words analyzing the "PHOTOM GRAPHS THROUGH THE RIFLE SCOPE" COMMISSION EXHIBITS 891,893,895 and 902, mainly.893 which shows the reconstruction for frame 210. The crosshairson of the scope show where the bullet would have gone if it struck the back as shown and continued on, at least for the next few feet. Far from hitting Mr. Connally, it would have hit the bottom of the jump seat at a point about in line with the Governor's spine.

Ihave thought of assembling all about the rifles and the pistol I can find and putting it with the two items mentioned and seeing if I could get it published as THE TESTIMONY OF THE GUNS.

I'd like to burlesque the whole damn thing under a title something like JABBERWOOKY.

The Commission fabricated a number of plain lies which they combined into a massive lie to the effect that Oswald alone and unconnected to anybody, was guilty. Then they put out another massive lie to the effect that the minutes and some "off the record" testimony were impounded on grounds of "national security." No national security could have been involved if Oswald acted wholly alone and if he had no significant connections with the case. And no national security was involved merely in guilty complicity by the FBI the CIA, the Secret Srevice or the Dallas police. I could bear to know how many of these boys belonged to the John Birch Society. Job and even life security for J. Edgar Hoover and a number of others was probably involved but not the function of the second of the security and involved but

I used to live in Dallas a good while ago, at least for more than half a year. It was a nice, clean , quiet town then where one herdly ever saw a ten gallon hator imita-tion cow hands.

And that is about all, I believe.

Sincerely Multitude Jury

Doubtless if you used the sketch you would explain where it came from. And you might send me a copy of the photographs.

W.J.