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JFK ASSASSINATION SYSTEM

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Robert A. FRAZIER	Gary Cornwell
	Kenneth Klein
	Charlie Mathews
	Jim Wolf
	Donovan Gay Jackie Hess
	Cliff Fenton
	CIIII Feilcon
	Team #1
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CRIMINAL DISTRICT COURT . PARISH OF ORLEANS STATE OF LOUISIANA STATE OF LOUISIANA 198-059 VERSUS 1426(30) CLAY L. SHAW SECTION "C" PROCEEDINGS IN OPEN COURT, FRIDAY, FEBRUARY 21, 1969 AND SATURDAY, FEBRUARY 22, 1969 B E F O R E: THE HONORABLE EDWARD A. HAGGERTY, JR., JUDGE, SECTION "C"

1	· ·	IN	IDEX		
2	WITNESS:			REDIRECT	RECROSS
3	ROBERT A. FRAZIER	1	71	186	193
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1 2 ROBERT A. FRAZIER, 3 a witness for the Defense, after first being duly 1 sworn by The Minute Clerk, was examined and testi-5 fied as follows: 6 DIRECT EXAMINATION 7 MR. DYMOND: 8 Your Honor, we would like to announce to The 9 Court that we intend to proceed to qualify 10 Mr. Frazier to testify as an expert in 11 the field of ballistics. 12 THE COURT: 13 Very well. 14 BY MR. DYMOND: 15 Mr. Frazier, for the record would you please 0 16 state your full name. 17 Α Robert A. Frazier. 18 And what is your employment, Mr. Frazier? Q 19 I am a Special Agent of the Federal Bureau of Α 20 Investigation assigned to the Federal 21 Bureau of Investigation Laboratory in 22 Washington, D.C. 23 Now do you have any specialized duties in con-Q 24 nection with your work with the Federal 25 Bureau of Investigation?

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17 involved all aspects of firearms work, that		(<u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u>
 Chemistry Section. Mr. Frazier, have you had any specialized training in the field of ballistics? Yes, sir, I have. Would you kindly give us a resume of this training which you have had? Following a science degree which I received in 1940 from the University of Idaho I entered the F.B.I. Laboratory and received the specialized training given by the firearms identification specialist in the laboratory working towards the position of firearms identification specialist. This training lasted approximately one year and involved all aspects of firearms work, that is comparing bullets with firearms to determine whether or not the bullet or cartridge case were fired in a particular weapon. It included examining ammunition components to determine their manufacturer and calibre and the type of weapon from 	1	A	I am presently employed as the Chief of the
 4 Q Mr. Prazier, have you had any specialized training in the field of ballistics? 6 A Yes, sir, I have. 7 Q Would you kindly give us a resume of this training which you have had? 9 A Following a science degree which I received in 1940 from the University of Idaho I entered the F.B.I. Laboratory and received the specialized training given by the firearms identification specialist in the laboratory working towards the position of firearms identification specialist. This training lasted approximately one year and involved all aspects of firearms work, that is comparing bullets with firearms to determine whether or not the bullet or cartridge case were fired in a particular weapon. It included examining ammunition components to determine their manufacturer and calibre and the type of weapon from 	2		Firearms & Tool Marks in the Physics and
5 training in the field of ballistics? 6 A Yes, sir, I have. 7 Q Would you kindly give us a resume of this 8 training which you have had? 9 A Following a science degree which I received in 10 1940 from the University of Idaho I 11 entered the F.B.I. Laboratory and received 12 the specialized training given by the 13 firearms identification specialist in the 14 laboratory working towards the position of 15 firearms identification specialist. This 16 training lasted approximately one year and 17 involved all aspects of firearms work, that 18 is comparing bullets with firearms; compar- 19 ing cartridge cases with firearms to 20 determine whether or not the bullet or 21 cartridge case were fired in a particular 22 weapon. It included examining ammunition 23 components to determine their manufacturer 24 and calibre and the type of weapon from	3	-	Chemistry Section.
 A Yes, sir, I have. Q Would you kindly give us a resume of this training which you have had? A Following a science degree which I received in 1940 from the University of Idaho I entered the F.B.I. Laboratory and received the specialized training given by the firearms identification specialist in the laboratory working towards the position of firearms identification specialist. This training lasted approximately one year and involved all aspects of firearms work, that is comparing bullets with firearms to determine whether or not the bullet or cartridge case were fired in a particular weapon. It included examining ammunition components to determine their manufacturer and calibre and the type of weapon from 	4	Q	Mr. Frazier, have you had any specialized
 7 Q Would you kindly give us a resume of this training which you have had? A Following a science degree which I received in 10 1940 from the University of Idaho I entered the F.B.I. Laboratory and received the specialized training given by the firearms identification specialist in the laboratory working towards the position of firearms identification specialist. This training lasted approximately one year and involved all aspects of firearms work, that is comparing bullets with firearms to determine whether or not the bullet or cartridge case were fired in a particular weapon. It included examining ammunition components to determine their manufacturer and calibre and the type of weapon from 	5		training in the field of ballistics?
8training which you have had?9AFollowing a science degree which I received in101940 from the University of Idaho I11entered the F.B.I. Laboratory and received12the specialized training given by the13firearms identification specialist in the14laboratory working towards the position of15firearms identification specialist. This16training lasted approximately one year and17involved all aspects of firearms work, that18is comparing bullets with firearms to20determine whether or not the bullet or21cartridge case were fired in a particular22weapon. It included examining ammunition23components to determine their manufacturer24and calibre and the type of weapon from	6	A	Yes, sir, I have.
 Following a science degree which I received in 1940 from the University of Idaho I entered the F.B.I. Laboratory and received the specialized training given by the firearms identification specialist in the laboratory working towards the position of firearms identification specialist. This training lasted approximately one year and involved all aspects of firearms work, that is comparing bullets with firearms; compar- ing cartridge cases with firearms to determine whether or not the bullet or cartridge case were fired in a particular weapon. It included examining ammunition components to determine their manufacturer and calibre and the type of weapon from 	7	Q	Would you kindly give us a resume of this
101940 from the University of Idaho I entered the F.B.I. Laboratory and received11entered the F.B.I. Laboratory and received12the specialized training given by the13firearms identification specialist in the14laboratory working towards the position of15firearms identification specialist. This16training lasted approximately one year and17involved all aspects of firearms work, that18is comparing bullets with firearms to20determine whether or not the bullet or21cartridge case were fired in a particular22weapon. It included examining ammunition23components to determine their manufacturer24and calibre and the type of weapon from	8		training which you have had?
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12the specialized training given by the13firearms identification specialist in the14laboratory working towards the position of15firearms identification specialist. This16training lasted approximately one year and17involved all aspects of firearms work, that18is comparing bullets with firearms; compar-19ing cartridge cases with firearms to20determine whether or not the bullet or21cartridge case were fired in a particular22weapon. It included examining ammunition23components to determine their manufacturer24and calibre and the type of weapon from	10		1940 from the University of Idaho I
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14laboratory working towards the position of15firearms identification specialist. This16training lasted approximately one year and17involved all aspects of firearms work, that18is comparing bullets with firearms; compar-19ing cartridge cases with firearms to20determine whether or not the bullet or21cartridge case were fired in a particular22weapon. It included examining ammunition23components to determine their manufacturer24and calibre and the type of weapon from	12		the specialized training given by the
15firearms identification specialist. This16training lasted approximately one year and17involved all aspects of firearms work, that18is comparing bullets with firearms; compar-19ing cartridge cases with firearms to20determine whether or not the bullet or21cartridge case were fired in a particular22weapon. It included examining ammunition23components to determine their manufacturer24and calibre and the type of weapon from	13		firearms identification specialist in the
16training lasted approximately one year and17involved all aspects of firearms work, that18is comparing bullets with firearms; compar-19ing cartridge cases with firearms to20determine whether or not the bullet or21cartridge case were fired in a particular22weapon. It included examining ammunition23components to determine their manufacturer24and calibre and the type of weapon from	14		laboratory working towards the position of
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 is comparing bullets with firearms; compar- ing cartridge cases with firearms to determine whether or not the bullet or cartridge case were fired in a particular weapon. It included examining ammunition components to determine their manufacturer and calibre and the type of weapon from 	16		training lasted approximately one year and
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20determine whether or not the bullet or21cartridge case were fired in a particular22weapon. It included examining ammunition23components to determine their manufacturer24and calibre and the type of weapon from	18		is comparing bullets with firearms; compar-
 cartridge case were fired in a particular weapon. It included examining ammunition components to determine their manufacturer and calibre and the type of weapon from 	19		ing cartridge cases with firearms to
 weapon. It included examining ammunition components to determine their manufacturer and calibre and the type of weapon from 	20		determine whether or not the bullet or
23 components to determine their manufacturer 24 and calibre and the type of weapon from	21		cartridge case were fired in a particular
²⁴ and calibre and the type of weapon from	22		weapon. It included examining ammunition
and sailaite and the type of weapon from	23		components to determine their manufacturer
²⁵ which they may have been fired based on	24		and calibre and the type of weapon from
	25		which they may have been fired based on

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rifling characteristics impressed for 1 instance in a fired bullet. 2 It included making gun pattern tests, shot pattern 3 tests, noting the effect of projectiles 4 such as bullets fired against glass, the 5 6 type of break, the type of bullet holes produced. 7 8 This course involved comparing 9 thousands of specimens, examining firearms of a great variety of types, both rifles, 10 pistols, shotguns, submachine guns and 11 so forth. I completed that training 12 period, the specialized training course, 13 in approximately one year and since that 14 time have been assigned to the work of 15 making firearms identification and tool 16 marks identification. 17 Q Mr. Frazier, have you had any published works 18 in the field of ballistics? 19 20 Α Only one which consisted of a pamphlet published by the Federal Bureau of Investiga-21 tion which was printed in the law 22 23 enforcement bulletins and reprinted for 24 citizens and law enforcement agencies. 25 Were you the author? Q

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Re	eference copy, JFR Collection: ESCA (RG 233)	
1	A I wrote the pamphlet but Mr. Hoover was the	¢
2	author as published.	
3	Q Have you been qualified as an expert in the	
4	field, sir, of ballistics in any court?	
5	A Yes, sir, I have.	
6	Q If so, what courts?	
7	A I have testified in all of the States except	
8	Vermont, including Alaska and Hawaii, but	
9	I have not testified in all federal courts	
10	but in all state courts.	
11	MR. DYMOND:	
12	If The Court please, we submit Mr. Frazier	
13	as an expert in the field.	
14	MR. OSER:	
15	No questions.	
16	THE COURT:	
17	It's submitted? I will rule that the	
18	witness, Mr. Frazier, has been quali-	
19	fied as an expert in the field of $,$	
20	ballastics and can give his opinion	
21	in that field.	
22	BY MR. DYMOND:	
23	Q Mr. Frazier, at any time after November 22,	
24	1963 did you have occasion to examine the	
25	vehicle in which President Kennedy was	

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Reference copy, JFK Collection: ESCA (RG 233)

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1		riding at the time of his assassination?
2	Α	Yes, sir, I did.
3	Q	Where and when, sir, did this examination
4		take place?
5	A	It took place in the United States Secret
6		Service Garage in Washington, D.C. My
7		examination began at approximately 1:00
8		o'clock on the morning of November 23 and
9		ended about 4:30 that same morning.
10	Q	Yes, sir. I see. In connection with your
11		examination of this vehicle did you have
12		occasion to particularly examine the
13		windshield of the automobile?
14	A	Yes, sir.
15	Q	Did you find anything unusual about the wind-
16		shield and if so, please describe that
17		condition?
18	A	The windshield was partially broken in a
19		star-shaped fashion, that is there was a
20	-	crack in the windshield. I made a speci-
21		fic examination of it to determine what
22		caused the crack. I found on the inside
23		surface of the windshield a deposit of
24		lead which had been forced against the
25		glass and had splattered and as a result

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determined the glass had been broken by 1 the impact of a projectile striking the 2 3 inside surface of the glass and fracturing the windshield in the outer layer. 4 5 Q Upon what did you base your determination that the glass had been hit by a projectile 6 hitting the inside rather than the out-7 side? 8 As a result of having examined hundreds of 9 Α pieces of glass which have been broken in 10 a known fashion, that is by a blow deli-11 12 vered in a known way, it is possible by studying the radial cracks or fractures 13 emanating from the point of force to deter-14 mine the side of the glass on which the 15 force was applied. 16 17 Using the stress lines left on this 18 glass at the time the glass was broken and 19 caused by the object which broke the glass 20 it is possible to determine the direction 21 the force was applied. This examination of the cracks showed that the pressure had 22 been applied on the inside surface. 23 Q Now the opinion which you formed as to which 24 25 side of the windshield had been hit,

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1		Mr. Frazier, was that a definite opinion
2		or was there any doubt in your mind as an
3		expert?
4	A	It is a definite conclusion.
5	Q	Now, Mr. Frazier, other than the windshield of
6		the automobile, could you tell us what
7		particular examinations were conducted
8		with other parts of this vehicle?
9	A	Yes, sir. The first examination which was made
10		was of the exterior portions of the
11		vehicle. We examined the outer surface
12		of the hood, the grille area, both front
13		fender areas, all the metal work on the
14		outside of the automobile. The examination
15		was for two purposes, to determine whether
16		there were any bullets or other projec-
17		tile impact areas on the outside of the
18		car and also to note the presence of the
19		foreign material deposited on it. We 🔸
20		found blood and tissue all over the out-
21		side areas of the vehicle from the hood
22		ornament, over the complete area of the
23		hood, on the outside of the windshield,
24		also on the inside surface of the wind-
25		shield, and all over the entire exterior
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1		portion of the car, that is, the side rails
2		down both sides of the car, and of course
3	-	considerable quantities inside the car and
4		on the trunk lid area.
5		We found however, no bullet holes or
6		projectile marks.
7	Q	Did you find any impact areas on this automo-
8		bile?
9	A	Nothing which could be identified as a bullet
10		impact area except the one on the inside
11		of the windshield.
12	Q	Now, Mr. Frazier, in connection with your
13		examination of this vehicle did you find
14		any portions of projectiles, bullet
15		projectiles?
16	A	I can say that we found fragments of lead which
17		may have originated from a bullet.
18	Q	How many did you find?
19	A	There were three fragments found on the carpet,
20		in the rear or passenger compartment.
21	Q	Now when you say rear or passenger compartment,
22		that included the area of the jump seats?
23	A	Yes, sir, these fragments were in fact found
24		under the area on the left-hand jump seat.
25	Q	And you say three?

found?

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Yes.

10 If you remember, or if you have in your notes the necessary information would you tell us the size of the three particles you They weighed 9/10ths of a grain, 7/10ths of a

Ū		and a sphere of a grain, 7/10ths of a
7		grain, and 7/10ths of a grain, each being
8		less than l grain in weight. A grain I
9		may or should say is 1/7,000ths of a
10		pound and is a unit of measurement in
11		weighing bullets, comparing one bullet
12		weight with another.
13	Q	Now, did you have occasion to work with
14		Mr. Lyndell Schaneyfield, also an F.B.I.
15		Agent in the reenactment of the assassin-
16		ation scene?
17	A	Yes, sir, I did.
18	Q	Did this take place in Dallas?
19	A	Yes, sir.
20	Q	Could you tell us when that took place?
21	A	On May 24, 1964.
22	Q	Now, Mr. Frazier, what was the purpose of this
23		examination and reenactment, what were you
24		seeking to learn from it?
25	A	I was involved in this reenactment as an
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1	adviser or consultant to the Warren	¥ð
2	Commission in an effort to reconstruct	
3	the testimony of various witnesses accord-	1
4	ing to the Commission's records, to	
5	determine whether or not this testimony	
6	was feasible and possible and to determine	- .
7	whether it could have, that is the	
8	assassination could have occurred as these	
9	witnesses have advised.	
10	Q Could you tell us the mechanics of the reenact-	
11	ment that was conducted by you and	
12	Mr. Schaneyfield and others?	
13	A In the first place the presidential limousine	
14	in which the President was shot was not	
15	available so therefore a Cadillac limousine	-
16	was substituted and individuals were	
17	placed in this car as stand-ins for the	
18	President and Governor John Connally.	
19	The position of the people in the car	
20	were adjusted by the Commission according	
21	to information that developed from study-	
22	ing various movie films and still films,	
23	particularly one taken by Abraham Zapruder	
24	The relative elevation of the President	
25	was adjusted by having him sit on blankets	

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1	so that his position with reference to	1
2	Governor Connally at the time of the	
3	assassination would be duplicated in the	
4	stand-ins.	
5	The position left and right, that is	
6	from side to side, was also positioned as	
7	nearly as possible as could be duplicated.	
8	The automobile itself was placed on	
9	the street as nearly as possible as could	
10	be duplicated from studying various films	1
11	and also driven down this street as movies	
12	were taken. Then it was driven down the	
13	street and stopped at various places so	
14	additional photographs could be taken and	
15	certain measurements made and then finally	
16	a photograph was made of the entire process	
17	with the, with a movie camera attached to a	
18	rifle on which a telescopic sight was	•
19	fixed, that is a movie was taken through	
20	a telescopic sight.	
21	Q What was your particular function in this	
22	reenactment, Mr. Frazier?	
23	A I was stationed in the southeast corner of the	
24	Texas School Book Depository Building on	
25	the sixth floor in a partially, at a	

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partially open window and directed the 1 position of the car with reference to a 2 large tree which exists in front of this 3 building, advising the men on the street 4 when they should stop the car, at what 5 time the President's stand-in was visible 6 through the foliage and had cleared the 7 foliage and so forth. 8 Q And you say you were in the window of the 9 Book Depository? 10 Yes, sir. Α 11 On the sixth floor? Q 12 Yes, sir. Α 13 Now in connection with this reenactment, Q 14 Mr. Frazier, did you use the Zapruder 15 films? 16 А Yes, sir, we did. 17 Q Now with respect to frame 313 of the Zapruder 18 film, which is the frame in which it is 19 obvious from the film that the President 20 was shot in the head, at the time when the 21 reenactment vehicle was in the same spot 22 as was the presidential vehicle according 23 to the Zapruder film, at the time of frame 24 313, was there a clear shot from the sixth 25

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1		floor depository window to the head of the 🔧
2		stand-in for the president?
3	A	Yes, there was.
4	Q	Now by studying the Zapruder film are you able
5		to tell with any certainty in what frame
6		the President had been hit for the first
7		time?
8	A	That could not be definitely established in
9		my opinion for two reasons: One, it is
10		not known what the reaction time of the
11		President was after he was shot and it is
12		not clear in the picture as to which frame
13		he begins to show reaction and therefore
14		you cannot determine exactly, you may be
15		able to approximate the frame number.
16	Q	Let me ask you if prior to frame 313, that is
17		the position the vehicle was in at that
18		time, had there been any other clear shots
19		established at the presidential stand-in?
20	A	From the sixth floor depository window, yes,
21		sir, I would say that from frame 207 on
22		the car had cleared the tree.
23	Q	Now, Mr. Frazier, did you have occasion to ex-
24		amine the rifle which was found on the
25		sixth floor of the Texas School Book

Depository? 1 Α Yes, sir, I did. 2 3 Q What type of rifle was that? Α It is a 6.5 millimeter Italian military rifle 4 and it is referred to as a Mannlicher-5 Carcano rifle in this country. 6 Q Did it have a telescopic sight? 7 Yes, it did. A 8 What power? Q 9 Α A four-power telescopic sight. 10 Mr. Frazier, I show you a weapon introduced in 0 11 evidence and marked State-18 and ask you 12 13 whether that is the same type of rifle which you examined? 14 15 Α Generally, this is the same rifle. The color of the stock is different. This rifle 16 is polished and blued whereas the other 17 had a rough finish. I cannot read all the 18 inscription on here. 19 THE COURT: 20 Would you get that magnifying glass out of 21 my desk drawer. 22 THE WITNESS: 23 I would say this rifle is similar and has 24 -some different markings on it, namely 25

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16 1 there is no inscription of "made in Italy" 13 2 as there was in the other and the tele-3 scopic sight is mounted in a different 4 position and in a different manner. 5 BY MR. DYMOND: Would you say the rifle is similar to the one 6 Q 7 found on the sixth floor of the Depository Building? 8 9 MR. OSER: 10 I object, Your Honor, because there is no 11 testimony where the other rifle was 12 found. 13 THE COURT: 14 What he wants to know is whether this 15 rifle is similar to the one he 16 examined. 17 MR. OSER: 18 My objection is that this agent was not 19 on the sixth floor Depository when 20 the rifle was found. 21 THE COURT: 22 Will you rephrase your question? 23 MR. DYMOND: 24 I will rephrase it. BY MR. DYMOND: 25

Q Is it similar to the one he examined? 1 MR. OSER: 2 I object, Your Honor. 3 MR. DYMOND: 4 With respect to this objection, if it is a 5 good objection it has come very late. 6 This witness already testified, and 7 it is in the record, that he ex-8 amined the rifle found on the sixth 9 floor of the Book Depository. 10 MR. OSER: 11 There has been no chain set up as to how 12 the agent got the rifle and we don't 13 know which rifle. 14 THE COURT: 15 I will overrule the objection. The 16 testimony is this rifle has been 17 introduced as being similar to the 18 rifle allegedly used and I believe 19 Mr. Dymond's question is that is the 20 rifle in court similar to the rifle 21 he examined. 22 MR. OSER: 23 I have no quarrel with that if it was 24 similar to the rifle this agent 25

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E a Reference copy, JFR Collection: ESCA (RG 233)

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1	examined.
2	BY MR. DYMOND:
3	Q What was your answer to that?
4	A I would say it is generally similar, yes.
5	Q With respect to the telescopic sight on this
6	rifle is it similar to the one on the rifle
7	you examined?
8	A Yes, it appears to be an identical telescopic
9	sight too, but however the mount, the way
10	it is mounted is different.
11	Q I see. Now, Mr. Frazier, the rifle which you
12	examined, is that a clip-fed rifle?
13	A Yes, sir.
14	Q How many cartridges?
15	A Seven, six in the clip and one in the rifle.
16	Q Now, from your reenactment of the assassination
17	scene, and your work with the Zapruder
18	film, were you able to determine with any
19	degree of accuracy what the space in time
20	was between the first shot and the last
21	shot that was fired at the President?
22	MR. OSER:
23	Your Honor, he hasn't established when the
24	first and last shot was fired.
25	MR. DYMOND:

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1	Your Honor, if he doesn't know he can say.	63
2	THE COURT:	
3	I thought he answered your question a	
4	few moments ago but I can't comment	
5	on the evidence. Go ahead and ask	
6	your question.	
7	BY MR. DYMOND:	
8	Q Were you able to determine with any degree of	
9	accuracy the time span between the first	
10	and the last shots fired at President	- 1
11	Kennedy?	-
12	A No, sir, not within even several seconds.	
13	Q Now, did you conduct any firing speed tests	
14	and accuracy tests with the rifle which	
15	you examined?	
16	A Yes, sir, I did.	
17	Q Where were these tests conducted?	
18	A In the indoor range in the F.B.I. Building,	
19	Washington, D.C. and the outdoor range,	-
20	the F.B.I. range at Quantico, Virginia.	
21	Q Tell us the mechanics and extent of the tests	
22	and give us the result of the tests.	
23	A The first test performed was performed primari-	
24	ly, primarily for accuracy but also for	
25	maintaining a rapid rate of fire. These	
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9s **39** tests were performed at 45 feet in the 1 indoor range with artificial light firing 2 at a target with the rifle and with the 3 4 four-power telescopic sight mounted on it. 5 The tests which I fired at that 45foot distance consisted of three shots 6 fired in a span of 5.9 seconds, that is 7 from the time the first shot was fired 8 until the third shot was fired. 9 The tests consisted of firing, re-10 loading and firing, reloading and firing 11 the third time so that a total of three 12 13 shots were fired. 14 The tests conducted at the 75-foot distance consisted of two three-shot 15 groups also fired for accuracy and speed. 16 These consisted of a group fired in ap-17 18 proximately a 2 inch circle at 75 feet in 19 a period of 4.8 seconds, and a series of 20 shots fired in a group which would be all-encompassed in a 5 inch circle which 21 was fired in a time of 4.6 seconds. 22 12 I believe I left out the accuracy 23 24 measurement for the first 45 foot target. 25 In that target the three shots fired could

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1	be covered by a quarter.
2	The third set of tests consisted of
3	four targets situated at 300 feet in the
4	outdoor range in daylight.
5	In those four targets, first I'll
6	give you the time interval and then the
7	size of the pattern formed by the three
8	shots that were fired in each of those
9	tests. These three shots in the first
10	test were fired in 5.9 seconds and they
11	landed in a 3 ¹ 2 inch circle; the second
12	test was fired in 6.2 seconds, the three
13	shots landed in a 4 inch circle and
14	I should say $4\frac{1}{2}$ to 5 inch circle. The
15	third test was fired in 5.6 seconds, the
16	three shots landed in a 3 inch circle and
17	the last one was fired in 6.5 seconds and
18	these shots landed in a $3\frac{1}{2}$ inch circle.
19	This test also was conducted both
20	for accuracy and for speed.
21	Q Now, Mr. Frazier, what was the reason for
22	chosing those particular distances for
23	these tests?
24	A The first distances were chosen by me mainly
25	to determine whether the weapon was

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1	accurate and were the two distances avail- 28
2	able in the F.B.I. indoor range, that is,
3	45 feet and 75 feet and artificial light
4	for targets.
5	The outdoor distance was chosen as
6	100 yards or 300 feet as being longer
7	than any distance at which President
8	Kennedy could have been fired upon from
9	a person firing from the Texas School
10	Book Depository Building.
11	Q Now in feet, what was the distance from the
12	sixth floor window of the Texas School
13	Book Depository Building and the spot on
14	Elm Street where the reconstruction
15	vehicle was in frame 313 of the Zapruder
16	film?
17	A 265 feet.
18	Q Now, you have told us you recovered three
19	bullet particles from the presidential
20	limousine
21	MR. OSER:
22	I object, Your Honor, as he didn't say any-
23	thing about cartridges being fired
24	THE COURT:
25	Finding cartridges in the car?

Reference copy, JFK Collection: ESCA (RG 233)

1 MR. DYMOND: 2 I didn't say cartridges, Your Honor. 3 BY MR. DYMOND: 4 Were any other projectiles or pieces of 0 5 projectiles made available to you in 6 connection with your tests? 7 THE COURT: 8 What? 9 MR. DYMOND: 10 Tests. 11 THE WITNESS: 12 Yes, sir, I had them: in the laboratory. 13 BY MR. DYMOND: 14 What other projectiles or portions of the Q. 15 projectiles did you have? 16 In addition to those there were two bullet Α 17 fragments, the nose section and base 18 section, recovered by the secret police 19 and delivered to me at the laboratory. 20 Then there were additional other fragments 21 another two fragments from the President's 22 head and one fragment from the arm of 23 Governor Connally. 24 Did you have made available to you any intact Q 25 or almost intact bullet projectiles?

A Yes, sir, I did. That one was submitted to 1 me --2 MR. OSER: 3 I'm going to object unless the officer 4 found it. 5 MR. DYMOND: 6 If The Court please, one thing which The 7 Court is empowered to take judicial 8 cognizance is, is the fact of his-9 tory. I am trying to say this in 10 such a way that it can be properly 11 said before the Jury. 12 MR. OSER: 13 Then I ask that the Jury be taken out. 14 (JURY EXCLUDED.) 15 THE COURT: 16 Let me first hear the objection and then 17 your reply. 18 MR. OSER: 19 My objection is merely that the officer 20 can testify to what he examined in 21 this case but he cannot testify where 22 these particular things were found. 23 I know what Mr. Dymond is leading up 24 to and that is the cartridges found 25

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1	in the sixth floor of the Depository.	84
2	THE COURT:	
3	What is your reply, Mr. Dymond?	
4	MR. DYMOND:	
5	First of all I didn't have reference to	
6	cartridge cases found on the sixth	
7	floor of the Depository but I have	
8	reference to an almost intact pro-	
9	jectile which was found on the	
10	stretcher of President Connally,	
11	rather Governor Connally at the	
12	Parkland Hospital in Dallas.	
13	I said before, as I said before,	
14	one thing The Court does have the	
15	power to do and that is to take	
16	judicial cognizance of the facts of	
17	history. It is a fact of history	
18	that a projectile was found on this	
19	stretcher in the Parkland Hospital	
20	and I think this witness does have	
21	the right to say that this projectile	
22	was turned over to him for examina-	
23	tion. That is what we are asking.	
24	MR. OSER:	
25	It is not my objection about the officer	
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1	testifying that he made an examina-
2	tion on Commission Exhibit 399 which
3	was turned over to him but my objec-
4	tion was where it was found. That is
5	my objection.
6	MR. DYMOND:
7	If The Court please, that is a fact of
8	history.
9	MR. ALCOCK:
10	Your Honor, the Warren Report is also a
11	fact of history and Mr. Dymond is
12	asking This Court to take judicial
13	cognizance of the Warren Report and
14	all its findings and conclusions and
15	this is naturally in the Warren
16	Report, Exhibit 399 and this in ef-
17	fect would be doing that.
18	MR. DYMOND:
19	If The Court please, I am not asking Your 🖌
20	Honor to take judicial cognizance of
21	the Warren Report.
22	THE COURT:
23	I would suggest, Mr. Dymond, I think
24	Mr. Oser's objection bears to the
25	identity of the object itself. He
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would have no objection if you would R ask Mr. Frazier to give his expert opinion as to what was handed to him and the examination he conducted and if you want you can call it "Exhibit 399 of the Warren Report" if you wish and he can identify the object as either a spent bullet intact unmarked and he could give you his opinion as to what he found out and how it compared with the fragments but I agree with Mr. Oser you cannot say that it was found on the stretcher because he wasn't there and either you would have to have the person that found it to testify to its position, the link of possession to prove it's the exact bullet. However, I would let him give an expert opinion as to what was given to him and then let the Jury draw its own inference. MR. DYMOND: Very well, we will proceed that way. (JURY RETURNED.)

98 BY MR. DYMOND: 29 1 Q Mr. Frazier --2 THE COURT: 3 You may proceed. 4 BY MR. DYMOND: 5 Mr. Frazier, was an intact or almost intact Q 6 bullet projectile turned over to you for 7 examination in the course of your tests? 8 Α Yes, sir. 9 Would that be Exhibit 399 of the Warren Report? Q 10 Α Yes, sir, it was. 11 Now, did you conduct any test or tests in con-Q 12 nection with this intact or almost intact 13 projectile as to what if any gun it had 14 been fired from? 15 I did. Α 16 Would you tell us what those tests were and the 0 17 results of those tests? 18 The tests consisted of firing test bullets Α 19 from the rifle which I had received and 20 making microscopic comparisons of the 21 barrel markings with the markings on the 22 bullet referred to as 399. 23 This was a comparison microscope 24 type of examination in which I compared 25

29 1 those marks which are peculiar to each **200** 2 individual gun and not duplicated in any 3 two rifles. That comparison resulted in 4 identification of the bullet 399 as hav-5 ing been fired in the Italian military 6.5 millimeter rifle which I received for 6 7 examination. 8 0 Mr. Frazier, is that a conclusive test, that 9 is, does it prove it was fired from that 10 rifle or a rifle to the exclusion of any 11 other firearms? 12 Yes, sir, it does. A 13 Q Did you have occasion to conduct any similar 14 tests on the fragments which you had 15 recovered and which had been turned over 16 to you? 17 Α Yes, I did. 18 Q Would you kindly describe those tests? 19 Α These tests also were conducted with a compari-20 son microscope and consisted of comparing 21 the microscopic marks left on the test 27 bullets fired from the rifle with the 23 microscopic marks left on the fired jacket 24 portion which was submitted to me and, 25 and the base of the bullet jacket which

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1		was also submitted. These two jacket 🎮
2		fragments were compared separately with the
3		test bullets and then compared with each
4		other.
5		As a result it was determined that
6		the two bullet jacket fragments, both the
7		nose portion and the base portion of the
8		bullets were fired from the 6.5 millimeter
9	5 5 5	rifle. The examination however did not
10		prove whether or not these two bullet
11		fragments actually represented two separ-
12	-	ate bullets or whether they were in fact
13		the nose portion or base portion from a
14		single bullet.
15	Q	Was this a conclusive test?
16	A	Yes, sir.
17	Q	As an expert could you testify that they were
18		fired from the same rifle turned over to
19		you from the exclusion of all firearms?
20	А	Yes, sir.
21	Q	Where had you obtained this nose fragment and
22		base fragment, Mr. Frazier, that is the
23		two fragments on which you did conduct
24		the tests on which you formed an opinion?
25	A	These two fragments were turned over to me by

	Refe	erence copy, JFK Collection: ESCA (RG 233)
	1	Special Agent Todd of the Washington
:	2	Field Office in Washington on November 22,
:	3	1963.
	4	Q Now in the course of your examination of the
:	5	interior of the Presidential vehicle, did
1	6	you find any pellets or portions of
	7	projectiles which could be tested so as
:	8	to determine that they came from any other
9	9	gun other than the one from which you con-
10	0	ducted your examination?
1	1	A No, sir, there were no such fragments.
12	2	Q Now did you have made available to you during
1:	3	the course of this examination any empty
14	4	cartridge cases?
1:	5	A Yes, sir.
10	6	Q How many, sir?
17	7	A Three.
1:	8	Q Did you make any tests with these cartridge
19	9	cases in connection with the gun turned
20	0	over to you?
2	1	A Yes, sir, I did.
22	2	Q Would you please describe these tests and the
2:	3	results of them?
24	4	A The tests I conducted consisted of firing test
2:	5	cartridge cases in the 6.5 millimeter

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Italian military rifle and comparing the firing pin markings left in these fired cartridge cases with the firing pin markings in the three fired 6.5 millimeter cartridge cases which I had received for comparison.

This test also included comparing the marks from the bolt face of the weapon as left on the test cartridge cases and on the three fired cartridge cases.

There was a microscopic examination, that is mounting the two portions, the test on one side of the miscroscope and the evidence on the other side, and comparing the microscopic marks found in the firing pin impressions and those microscopic markings left by the face of the bolt of the weapon in which they were fired. _ لار ،

As a result of these examinations I concluded that all three of the fired part cartridge cases submitted to me for exami-22 nation had been fired in the 6.5 millimeter 23 Italian military rifle which had been also submitted for comparison.

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1	Q	Mr. Frazier, is that a conclusive test you
2		just described?
3	A	Yes, it is.
4	Q	As a result of having made that test are you
5		able to testify that those three empty
6		cartridge cases had been fired from the
7		rifle submitted to you from the exclusion
8		of all other firearms?
9	A	Yes, sir.
10	Q	Did you conduct any firing pin tests?
11	A	Only those I just described, the firing pin
12		impression tests.
13	Q	In the course of your reenactment of the
14		assassination, Mr. Frazier, was there any
15		indication or marking placed on the floor
16		of the School Book Depository on the sixth
17		floor to indicate where the empty
18		cartridge cases had been found?
19		MR. OSER:
20		I object as there is no testimony about
21		that and he's merely trying to get it
22		in front of the Jury.
23		MR. DYMOND:
24		If The Court please, this is a question
25		pertaining to what happened during
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	Reference copy, JFR Collection: ESCA (RG 233)	
1	the reenactment of the Presidential	25
2	assassination.	
3	THE COURT:	
4	Is that the question?	
5	MR. DYMOND:	
6	That is correct.	
7	THE COURT:	
8	Did he find some cartridges on the date	
9	of reenactment?	
10	MR. DYMOND:	-1
11	Your Honor, I haven't asked that question	
12	yet.	
13	THE COURT:	
14	Go ahead and ask your question.	
15	BY MR. DYMOND:	
16	Q In the course of your reenactment, and don't	2
17	answer until the Judge has a chance to	
18	rule, of the Presidential assassination	
19	scene, were any markings placed on the	^
20	sixth floor of the Texas School Book	
21	Depository to indicate where empty car-	
22	tridge cases had been fired?	
23	THE COURT:	
24	Let me understand the question. Your	
25	question is: During the reenactment	

2 -- I would assume they didn't fire 1 live bullets but they fired blanks, 2 I would assume that --3 THE WITNESS: 4 That is correct. 5 THE COURT: 6 Your question is: Did the cartridges 7 fall in a pattern that you would say 8 they fell in originally? 9 MR. OSER: 10 He wants to know in setting up the re-11 12 enactment scene, were there any 13 marks placed on the floor of the School Book Depository where empty 14 cartridge cases were found? 15 THE COURT: 16 Not found where those fell. 17 MR. OSER: 18 That is my objection as to where they were 19 found because that is hearsay. 20 THE COURT: 21 Don't get excited about it. 22 MR. OSER: 23 I have a right to object. 24 MR. DYMOND: 25

1	This question is pertaining to the actual	25
2	mechanics of the reenactment and	
3	have an important bearing to the	
4	next question.	
5	THE COURT:	
6	I think I know what you are alluding to,	
7	Mr. Dymond, but you have to restate	
8	what happened the date of the re-	
9	enactment but not where cartridge	
10	cases were found on November 22,	-1
11	1963.	
12	MR. DYMOND:	
13	I will change the form of the question.	
14	BY MR. DYMOND:	
15	Q Mr. Frazier, during the reenactment of the	
16	Presidential assassination scene, were	
17	any marks placed on the floor of the	
18	School Book Depository?	
19	A No, sir.	•
20	Q Were any ejection tests conducted with the	
21	rifle that had been submitted to you?	
22	A I had several ejection tests that were made in	
23	the F.B.I. Laboratory, but not outside the	
24	laboratory.	
25	Q What was the purpose of these tests,	
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1		Mr. Frazier?	338-
2	A	To determine the angle and distance this	
3		fired-cartridge case would be extracted	
4		from this weapon in the process of fir-	
5		ing excuse me, after the cartridge	
6		case had been fired.	
7	Q	I see. Now, what did this test reveal,	
8		Mr. Frazier?	
9	A	It revealed there was a great deal of variation	
10		in both the distance and the angle to	
11		which the cartridge cases would be ejected	
12		which depended on how much force and how	
13		fast the bolt of the weapon was thrown to	
14		the rear causing the cartridge case to	
15		flip out of the ejection port.	
16	· <u>·</u>	Terrenal Generally speaking, you could vary	
17		the distance and the direction by increas-	
18		ing or decreasing the speed at which the	
19		bolt was operated. All of them, however,	~
20		when the muzzle of the rifle was held	
21		horizontally were ejected approximately	
22		90 degrees to the right of the weapon.	
23		Now, when the muzzle was held	
24		depressed at approximately 45 degrees,	
25		the cartridge cases were ejected	

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	Reference copy, JFK Collection: ESCA (RG 233)	
1	approximately 80 degrees to the right	¥
2	of a line drawn through the muzzle or	
3	- barrel of the weapon.	
4	MR. DYMOND:	
5	If The Court please, we are about to get	
6	into another area with this witness.	
7	THE COURT:	
8	I then suggest that we stop at this	
9	moment. It is apparent the State has	
10	not even started its cross-	-1
11	examination and we could not wind up	
12	with the witness tonight, as it is	
13	5:28, so I think it would be a good	
14	• time to close the proceedings for	
15	the day.	
16	You will be excused and will you	
17	be kind enough to report at 9:00	
18	o'clock tomorrow morning and con-	
19	tinue with your testimony.	^
20	Gentlemen, again I must instruct	
21	you and admonish you not to discuss	
22	the case amongst yourselves or with	
23	anyone else until it has been	
24	submitted to you for your decision.	
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akan di <u>Distan</u> a je politi	At the	hour of 5:	30 o'clock	
	p.m., the C	ourt reces	sed for the	
	day			
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1	Pursuant to the adjournment, the pro-
2	ceedings herein were resumed at 9:00 o'clock
3	a.m. on Friday, February 21, 1969, appearances
4	being the same as heretofore noted in the
5	record
6	THE COURT:
7	Mr. Frazier, the oath you took yesterday
8	is still binding. The witness is
9	still on direct. You may proceed.
10	ROBERT A. FRAZIER,
11	having been sworn and having testified previously,
12	resumed the stand and was examined and testified as
13	follows:
14	DIRECT EXAMINATION
15	BY MR. DYMOND:
16	Q Mr. Frazier, was a live round of ammunition
17	turned over to you in connection with the
18	rifle that was given to you for examination
19	A Yes, sir.
20	Q You have testified then an almost intact
21	MR. OSER:
22	You are starting off with a leading ques-
23	tion. We object, Your Honor.
24	MR. DYMOND:

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1	to correlate and lay a foundation for
2	another question.
3	THE COURT:
4	Objection overruled.
5	BY MR. DYMOND:
6	Q Mr. Frazier, you have testified that you re-
7	ceived an almost intact projectile; that
8	you recovered some fragments from the
9	Presidential limousine; that some other
10	fragments were turned over to you and that
11	there was a lead smear on the interior of
12	the windshield of the Presidential vehicle.
13	Was there any similarity in metallic
14	composition as among the metal found in
15	these various fragments and the live round
16	of ammunition turned over to you?
17	A Yes, sir, they all had the same metallic composi-
18	tion as far as the lead core or lead por-
19	tions of these objects is concerned.
20	Q Now what would this similarity in metallic
21	composition indicate?
22	A Only that they may have originated from the
23	same source. It does not prove it actually
24	did, but they do have the same composition
25	and could have originated from the same
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A J Reference copy, JFK Collection: ESCA (RG 233)

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1	or similar source. 41
2	Q Am I correct in saying there is a similarity
3	in metallic composition or they are identi-
4	cal?
5	A It was identical as far as the metallic elements
6	are concerned.
7	Q All right. Now, Mr. Frazier, did you have
8	occasion to examine the clothing of
9	President John F. Kennedy?
10	A Yes, sir.
11	Q What items of clothing did you examine, sir?
12	A I examined all that was submitted, the suit
13	coat, shirt, tie, underwear, the socks,
14	shoes, and a back support that was included
15	with the other materials.
16	Q I see. First, taking the coat or jacket worn
17	by President Kennedy, would you tell us
18	what you learned upon your examination of
19	this garment?
20	A I found only one hole in this garment which was
21	a small hole approximately a quarter of an
22	inch in diameter. This was located five
23	and three-eighths inch below the top of the
24	collar in the back of the coat and one and
25	three-quarters inches to the right of the

	Reference copy, JFK Collection: ESCA (RG 233)
1	mid-line.
2	Q Mr. Frazier, if I were to have Mr. Wegmann
3	stand before the Jury, could you point
4	out on his coat approximately where this
5	hole was?
6	A I think so.
7	THE COURT:
8	I suggest you do it in that area over
9	there, Mr. Dymond.
10	MR. DYMOND:
11	Step down here, Mr. Frazier.
12	(Witness complies with request of
13	Counsel, demonstrating to the Jury.)
14	BY MR. DYMOND:
15	Q Thank you, sir. Now, did you make a professional
16	examination of this hole in the President's
17	jacket?
18	A Yes, sir, I did.
19	Q Would you describe to the Jury what, if anything,
20	you observed in connection with these
21	fibers?
22	A The cloth was torn in very short radial splits
23	or rips so that a hole approximately a
24	quarter of an inch in diameter was formed
25	on the garment. Fibers were pushed inward,

-	Reference copy, JFK Collection: ESCA (RG 233)
1	that is, both the appearance on the out-
2	side where the fibers were smooth, whereas
3	on the inside surface the fibers were
4	standing out indicating that an object
5	has passed through from the outside to
6	the inside.
7	Q Mr. Frazier, as an expert in the field of
8	ballistics, what would the condition of
9	these fibers surrounding the hole in the
10	back of the coat indicate?
11	A This hole and fibers had the appearance of a
12	bullet entrance hole.
13	Q Now, did you also examine the shirt worn by
14	President Kennedy?
15	A Yes, sir.
16	Q What, if anything, did you notice in connec-
17	tion with the examination of that shirt?
18	A I noticed the same situation to exist, that is,
19	there was a hole in the shirt approximately
20	five and three-quarter inch below the top
21	of the collar and about one and one-eighth
22	inch to the right of the mid-line in the
23	back of the shirt.
24	Q Did you make an examination of the fibers of the
25	shirt in the area surrounding this hole?

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	Reference copy	, JFK COLLECTION: ESCR (NG 255) 45	
1	A Yes, si	r	•
2	Q What die	d that examination reveal to you?	
3	A It show	ed the fibers to be pressed inward. The	
4	ho	le was approximately one-quarter inch in	
5	dia	ameter and had very slight radial tears	
6	on	the margin of the hole and indicated	
7	in	addition, it had all the appearance of	
8	al	oullet entrance hole.	
9	Q Mr. Fraz	zier, I know you had throat trouble over	
10	the	e night and would you like to have a drink	4
11	of	water?	÷
12	A Yes.		
13	MR. DYMO	DND:	
14	You	ar Honor, could we get a glass of water	
15		instead of that cup.	
16	THE COUF	RT :	
17	Yes	· ·	
18	BY MR. DYMOND:		
19	Q Now, Mr.	Frazier, did you have occasion to	,
20	str	tike that, please in connection with	
21	you	r examination of the President's shirt,	
22	did	you notice anything unusual about the	
23	fro	ont portion of the shirt?	
24	A Yes, the	ere was a very short slit approximately	
25	One	-half inch in length which was located	

1	in the button line and also in the button-	;
2	hole line, that is where the buttonhole	
3	strip and button strip overlap at the	
4	front. This hole was located just below	
5	the collar button and had no other physical	
6	characteristics so that you could determine	
7	the nature of the object that caused it	
8	except that the object exited at that	
9	point, but I could not determine the	
10	nature of the object.	
11	Q What led you, as an expert, to believe that the	
12	object exited there?	
13	A From again the shape of the fibers being	
14	pressed from the inside of the shirt out-	
15	ward.	
16	Q Now, did you make a comparison between the hole	
17	in the back of the shirt and the hole in	
18	the back of the coat, and, if so, did the	
19	two holes coincide in position?	
20	A Yes, they did.	
21	Q Was there any difference in alignment at all?	
22	A No. There could have been a slight difference	
23	in alignment because the hole in the coat	
24	was approximately three-eighths of an inch	
25	higher, that is, it was only five and	
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 whereas the hole in the shirt was five and three-quarters inches down, but since the collar cloth of a shirt stands up above the coat, I would judge they were corres- ponding holes. Q Doctor, did you have occasion to examine the neck tie worn MR. OSER: He is not a doctor. BY MR. DYMOND: Q Did you have occasion to examine the neck tie worn by the President, Mr. Frazier? A I did. Q Would you tell us what, if anything, was revealed by your examination of this neck tie. A The neck tie had been cut, that is, the neck band was cut to remove it MR. OSER: I object, unless he cut it himself. THE COURT: When he received it it appeared to be cut, Mr. Oser. 	1	three-eighths inches below the collar,	R
 the collar cloth of a shirt stands up above the coat, I would judge they were corresponding holes. Q Doctor, did you have occasion to examine the neck tie worn MR. OSER: He is not a doctor. BY MR. DYMOND: Q Did you have occasion to examine the neck tie worn by the President, Mr. Frazier? A I did. Q Would you tell us what, if anything, was revealed by your examination of this neck tie. A The neck tie had been cut, that is, the neck band was cut to remove it MR. OSER: I object, unless he cut it himself. THE COURT: When he received it it appeared to be cut, Mr. OSER: THE WITNESS: 	2	whereas the hole in the shirt was five	
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23 Mr. Oser. 24 THE WITNESS:	21	THE COURT:	
24 THE WITNESS:	22	When he received it it appeared to be cut,	
	23	Mr. Oser.	
	24	THE WITNESS:	
25 Besides these marks that indicated it had	25	Besides these marks that indicated it had	

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48 1 been cut, there were fibers broken 67 2 along the left side of the knot of 3 the tie and, of course, they were in 4 the area where the slit appeared in 5 the President's shirt. These fibers 6 were broken and that is they were 7 slit at the knot and in the same 8 position as the slit in the Presi-9 dent's shirt, but they showed no 10 other characteristics to indicate the 11 nature of the object or the direction 12 of the object. 13 BY MR. DYMOND: 14 Did the fibers of the neck tie indicate anything? 0 15 Α NO, sir. 16 0 They did not? 17 Α No, sir. 18 As an expert, Mr. Frazier, what was your opinion Q 19 as to whether or not the same projectile 20 had caused the hole in the coate, the hole 21 in the shirt, in the back of the shirt, the 22 hole in the front of the shirt, and damage 23 of the neck tie which you examined? 24 I could say it may have been caused by the Α 25 passage of a single projectile, however,

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1		I could not substantiate this from techni-
2		cal knowledge, and, therefore, it is only
3		a possibility.
4	Q	Did you determine any possibility or probability
5		of its having been caused by more than one
6		projectile having been fired in the back?
7	A	There was only one fired into the back that
8		struck the coat and the shirt. I could
9		not say whether the same object came out
10		the front because this was a slit. I
11		might say that the strength of the material
12		in this shirt is such that you would
13		normally get a slit vertical rather than
14		horizontal in this area.
15	Q	Did this slit produce any characteristics that
16	:	it had not been made by the exiting of a
17		projectile?
18	A	NO, sir.
19	Q	Now, as an expert, from what direction would
20		you say that the bullet which entered the
21		President's back came?
22	A	It came from the rear. As far as the angle of
23		the direction, this would depend on the
24	:	position of the President's body at the
25		time he was shot, and I have no knowledge

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1		of that specific angle, however, the hole
2		in the back was considerably higher than
3		the hole in the front, I would say 20 to
4		30 degree downward angle.
5	Q	Mr. Frazier, could you demonstrate to the
6		Jury why you say that the position of the
7		body of the President would have a bearing
8		upon the bearing of the entrance of this
9		bullet?
10	A	Normally, angles of entrance are stated with
11		reference to the ground or horizontal
12		plane. Whereas a person's body is free
13		to move with reference to that plane, and
14		any movement forward or back in the
15		fashion of bending over, dipping to the
16		right or left, would affect the angle with
17		reference to the ground and would not, of
18		course, affect the angle with reference to
19		the axis of the individual.
20	Q	From your observation of the Zapruder film,
21		were you able to determine the exact time
22		the President was hit in the back?
23	A	Not in the coat, no, only in the head.
24	Q	Only in the head?
25	A	Yes, sir.

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1	Q	Would that be the reason for not being able
2		to determine the exact position of his
3		body when he was hit in the back?
4	A	Yes, sir.
5	Q	Mr. Frazier, did you have occasion to examine
6		the coat of Governor Connally?
7	A	I did.
8	Q	Would you tell us what, if anything, you found
9		as a result of this examination?
10	A	I found two holes in the coat, one of which was
11		located in the back near the seam where
12		the right sleeve attaches to the coat and
13		the other was located in the front of the
14	1	coat in the right chest area. This coat
15		had been cleaned and pressed when I ex-
16		amined it and I could arrive at no con-
17		clusions concerning whether or not these
18		holes were bullet holes and if so the
19		direction of travel.
20	Q	The coat had been cleaned and pressed before
21		you examined it?
22	A	Yes, sir.
23	Q	With respect to the position of these holes,
24		that is the location of these holes and
25		the area or position in the car where the
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1	stand-in for Governor Connally was sitting
2	during the reenactment, as an expert, did
3	you find anything inconsistent with the
4	possibility that the same bullet which
5	went through President Kennedy also
6	penetrated Governor Connally?
7	MR. OSER:
8	I am going to object to this question,
9	to anything this witness might testi-
10	fy to because it necessarily would be
11	as a result of hearsay because this
12	witness testified the purposes of the
13	reenactment was to find out what
14	could have happened as a result of
15	what the Warren Commission told him
16	as to what the witnesses testified
17	to before the Warren Commission and,
18	therefore, it is based on hearsay.
19	MR. DYMOND:
20	If the Court please, this witness has
21	testified he has seen the Zapruder
22	film. If he has seen the Zapruder
23	film, certainly he knows the relative
24	position in the automobile of Governor
25	Connally and President Kennedy.

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1 R Experts have been able to testify 2 throughout this trial on positioning 3 in that Zapruder film and that is the 4 only question we are interested in 5 here. 6 MR. OSER: 7 Will Your Honor hear the State once more? 8 THE COURT: 9 Yes. 10 MR. OSER:: 11 This witness already testified he has no 12 technical knowledge in this area and 13 we don't know how much of the Zapruder 14 he had seen, but certainly he is not 15 a photographic expert and everything 16 he is testifying to here is based on 17 hearsay because he said the Warren 18 Commission told him what they testi-19 fied to, and that is obviously is 20 hearsay. 21 THE COURT: 22 I overrule the objection. 23 MR. DYMOND: 24 Do you understand the question? 25 THE WITNESS:

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•	R	eference copy, JFK Collection: ESCA (RG 233) 54
N15	1	I would like to have it repeated.
۳. کی	2	BY MR. DYMOND:
	3	Q Based upon your knowledge Mister, would you
	4	please read the question back?
	5	(Whereupon, the question was read
	6	back by the Reporter.)
	7	THE WITNESS:
	8	No,sir.
	9	BY MR. DYMOND:
	10	Q Mr. Frazier,
	11	THE COURT:
	12	It's such a long question and such a
i • •	13	short answer, I think you better re-
	14	peat the question. The witness
	15	understood the question, but
	16	BY MR. DYMOND:
	17	Q Now, as an expert, what were your reasons for
	18	arriving at that conclusion?
	19	MR. OSER:
	20	I am going to object to this as this is
:	21	again based on hearsay.
	22	THE COURT:
	23	I overrule your objection.
	24	THE WITNESS:
	25	Based on my examination of the Presidential
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limousine and the location of the 1 994 2 individuals in it as shown in the 3 film, the Governor's body or person was located nearer the center of the 4 5 car than the President. The President was sitting out actually with his 6 arm on the side rail of the car as 7 shown in the film. 8 The Governor was spaced inward several inches from the 9 10 door. Therefore, the angle at which; a bullet fired from above and to the 11 12 right would strike the President, 13 pass through his body, was such that 14 it could have also entered the Gover-15 nor's body at the place where there was 16 a hole located in his coat. 17 BY MR. DYMOND: 18 Q Mr. Frazier, did you also have occasion to 19 examine the shirt of Governor Connally? 20 Α Yes, sir. Would you tell us what you found as a result of 21 0 22 this examination? 23 Α I found a hole located in the back of the shirt, 24 which is a slightly elongated hole, that 25 is, not a regular round hole, generally

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the material, being an egg-shaped hole very irregular in nature.

Had this garment been laundered before you had 0 an opportunity to examine it?

Were you able to determine anything from the Q fibers of that garment if you made such 10 an examination? 11

12 No, sir. Α

Yes.

Mr. Frazier, does laundering or drycleaning 13 0 14 essentially remove the characteristics 15 from which a ballistic expert can deter-16 mine from the fibers of materials a point 17 of entrance or exit?

18 Α Yes, sir.

19 0 Did you have occasion to examine the sleeves 20 of the coat and the shirt of Governor 21 Connally?

22 А Yes, sir, I did.

23 Did you learn anything unusual as a result of Q 24 this examination?

25 On the sleeve of the coat I found a hole irregu-Α

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1		lar in shape in the top position of th	ie 55
2		right sleeve near the inside or edge o	f
3		the sleeve penetrating both the outsid	e
4		layer, the lining, and the inside laye	r
5		of the sleeve, and a similar damage wa	s
6		present in the cuffs of the Governor's	
7		shirt, which, as I recall, was French	
8		cuffs that had four layers of material	,
9		and all four layers were torn by the	
10		passage of some projectile. I could m	ake
11	a.	no conclusions as to whether or not th	is
12		damage was caused by a bullet or some	
13		other object.	
14	Q Base	ed upon your studies of the Zapruder film	m
15		and your studies of the relative posit	ions
16		of the occupants of the Presidential	
17		limousine, did you find anything incon-	-
18		sistent with the holes in the cuffs of	
19		Governor Connally's coat and shirt hav	ing
20		been made by one and the same projecti	le
21		which penetrated his body?	
22	A NO,	sir.	
23	Q Howe	ever, I take it, you cannot testify this	is
24		a fact because of not being able to det	er-
25		mine the entrance and exit points becau	ise of
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Reference copy, JFK Collection: ESCA (RG 233)

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1		the laundering of the materials? 57
2	A	That is correct, yes.
3	Q	Did you have occasion to examine the trousers
4		of Governor Connally?
5	A	Yes, I did.
6	Q	What, if anything, did you determine by that
7		examination?
8	A	I found in the trousers at the left knee area
9		a hole which is roughly circular in shape
10		approximately one-quarter inch in diameter.
11		There was a slight elongation, possibly
12		due to tearing of the cloth and this
13		particular hole did not have any
14		characteristics which would permit to de-
15		termine whether or not it was caused by
16		the passage of a bullet, and, if so,
17		whether it was an entrance or exit hole.
18	Q	Had this garment also been laundered or dry-
19		cleaned before you examined it?
20	A	Yes, sir.
21	Q	Based upon your study and knowledge of the
22		relative positioning of the occupants of
23		this limousene, Mr. Frazier, and with
24		particular reference to the hole in the
25		trousers of Governor Connally, if this
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1		wound or this hole had been inflicted by	5-8
2		a gun fired from in front of the automobile	
3		would it or would it not have had to pene-	
4		trate the windshield of the automobile?	
5	A	It would have had to either penetrate the wind-	
6		shield or metal portion of the car, and	
7		in addition the back of the front seat of	
8		the car.	
9	Q	Did you find any evidence of such penetration?	
10	A	NO, sir, there was none.	
11	Q	Now, Mr. Frazier, the with reference to the	
12		rifle which was examined by you, and the	
13		live ammunition that was turned over to	
14		you, that is, one round of live ammunition,	
15		could you tell me, as an expert, what	
16		would be the approximate speed of the pro-	
17		jectile of that live round of ammunition	
18		if fired from the rifle you examined?	•
19	A	The velocity at the muzzle would be in the	
20		neighborhood of 1,965 feet per second.	
21		This velocity can vary as much as 50 feet	
22		per second, I would say closer to 40 feet	
23		per second, in either direction from this	
24		average. However, I tested ammunition	
25		similar to this, made by the same company,	

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Reference copy, JFK Collection: ESCA (RG 233) an and the second

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N21	1	and it did average 1,965 feet per second
	2	at the muzzle.
	3	Q Now, to what extent would this speed diminish
	4	over a distance, say, of 265 feet?
	5	A A rule-of-thumb estimate would give you a de-
	6	crease in velocity of 265, that is, it
	7	reduces approximately one foot per second
	8	in velocity for each foot travelled.
	9	Q So that at the end of 265 feet, it would be
	10	going approximately how fast?
	11	A The actual figures which I have calculated on
	12	that I do not have with me, but generally
•	13	speaking it would be travelling 1,800
	14	feet per second.
	15	Q How would that compare with the speed of sound?
· •	16	A Above the neighborhood of sound which is in
	17	the neighborhood of 1,100 feet per second.
	18	Q Are there any particular racoustical characteris-
	19	tics of a high velocity bullet, that is,
	20	one that travels faster than the speed of
	21	sound?
	22	A Yes, sir.
	23	MR. OSER:
	24	I am going to object unless he can testify
	25	to what area Mr. Dymond is talking

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61 1 about because in different areas 2 there are different indications. 3 MR. DYMOND: 4 If the Court please, this witness is sub-5 ject to cross-examination. 6 THE COURT: 7 What was your question? 8 MR. DYMOND: 9 I wanted to know whether there are any 10 particular pacoustical characteristics 11 of a high-speed projectile that 12 travels faster than sound, and, if so, 13 what they are. 14 THE COURT: . 15 I will permit it. 16 MR. DYMOND: 17 He has been qualified as an expert in 18 ballistics. 19 THE COURT: 20 I overruled it, Mr. Dymond. 21 Α Yes, sir. These characteristics are that when 22 a person is standing in front, in the 23 general area in front of a firearm which 24 fires a bullet faster than the speed of 25 sound, that they will hear the report, or

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N23 1 a sound wave, a sonic boom from the bullet æ 2 itself prior to the time they will hear 3 the report since the bullet creates a 4 sonic boom which reaches the ear of the 5 person before the explosion of the gun 6 powder and muzzle blast reaches them. The 7 speed of sound travels at about 1,100 8 feet per second, so it would require one 9 second to travel 1,100 feet, whereas a 10 person standing at 1,100 feet would hear i 11 the report of the bullet as it went over 12 and one second or a fraction of a second 13 later they would hear the sound of the re-14 port of the weapon. 15 BY MR. DYMOND: 16 Would you liken this to the sonic boom made by 0 17 a jet plane travelling faster than sound? 18 MR. OSER: 19 I object, as he is not an aeronautical 20 engineer, he is a ballistics expert. 21 THE COURT: 22 The objection is overruled. 23 THE WITNESS: 24 It is the same process in physics in that 25 you hear a sonic report from the ob-

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1	ject travelling faster than the
2	speed of sound.
3	BY MR. DYMOND:
4	Q Mr. Frazier, as an expert, would you say that
5	this sonic noise is easily distinguishable
6	from the noise made by the explosion of
7	the cartridge or can they be confused?
8	A They are very easily confused unless you are
9	particularly listening for it at the
10	time and you are in addition familiar
11	with what they sound like and have heard
12	it repeatedly before.
13	Q Mr. Frazier, you have testified that you found
14	damage to the interior of the windshield
15	of the Presidential vehicle, is that cor-
16	rect, sir?
17	A Yes, sir, no, the damage was to the exterior
18	as there was a lead smear on the interior.
19	Q As I understand, you examined this area of
20	damage.
21	A Yes, sir.
22	Q And you concluded that this damaged area had
23	been caused by what, sir?
24	A By a lead projectile striking the windshield
25	on the inside surface.

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	Kererence copy, Jrk correction. Look (no boo,
N25 ¹	Q Now, is there any explanation as to why a
2	lead projectile from a Mannlicher-Carcano
3	MR. OSER:
4	There is no testimony that this piece of
5	lead came from a 6.5 millimeter
6	Mannlicher-Carcano.
. 7	THE COURT:
8	The objection is well taken. I don't be-
9	lieve the expert can tell you where
10	the lead came from.
11	
12	MR. DYMOND:
13	If the Court please, let me examine him
14	on that right now.
	THE COURT:
15	О.К.
16	BY MR. DYMOND:
17	Q How many fragments did you find in the auto-
18	mobile, Mr. Frazier?
- 19	A I found three lead fragments.
20	Q Three lead fragments. Did you perform any tests
21	on these lead fragments for the purpose of
22	determining what gun these had come from?
23	A No, sir, these lead fragments do not possess
24	any barrel markings and it would not be
25	possible to determine that.

65 THE COURT: 1 2 May I interrupt you a second. I remember his testimony about the lead fragments 3 to the extent that he said they were 4 similar in composition to what was 5 found under the drop seat, but at no 6 time did he say where they came from. 7 BY MR. DYMOND: 8 Q Let me give you a hypothetical question on 9 this: 10 If a Mannlicher-Carcano 6.5 millimeter rifle 11 12 were fired from a distance of 265 feet, 13 would it ordinarily penetrate an automobile 14 windshield? 15 Yes, it would. Α 16 MR. OSER: 17 I am going to object to the hypothetical 18 question by Defense Counsel because 19 the hypothetical question contains 20 facts that have not been testified to. He said, "If a Mannlicher-Carcano 21 rifle had been fired from 265 feet," 22 23 and there was no testimony to that 24 effect. 25 MR. DYMOND:

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66 1 I asked a hypothetical question. 2 MR. OSER: 3 A hypothetical question must contain 4 facts brought out during the trial 5 and these facts have not been proven. 6 THE COURT: 7 I will permit the question. 8 MR. DYMOND: 9 Would you read the question, please, Mr. 10 Neyrey? 11 (Whereupon, the question was 12 read back by the Reporter.) 13 THE WITNESS: 14 Yes, it would. 15 BY MR. DYMOND: 16 If upon hitting such a windshield it would not 0 17 penetrate that windshield, what, if any, 18 explanation could you give as a reason 19 for that? 20 The velocity of the projectile had dropped Α 21 very drastically to the point that it 22 would not even break the glass on the in-23 side surface. Some object, it must have 24 passed through some object, ricocheted 25 through some object or in some other way

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1		slowed its velocity.	60
2	Q	Would its having gone through the skull of a	
3		normal individual be consistent with its	
4		having lost velocity to that extent?	
5	A	I think so, yes.	
6	Q	Now, Mr. Frazier, you actually stood in the	
7		window of the sixth floor Depository win-	
8		dow in Dallas and observed the spot where	
9		from the Zapruder film the Presidential	
10		vehicle was located in Frame 313 of the	
11		film?	
12	A	Yes, sir, I did.	
13	Q	As an expert in ballistics, would you say that	
14		it was a difficult shot from the window	
15		of that Depository to that location in	
16		trying to hit a human being?	
17	A	Are you assuming the use of the rifle examined	
18		in the laboratory?	
19	Q	That is correct.	
20	A	It would not be a difficult shot with this	
21		rifle mounted with a four-power telescopic	
22		sight.	
23	Q	Now we have mentioned the distance at 265 feet	
24		and what effect of the use of the type of	
25		telescopic sight which you found on that	
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l	rifle have upon the ease or difficulty of
2	that shot?
3	A The effect of the telescopic sight would be to
4	cut the distance by three-quarters, that
5	is, the effective target size would be the
6	same as if you were shooting at one-fourth
7	that distance, a little over 80 feet,
8	therefore making it easier to line up the
9	cross hairs of the telescopic sight on
10	the target because in addition with this
11	rifle it is only necessary to pull the
12	trigger while the cross hairs are lined
13	up on the target and you do not have to
14	bring them together, you don't have to
15	line up two separate sights but only the
16	cross hairs on the target and therefore,
17	in my opinion, it would be a relatively
18	easy shot, slightly complicated, however,
19	if the target were moving at the time, it
20	would make it a little more difficult.
21	Q During the course of your entire examination,
22	Mr. Frazier, as an expert, did you find
23	anything inconsistent with all the shots
24	having been fired from the right rear of
25	the Presidential vehicle and from the sixth

N29

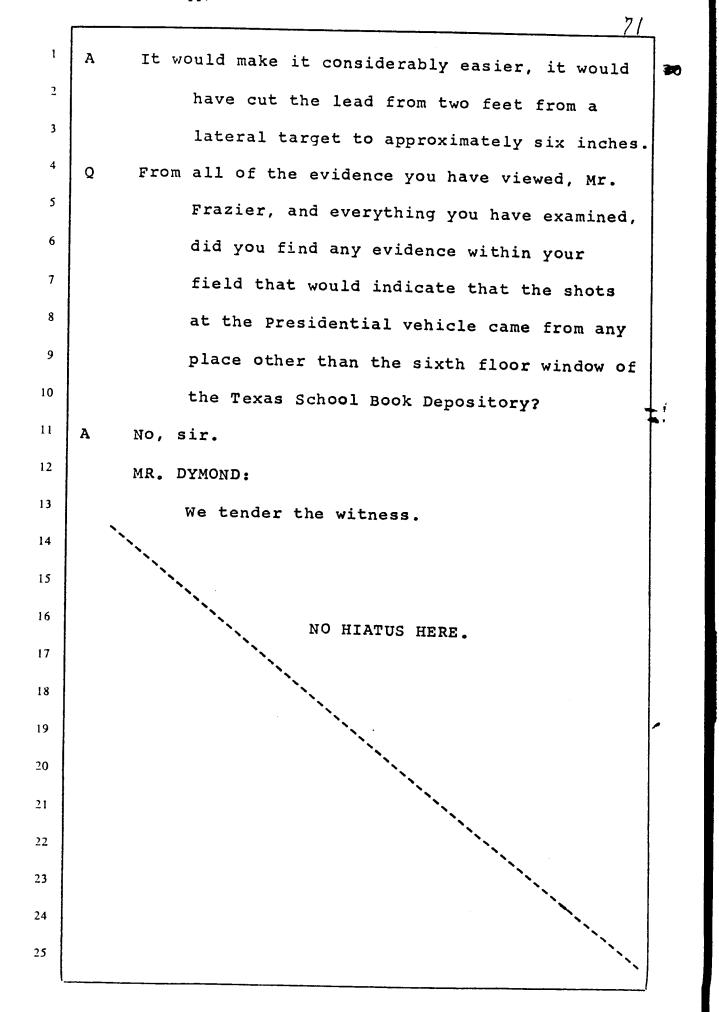
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1 floor Depository window? 6 2 MR. OSER: 3 Your Honor, I am going to object because 4 this man is not qualified in the 5 field of photography or as a photo-6 graphic expert and the testimony would 7 be the result of a photograph expert 8 which he is not qualified to express. 9 THE COURT: 10 The objection is overruled. No, sir, there was nothing inconsistent that 11 Α I found to preclude or indicate that the 12 13 shots came from anywhere except above and 14 beyond. 15 THE COURT: 16 Mr. Frazier, what you are testifying to, 17 wouldn't the shooter, whomever would 18 have the gun, say when shooting ducks, 19 don't you have to lead with the cross 20 hairs if a vehicle were moving at 21 12 miles an hour? 22 THE WITNESS: 23 Yes, sir, he would have to lead a vehicle 24 moving at 12 miles an hour and to 25 shoot approximately six inches over

	<u> </u>
1	his target so that by the time the 🏼
2	bullet reached the target it and the
3	vehicle would be at the same place.
4	THE COURT:
5	Wouldn't he have to be proficient in
6	shooting firearms in knowing how much
7	to lead?
8	THE WITNESS:
9	In my opinion, 12 miles an hour wouldn't
10	require too much proficiency in esti-
11	mating lead. I think, and in fact I
12	would have taken very little considera-
13	tion in my own position.
14	BY MR. DYMOND:
15	Q While on that subject, Mr. Frazier, from the
16	sixth floor Depository window, with the
17	reenactment vehicle moving along Elm Street,
18	as the Presidential vehicle was shown in
19	the Zapruder film, was this 12 miles an
20	hour movement laterally or partially going
21	away from the sixth floor?
22	A It was largely going away from the window.
23	Q Would that make it an easier or more difficult
24	shot than had it been completely lateral
25	movement?

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<u>ب</u> م Reference copy, JFK Collection: ESCA (RG 233)

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1	(AFTER THE RECESS.)	
2	THE COURT:	
3	Is the State ready?	
4	MR. OSER:	
5	We are ready, Your Honor.	
6	THE COURT:	
7	Is the Defense ready?	
8	MR. DYMOND:	
9	The Defense is ready, Your Honor.	
10	THE COURT:	- 1
1	You may proceed.	
12	CROSS-EXAMINATION	
13	BY MR. OSER:	
14	Q How long have you been an F.B.I. Agent?	
15	A Approximately 26 years.	
16	Q. Approximately how many scenes of crimes hav	e
17	you investigated for the F.B.I. during	
8	that period?	
19	A Very few. Three or four.	^
20	Q Have you assisted State authorities in inve	s-
21	tigating scenes of crimes?	
22	A No, sir.	
23	Q At the time you investigated the assassinat	ion
24	of President John F. Kennedy, can you	
25	tell us whether or not that was a Fede	ral

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1	offense. the killing of a president at	đ
2	that time?	
3	MR. DYMOND:	
4	We object. We don't see the relevancy	
5	of this at all.	
6	THE COURT:	
7	What is the objection?	
8	MR. DYMOND:	
9	We db ject on the grounds of relevancy.	
10	THE COURT:	
11	Everyone knows it was a State offense	
12	and it is now a Federal offense.	
13	That is a matter of law.	
14	MR. OSER:	
15	I'm trying to ascertain how the evidence	
16	got out of the State of Texas where	
17	the offense occurred and into	
18	Washington.	
19	THE COURT:	^
20	You may proceed.	
21	BY MR. OSER:	
22	Q Can you tell me what State official of Texas	
23	ordered the removal of the evidence from	
24	the scene of this homicide to Washington,	
25	if you know?	

1-2

74 MR. DYMOND: 1 æ3 That is quite irrelevant, and we object. 2 THE COURT: 3 What is the relevancy of this with 4 respect to an expert on ballistics? 5 MR. ALCOCK: 6 There is the matter of the chain of 7 evidence, and it would be --8 MR. DYMOND: 9 It has nothing to do with ballistics, and 10 this witness is an expert on 11 ballistics. 12 MR. ALCOCK: 13 Certainly it does. Whose hands did it 14 pass through? Certainly the element 15 of the chain of evidence is important 16 in that area. The State has the 17 right to examine the evidence of 18 chain since Mr. Dymond has asked the " 19 witness about material and objects 20 that were in Dallas on the 22nd of 21 November, and on which he performed 22 tests later on in Washington, D.C. 23 MR. DYMOND: 24 I think if the State wants to come out and 25

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1	charge the Federal Government with
2	fraud they ought to say so. I don't
3	think this has any relevancy at all
4	to the testimony of a ballistics
5	expert who is testifying as to the
6	results of certain tests performed
7	by him.
8	THE COURT:
9	My ruling yesterday with respect to
10	Mr. Frazier's testimony was that I
11	did not permit him to testify that
12	what was given to him was the gun
13	but that he made tests on a gun.
14	Do you recall that was my ruling
15	yesterday?
16	MR. ALCOCK:
17	I also recall he was able to testify as
18	to the ownership of the coats and
19	shirts as being the coat and shirt '
20	of President Kennedy and the
21	presidential limousine.
22	MR. DYMOND:
23	First of all there was no objection by
24	the State to that. It is in the
25	record. If a foundation had to be

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1/5 1	laid perhaps we could have laid it
2	and perhaps we could not. However,
3	that was the time to object to it.
4	THE COURT:
5	I sustained the objection.
6	BY MR. OSER:
7	Q Do you know when the President's limousine
8	got called back to Washington, D.C.?
9	A No, not definitely.
10	Q When did you first see the car?
11	A Approximately 1:40 a.m. on November 23, 1963.
12	Q Can you tell us whether or not the Presidential
13	limousine, while it was at Parkland
14	Hospital, was under guard the entire time?
15	A I don't know.
16	Q In your part of the investigation, Mr. Frazier,
17	did you have at your disposal the various
18	reports of the F.B.I. regarding the
19	assassination? Did you consider all the
20	
21	A No, sir.
22	
23	
23	
25	may or may not have happened at Parkland

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1/6	1	Hospital, and what may or may not have 76
	2	happened in regard to various pieces of
	3	evidence that were found in Dealey Plaza?
	4	THE COURT:
	5	You have asked about five questions in
	6	one. Break it down, Mr. Oser.
	7	BY MR. OSER:
	8	Q Did you make an attempt to obtain any F.B.I.
	9	reports regarding the Presidential
	10	limousine while it was in Dallas, Texas,
	11	on November 22, 1963?
	12	MR. DYMOND:
*	13	Objection. Our objection is that it has
-	14	not been established yet that any
	15	such reports were then in existence.
	16	I think before he asks this witness
	17	whether: he attempted to get reports
	18	it should be first determined whether
	19	there were any reports in existence '
	20	at that time, which I doubt, the day
	21	after the assassination.
	22	THE COURT:
	23	Mr. Oser, your question assumes there
	24	were reports. Can you preface your
۳ <u>۷</u>	25	question by asking Mr. Frazier
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Reference copy, JFK Collection: ESCA (RG 233)

78 whether there were any reports? 1 Â 2 MR. OSER: I asked him if he attempted to obtain any 3 4 of these reports, if there were any. 5 MR. DYMOND: 6 That was not the question. We do not object to the question in that form. 7 BY MR. OSER: 8 Did you attempt to obtain any F.B.I. reports 9 0 regarding the Presidential limousine 10 while it was in Dallas, Texas on November 11 12 22, 1963? 13 MR. DYMOND: 14 Objection, that is not the question which 15 Mr. Oser said he would ask. 16 THE COURT: Will you rephrase your question. 17 BY MR. OSER: 18 Did you attempt to obtain any F.B.I. reports 19 Q 20 which may have been written at the time 21 you conducted your investigation in regard to the Presidential limousine in Dallas, 22 23 Texas, on November 22, 1963? 24 Α No, I did not. Are you familiar with the -- with a supplemental 25 Q

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1	F.B.I. report filed on January 13, 1964, 388
2	regarding the Presidential limousine and
3	disclosing there was a dented area in the
4	MR. DYMOND:
5	We object to Counsel stating what an
6	F.B.I. report discloses. This amounts
7	to Counsel testifying.
8	THE COURT:
9	If it is a prior contradictory statement I
10	will permit it. You cannot read
11	from a report.
12	MR. OSER:
13	The witness is under corss-examination.
14	He has testified about this complete
15	and exhaustive examination he did,
16	and I want to know if he found a
17	dent in the chrome above the wind-
18	shield.
19	THE COURT:
20	Ask him that instead of reading the
21	report.
. 22	BY MR. OSER:
23	Q You examined the car, didn't you, Mr. Frazier,
24	the President's car?
25	A Yes, I did.



Reference copy, JFK Collection: ESCA (RG 233)

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	5.e : _		<u></u>
1/9	1	Q	Did you find any dent in the chrome area above
	2		the windshield?
	3	A	Yes, there was.
	4	Q	You didn't refer to this on Direct Examination,
	5		you referred to the windshield.
	6	A	Only indirectly, when he asked me if I found
	7		any other bullet impact areas and I said
	8		that I found none that I could identify as
	9		such.
	10	Q	You don't know whether any other members of the
	11		F.B.I. Ballistics Department made a deter-
	12		mination about this area that it would
	13		have been caused by bullet fragments, do
	14		you?
	15	A	I was aware of the F.B.I. firearm and ballistic
	16		examinations.
	17	Q	Were you familiar with such a report of
	18		January 13, 1964?
	19		MR. DYMOND:
	20		If he has the report I ask that it be
	21		submitted to Mr. Frazier.
	22		THE COURT:
	23		He has stated that he was familiar with
	24		all the reports, as I understand it.
	25		MR. DYMOND:
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Reference copy, JFK Collection: ESCA (RG 233)

	Reference copy, JFK Collection: ESCA (NO 155)
1	He's being asked now-whether he was
2	familiar with the report of a cer-
3	tain date, which I think is an
4	unfair question. If Counsel has a
5	report I ask it be shown to the
6	witness and he be asked if he is
7	familiar with it.
8	THE COURT:
9	I cannot tell the State how to run their
10	case, nor can I tell you how to run
11	yours, Mr. Dymond. You may proceed,
12	Mr. Oser. Ask him if he is familiar
13	with the report.
14	BY MR. OSER:
15	Q Are you familiar with the report I am speaking
16	about?
17	A I don't recall any reports by date.
18	Q Were you the only ballistics expert from the
19	F.B.I. involved in the investigation of
20	President Kennedy's death?
21	A No, sir, there were two others.
22	Q Who were they?
23	A Courtland Cunningham and Charles Killian.
24	Q In examining the car did you have occasion to
25	take the measurements of the jump seats

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Reference copy, JFK Collection: ESCA (RG 233)

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1/11	1	and the rear seat area of the President's 😕
7 4	2	car?
	3	A I don't recall that I did.
	4	Q You are not able to state how far in front of
	5	the rear seat were the jump seats in the
-	6	President's car?
	7	A I don't recall taking that measurement or
	8	testifying concerning it.
	9	Q I believe you testified, Mr. Frazier, the
	10	Presidential limousine was not used in
	11	the reconstruction, is that correct?
	12	A Yes, sir.
	13	Q Why?
	14	A I don't know why of my own knowledge. I under-
	15	stand it was being reconstructed and
	16	refurbished inside.
	17	Q You all didn't perform a reconstruction until
	18	May 24, 1964, is that correct?
	19	A Yes, sir, that is correct.
	20	Q Which is some five or six months after the date
	21	of the shooting, is that right?
	22	A Yes, sir.
	23	Q Can you tell me which car did you all use for
	24	the reconstruction?
	25	A We used a Cadillac limousine.



1/12 Q Can you tell me whether or not the measurements 1 2 of the Cadillac limousine corresponded to the Presidential limousine in regard to 3 4 the jump seats and the rear seat? It is my impression they did not correspond 5 Α exactly to the measurements either in 6 height -- well, I don't know about the 7 lateral displacement. 8 As an expert in the field of ballistics, can 9 Q you tell me why you didn't call for the 10 Presidential limousine to be used in your 11 reconstruction which would have been the 12 best piece of evidence to be used at that 13 time? 14 15 MR. DYMOND: 16 I object to Counsel passing upon the 17 quality of evidence. 18 THE COURT: 19 He doesn't know why the original car 20 wasn't used. 21 22 NO HIATUS HERE. 23 24 25

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53	Re	eference copy, JFK Collection: ESCA (RG 233)
C-N-1	1	MR. OSER:
	2	I am asking why he didn't call for the
	3	original car to be brought to Dallas,
	4	Texas, for the May 24, 1964 reconstruc-
	5	tion.
	6	MR. DYMOND:
	7	I object to Counsel labelling that car as
• •	8	the best evidence.
	9	MR. OSER:
	10	I will ask him why he didn't call for the
	11	limousine the President was in at
	12	the time he was shot to be brought to
	13	Dallas on May 24, 1964 for his re-
	14	construction.
	15	THE COURT:
	16	Did you have authority to make such a
	17	request, Mr. Frazier?
	18	THE WITNESS:
	19	No, sir.
	20	THE COURT:
	21	Let us go to another subject.
	22	BY MR. OSER:
	23	Q For anything that you may have needed in your
	24	reconstruction you had to go to someone
	25	higher up to get permission to use it, is

Reference	CODV.	JFK	Collection:	ESCA	(RG	233)	
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C2-N2

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1	that so?	8
2	A NO, sir, that is not quite right. This recon-	
3	struction was handled in its entirety by	
4	members of the President's Commission	
5	investigating the assassination of Presi-	
6	dent Kennedy. All facts, details, and the	
7	entire reconstruction was in their care	
8	and they handled it the way they specified	
9	and desired. I was there merely as a con-	
10	sultant to the President's Commission.	
11	Q You were merely carrying out the directions of	
12	what the Warren Commission wanted and you	
13	conducted your tests according to that, is	
14	that what you are saying?	
15	A Generally speaking, yes.	
16	Q During your reconstruction, Mr. Frazier, can	
17	you tell us whether or not you had availa-	
18	ble to you, and did you use, any FBI re-	
19	ports of an interview with Mr. and Mrs.	-
2.0	William Newman?	
21	A I don't recall any reports I saw. Are you	
22	speaking of Field Office reports or	
23	Laboratory reports?	
24	Q I am speaking of any reports containing an	
25	interview with Mr. and Mrs. Newman.	
		1

	and the second s	Reference copy, JFK Collection: ESCA (RG 233)
C2-N3	1	THE COURT:
	2	He told you he didn't recall any reports
	3	he saw. If he didn't recall any,
	4	then he didn't recall that particular
	5	one, obviously.
	6	BY MR. OSER:
	7	Q Did you see at any time any statements made by
	8	any of the witnesses in Dealey Plaza on
	9	November 22, 1963?
	10	A Are you speaking of any reports or did I talk
	11	to any witnesses?
	12	Q First I am asking you if you saw any statements
	13	alleged to have been made by any of the
	14	witnesses in Dealey Plaza on November 22,
	15	1963?
	16	A I don't recall.
	17	Q I believe you testified the people that were
	18	used in the reconstruction were placed in
	19	their relative positions by the Warren 🔸
	20	Commission, is that correct?
	21	A Yes, sir, according to the Zapruder film and
	22	other films.
	23	Q Did you place them?
	24	A No, but I was present at that reconstruction.
·	25	Q You were in the sixth floor window, were you

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85 not, of the Texas School Depository Build-1 2 ing? 3 During the time the reconstruction was run I Α 4 was in that window. However, I was at 5 other places at other times. 6 How much of the Zapruder film did you see? 0 7 All of it. Α 8 What type of examination did you make of the Q 9 Zapruder film? I made three examinations of it. 10 Α I saw the film run several times at normal speed 11 12 through a normal projector. I then ex-13 amined the film generally, that is, I looked at each frame in the film, frame 14 15 by frame. Then I examined enlargements 16 which had been made of this film of each 17 frame of the film. In that regard I con-18 centrated mostly on particular frames which 19 had been selected by the President's Com-20 mission. 21 Am I correct in stating you did testify in 0 22 front of the Warren Commission? 23 Α Yes, sir. 24 Do you recall testifying in front of the Warren 0 25 Commission and making a statement to them,

2-N4

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all all the second second

, 	Reference copy, JFK Collection: ESCA (NG 255)
	"I have not made a very thorough study of
	the Zapruder film"?
A	That's right, I didn't consider my study of the
	Zapruder film a thorough study.
Q	You said you had occasion to measure President
	Kennedy's coat and his shirt, is that
	right, sir?
A	NO, sir, I did not make any measurement of his
	coat or shirt. I made a measurement of a
	hole appearing in the back of these items
	and a hole appearing in the front of the
	shirt.
	MR. OSER:
	May I show this to Defense Counsel on the
	other side of the bar?
	THE COURT:
	Yes.
	MR. OSER:
	Your Honor, at this time the State wishes
	to display to the witness exhibits
	that are fairly large.
	THE COURT:
	I can't hear.
	MR. OSER:
	The State wishes to display to the witness

2-N5

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Reference copy, JFK Collection: ESCA (RG 233) and the second

. ,	Reference copy, JFK Collection: ESCA (RG 233)
1	certain exhibits that are fairly
2	large at this particular time.
3	MR. WILLIAM WEGMANN:
4	To which we object. I think the Jury
5	should be excused during this argu-
6	ment.
7	THE COURT:
8	Sheriff, would you mind taking the Jury
9	out.
0	(Whereupon, at this time the Jury
1	was taken out of the courtroom.)
2	THE COURT:
3	What is it you have there, Mr. Oser?
4	MR. OSER:
5	I show the witness what the State marks
6	as "S-61," and ask him if he would
7	view this exhibit.
8	BY MR. OSER:
9	Q I ask you whether or not you are familiar with
0	what is depicted in that exhibit.
1	MR. WILLIAM WEGMANN:
2	To which we object on the grounds that this
23	is a picture of a picture, as I under-
4	stand it, and Mr. Oser can correct me
5	if I am wrong, it is a picture of a

:2-N6

96

1 picture out of the Warren Commission 2 section on exhibits. If you are 3 going to put part of the Warren 4 Commission in, we ought to put it 5 all in. We cannot pick out a picture 6 here and a picture there and claim it is admissible. This is a picture 7 8 for which no foundation has been laid 9 other than the fact the witness may 10 be familiar with the coat which is --11 THE COURT: 12 If the witness can identify the picture 13 I will permit him to be examined on 14 the photograph. I will permit the 15 question. I am not letting the 16 Warren Commission Report come in in 17 any way. 18 BY MR. OSER: 19 Are you familiar, or can you recognize what is 0 20 depicted in this exhibit? 21 MR. WILLIAM WEGMANN: 22 You have to trace the history of the 23 picture. You cannot merely ask him 24 if he recognizes --25 THE COURT:

:2-N7

C2-N8	1	All I want to know is if the witness can
, 4 44	2	recognize it. If he can, he can be
	3	examined on it.
	4	MR. WILLIAM WEGMANN:
	5	I think the witness should be instructed
	6	he has to recognize the contents of
	7	the picture and not the exhibit num-
	8	ber which is shown on the bottom of
	9	the picture.
	10	THE COURT:
	11	Do you recognize the picture without know-
	12	ing what exhibit number it may or may
	13	not be?
	14	THE WITNESS:
	15	No, sir, I do not. I could not recognize
	16	the objects shown, nor have I seen
	17	this exhibit before. As to whether it
	18	portrays something I saw before, it
	19	is beyond my knowledge at this time.
	20	I wouldn't say this is an accurate
	21	reproduction of any photograph I ever
	22	saw.
	23	THE COURT:
	24	When you were making your ballistic tests
	25	on the coat which you have described

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1	as President Kennedy's coat and
2	Governor Connally's coat, from that
3	photograph would you say that is
4	similar? Does that photograph repre-
5	sent a similar coat to the one you
6	examined?
7	THE WITNESS:
8	I think I could go that far; it is generally
9	similar, y es, sir.
10	THE COURT:
11	If the photograph is offered as being
12	similar to the coat, then I will ad-
13	mit it.
14	MR. DYMOND:
15	All coats are similar.
16	THE COURT:
17	Let us see the rest of the pictures at this
18	time so we don't have to bring the
19	Jury in and out.
20	BY MR. OSER:
21	Q I show you what the State marks for identifica-
22	tion as "S-62," and ask you if can recognize
23	what is depicted on this photograph and
24	whether it is similar to the shirt and tie
25	you have testified to as having examined
1	

22-N9

N10 1	on direct examination?
2	A It is generally similar to the items which I
3	examined, yes, sir.
4	Q I show you what the State marks as "S-63" for
5	purposes of identification and ask you
6	if you can identify what is depicted in
7	that photograph as being similar to the
8	type of pellet you examined during your
9	investigation and to which you testified
10	on direct examination in reference to
11	Commission Exhibit 399?
12	A Yes, it is.
13	THE COURT:
14	You have given them a number but you have
15	not marked them.
16	MR. OSER:
17	That was 63.
18	THE COURT:
19	This is 64 coming up?
20	MR. OSER:
21	Yes, sir.
22	BY MR. OSER:
23	Q I now show you what the State marks as "S-64"
24	for purposes of identification. I ask
25	you if you can recognize what is depicted

C2-N

94 2-N11 1 in that exhibit as being similar to the Q 2 reconstruction, or part of the reconstruc-3 tion you participated in on or about 4 May 24, 1964? 5 I don't recall that situation at all. Α I don't 6 recall seeing that photograph. 7 MR. DYMOND: 8 May I see that, Mr. Oser? 9 THE WITNESS: 10 I would say that represents generally the 11 situation that existed, but the angle 12 of the dotted line across the photo-13 graph is entirely out of proportion 14 to what actually existed. 15 THE COURT: 16 What you could say is that it is similar 17 and generally represents, aside from 18 the dotted line, it generally repre-19 sents the reenactment? 20 MR. DYMOND: 21 If the Court please, I could be incorrect 22 in this, but I don't think so, and I 23 will ask Mr. Oser to tell me if I am 24 wrong, but I would think the line is 25 the primary purpose for the use of

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Reference copy, JFK Collection: ESCA (RG 233)

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		Reference copy, JFR Collection: ESCA (RG 233) 95
C2-N12	1	that picture.
,	2	MR. OSER:
	3	No, it is not.
	4	THE COURT:
	5	Don't say what the purpose is.
	6	MR. OSER:
	7	I am not going to, Your Honor.
	8	THE COURT:
	9	The witness cannot agree or disagree with
	10	what the purpose is.
	11	BY MR. OSER:
	12	Q I show you what the State now marks as "S-65"
	13	for the purpose of identification, and ask
	14	you if you are familiar with what is con-
	15	tained in this exhibit with anything you
	16	have seen before?
	17	A I have seen a bullet similar to that before, yes.
•	18	THE COURT:
	19	I understand the legal situation, you wanted
	20	to go into this out of the presence of
	21	the Jury so they would not see the
	22	photographs. I understand the State
	23	now wishes to bring the Jury back and
	24	examine the witness and make an offer
	25	of "S-61, 62, 63, 64, and 65," as

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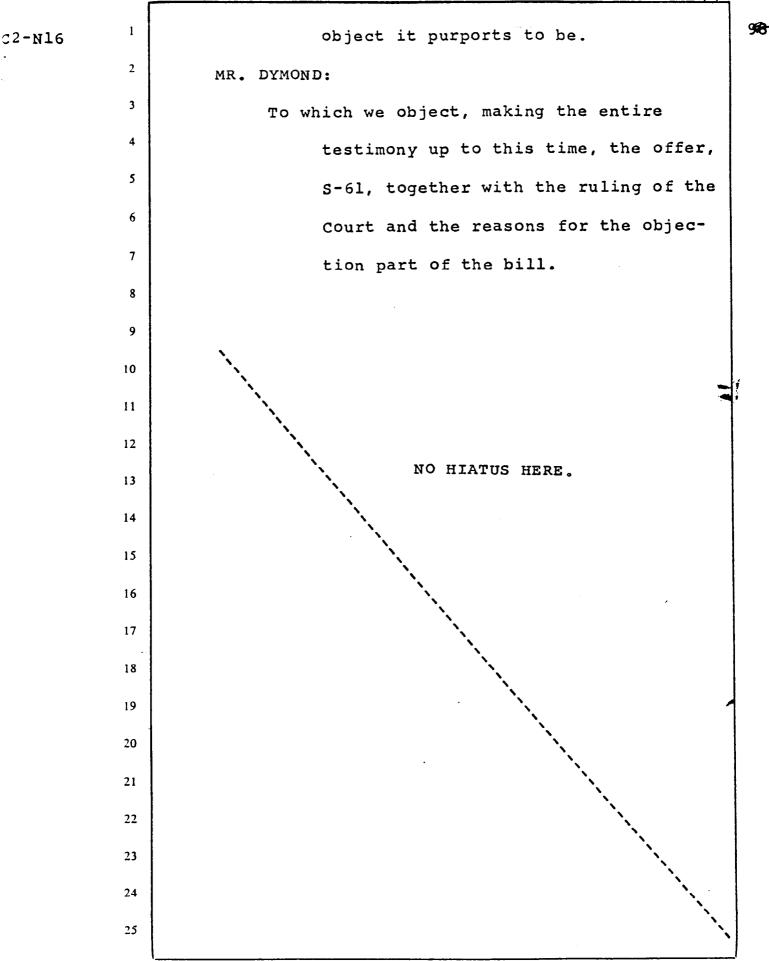
Reference copy, JFK Collection: ESCA (RG 233)

	ş	Reference copy, ork confection. Include of the second seco
C2-N13	1	being similar, and the witness has
1	2	so stated they generally represent
	3	- the objects and they are similar.
	4	MR. OSER:
	5	Similar, that is right, Your Honor.
	6	THE COURT:
	7	With that understanding, I will admit those
	8	as being similar. You may make your
	9	objection at the proper time, Mr.
	10	Dymond.
	11	MR. DYMOND:
	12	As to which ruling we object at this time
	13	on the ground the proper foundation
	14	has not been laid for these exhibits
	15	and the statement by the Court that
	16	they are similar
	17	THE COURT:
	18	I cannot hear you.
	19	MR. DYMOND:
	20	And the statement by the Court that they
	21	are merely similar is not sufficient
	22	ground for the introduction or use
	23	in evidence, making the offer, testi-
	24	mony and record up to this time, to-
	25	gether with the Exhibits S-61, 62, 63,
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1 C2-N14 64 and 65 and the ruling of the Court 2 all part of the bill. 3 THE COURT: 4 You will have to renew your objection in 5 the presence of the Jury. 6 Bring the Jury back. 7 (Whereupon, the Jury was escorted 8 back into the courtroom.) 9 THE COURT: 10 You may proceed, Mr. Oser. 11 MR. DYMOND: 12 We at this time would like to renew our 13 bill in the presence of the Jury, with 14 all of the component parts which I 15 have set forth previously. 16 THE COURT: 17 You will have to do it in the presence of 18 the Jury over again, Mr. Oser. 19 BY MR. OSER: 20 You have testified you conducted various measure 0 21 ments involving President Kennedy's coat 22 concerning a hole in his coat, is that 23 correct? 24 Α Yes, sir. 25 Q I show you what the State marks for the purposes

C2-N15 of identification as "S-61" and ask you 80 1 to view this exhibit, and tell me whether 2 3 or not you have ever seen this exhibit be-4 fore, and if this exhibit shows a coat 5 which is similar to the coat you examined during your investigation, and about which 6 7 you have testified, sir? No, I have not seen this exhibit before today. 8 Α However, it appears to represent a coat 9 similar to the one which I examined. 10 11 MR. OSER: At this time the State wishes to offer, 12 13 introduce and file into evidence that 14 which is marked for the purposes of 15 identification as "S-61," being a 16 coat similar to the type examined by 17 Mr. Frazier. 18 MR. DYMOND: 19 To which offer we object on the ground that 20 proper foundation has not been laid 21 and the mere similarity is not 22 sufficient to permit it to be intro-23 duced and used in evidence. 24 THE COURT: 25 I will admit it as being similar to the

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<i>1</i> 9	Reference copy, JFR Collection: ESCA (RG 233)
Ph. 3/1 ¹	BY MR. OSER:
2	Q I believe you also testified you had occasion
3	to examine the shirt and the tie of
4	President Kennedy with respect to certain
5	holes and tears in these particular items,
6	is that correct?
7	A Yes, sir.
8	Q I show you what has been marked as S-62 for the
9	purposes of identification, and ask you
10	whether or not you can tell The Court what
11	is depicted in this particular exhibits is
12	similar to the shirt and tie which you
13	examined during your investigation, sir?
14	A Yes, it is similar.
15	MR. OSER:
16	At this time the State wishes to offer,
17	introduce and file into evidence that
18	which is marked for the purposes of
19	identification as S-62 as being
20	similar.
21	MR. DYMOND:
22	Same objection for the same reasons, Your
23	Honor.
24	THE COURT:
2:	The ruling is the same.

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Reference copy, JFK Collection: ESCA (RG 233)

in an	Reference copy, JFR Collection: ESCA (RG 233)
1	MR. DYMOND:
2	Same bill except the exhibit number will
3	be different.
4	(Whereupon, the document offered
5	by counsel was received into
6	evidence.)
7	BY MR. OSER:
8	Q Mr. Frazier, I think you also testified a
9	reconstruction was performed in which two
10	men or two stand-ins were used for the
11	President and Governor Connally in the car
12	you photographed, is that correct, sir?
13	A No, that is not, sir. I didn't take the
14	photographs.
15	Q While you were on the sixth floor of the Texas
16	School Book Depository did you have any
17	occasion to view a car that was proceeding
18	in the direction the Presidential limousine
19	was proceeding on November 22, containing
20	two people in the relative positions that
21	President Kennedy and Governor Connally
22	were on that particular day?
23	A Yes, sir.
24	Q I show you what the State marks for the
25	purposes of identification as S-63, and

(02 10 1 I ask you whether or not what is depicted 2 in this particular photograph is similar 3 to what you have seen during the recon-4 struction that you assisted in performing? 5 I would say the individuals are similar. Α Ι 6 don't recall the dotted line across the 7 photograph as being in the proper plane 8 with reference to the horizontal, if the 9 photograph itself was taken with a horizontal line along the bottom of the 10 photograph. Other than that it is similar. 11 12 MR. OSER: 13 At this time the State wishes to offer, 14 introduce and file into evidence that 15 which is marked as S-63 for the pur-16 poses of identification. 17 MR. DYMOND: 18 Same objection, Your Honor. 19 THE COURT: 20 Same ruling. 21 MR. DYMOND: 22 Same bill of exception except the exhibit 23 number will be different. 24 (Whereupon, the document offered 25 by counsel was received into evidence.)

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1	BY MR. OSER:	1 102
2	Q Now, Mr. Frazier, referring to State Exh	ibit
3	61, the one on the far right, I ask	you
4	can you tell us how or whether or no	ot that
• 5	5 picture of that coat is dissimilar (to the
6	6 coat you examined?	
7	A The photograph doesn't show the detail wh	nich
8	was observed at the time of the example	nina-
9	y tion since this shows some printing	
10	process as being a copy of a photogr	raph
11	or a copy of a copy of a photograph	. I
12	can't tell, it may even be from a ma	agazine
13	article, since this is a picture that	at
14	4 shows the printing process and not	the
15	5 details of the coat. But generally	speak-
16	⁶ ing, it represents the coat.	
17	Q With regard to State Exhibit 61, can you	point
18	8 out for us on that particular visit	using
19	9 the coat depicted in that exhibit t	he
20	0 location where you found the hole m	easur-
21	ing, as you testified, 5-3/8 inches	down
22	from the collar and 1-3/4 inches to	the
23	right of the mid-line of the coat?	
24	A No, sir, that coat doesn't show the full	collar
25	and it would not be possible to poi	nt out

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1		the hole.
2	Q	Can you give us the 1-3/4 inches to the right
3		of the mid-line approximately?
4	A	No, sir, the mid-line isn't shown in the photo-
5		graph, therefore I cannot locate the hole
_ 6		for you.
7	Q	You cannot approximate it for me, Mr. Frazier?
8	A	There is no reference point in this photograph.
9	Q	I show you what appears to be a white line on
10		this particular exhibit, and I'm pointing
11		to the top part of the end of this white
12		line, and ask you whether or not that
13		would not be the approximate location of
14		the hole that you found in President
15		Kennedy's coat?
16	A	There is no way for me to determine that since
17		neither the collar from which I took one
18		measurement is shown nor is the mid-line
19		shown from which I took the other measure-
20		ment.
21	Q	You cannot approximate the location?
22	A	No, sir.
23	Q	The point I am pointing to now, do you say you
24	A	cannot find the hole there?
25	A	Are you referring to the top of the right

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lon 105 3/6 200 1 shoulder? 2 That is correct. 0 3 A No, sir, I cannot. 4 Q Referring to the shirt, can you tell us the 5 measurements with regard to the hole in 6 the back of the shirt? 7 Α 5-3/4 inches below the top of the collar in 8 the back and approximately 1-1/8 inches 9 to the right of the center of the shirt. Using State Exhibit 62, I direct your attention 10 Q 11 to the far right-hand quadrant, and ask you 12 whether you can point out on this exhibit 13 the approximate location of the hole you 14 found in President Kennedy's shirt when 15 you measured it and examined it? 16 A No, sir, because the photograph doesn't repre-17 sent the back of the collar sufficiently 18 accurately to locate it, nor is the 19 center line of the shirt shown. I can 20 give you the approximate area but I 21 couldn't point it out exactly. 22 Q Would you give me the approximate area if you 23 would, please? 24 Α There is no way to describe actually this area 25 I am pointing out, except to measure it on

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1		photograph.	¥95
2	Q	Would you please with this pen circle the	
3		general area you have just described by	
4		pointing?	
5	A	Yes, sir. (The witness drew a circle with the	
6		pen on the exhibit.)	
7	Q	May I ask you to point it out with a red	
8		pencil? I think it may show it a little	
9		better.	
10	A	(The witness drew a red circle on the	
11		exhibit.)	
12	Q	With regard to the front part of the shirt	
13		which you examined, can you use State	
14		Exhibit 62, the lower right-hand quadrant,	
15		and point out there the approximate	
16	-	location of the slit or tear in the shirt	
17		as you found it when you examined it?	
18	A	Yes, sir.	
19	Q	Will you mark it with a pen, please?	-
20	А	(The witness marked it with a pen.)	
21	Q	I also ask you in regard to the tie which you	
22		examined, and refer you to the lower	
23		left-hand quadrant of State Exhibit 62,	
24		and ask you whether or not you can point	
25		out the general area where you located the	
	1		1

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1 nick or tear in the President's tie when 206 2 you examined it, and if you can will you 3 circle that with a red pencil, please? 4 A Yes, sir. (The witness circled it with a 5 red pencil.) 6 The hole as you found it in the coat, Q 7 Mr. Frazier, was that a single hole 8 through and through the coat? 9 Α Yes, sir, it was. 10 Q Would your answer be the same as to the hole 11 in the back of the shirt, being a single 12 through and through hole in the garment? 13 Yes, sir. Α 14 0 Can you tell us, Mr. Frazier, during your re-15 construction on May 24, 1964, whether or 16 not the coat and the shirt were worn by 17 the stand-in at the time you all were 18 conducting this reconstruction? 19 Α Only the stand-in for the Governor who was at 20 that time wearing the Governor's coat. 21 The stand-in for the President was not 22 wearing the President's coat. 23 0 And the coat that the stand-in for the Governor 24 was wearing had been worn by the Governor? 25 Yes, sir, that is correct. Α

•.# 1.	Refer	ence copy, JFK Collection: HSCA (RG 233)
1	Q	While you were conducting the reconstruction
2		did you have occasion from your position
3	-	at the sixth floor window of the Texas
4		School Book Depository, using the
5		telescopic sight, to have your attention
6		drawn to the stand-in of the President
7		by a mark on any particular thing?
8	A	Yes, sir.
9	Q	What was that?
10	A	While looking through the telescopic sight a
11		person on the ground placed his finger
12		against the back of the Presidential
13		stand-in on a particular point. I lined
14		up the telescopic sight on that point.
15	14 <u>-</u>	This point was determined from the
16		medical testimony. They placed a mark on
17		the coat at that point and measured approxi-
18		mately 10 inches below that point, and
19		placed another mark this time on the car
20		which represented the spot with reference
21		to the ground at which the bullet struck,
22		since the Cadillac, that is the President's
23		stand-in, was seated approximately 10
24		inches higher during the reconstruction in
25		the Cadillac than the surveyor said he
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109 would have been riding in the Presidential 1 108 Therefore they placed a mark limousine. 2 to represent the actual bullet impact 3 point on the car. This was true for both 4 the President's stand-in and the 5 Governor's stand-in. 6 Can you describe the type of mark that was Q 7 placed for us in relation to the 8 President's stand-in? 9 I recall on the coat was a chalk mark and a Α 10 piece of white tape on the car, if I 11 remember correctly. 12 Am I correct in saying that in regard to the Q 13 stand-in for President Kennedy you were 14 using the skin hole in President 15 Kennedy's back as opposed to the coat 16 hole, is that correct? 17 А Yes. 18 19 20 NO HIATUS HERE. 21 22 23 24 25

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4-N1 1			nor Connally, you were	-
2		the coat hole	and not the skin hole	of
3		Governor Conn	ally in your reconstruc	tion,
4		is that corre	ect?	
5	A	That I don't know.	I don't know whether	they
6		took that int	o consideration with re	ference
7		to the Govern	or or not.	
8	Q	In regard to the G	overnor, you were using	the
9		Governor's co	at that he wore that da	Y,
10		presumably?		4
11	A	Yes, sir.		••••
12	Q	Mr. Frazier, can y	ou tell us why the skir	hole
13		of the Presid	lent, if I may call it t	hat,
14		was used in r	egard to the President'	s stand-
15		in and the co	at hole of the Governor	was
16		used?		
17	A	I just testified I	don't know if they use	ed the
18		coat hole of	the Governor, therefore	I
19		can have no c	pinion as to this quest	ion.
20		I know they u	used the hole determined	i by
21		the distance	below the mastoid and t	he
22		distance the	doctor said the hole of	curred
23		on the Presid	lent's body to locate th	nat
. 24		hole. As far	as the Governor is con	ncerned,
25		I don't know	if they did that or not	,
	1			1 1

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1	Q Was there a mark on the back of the Governor's	110
2	stand-in for you to view from the sixth	
3	floor?	
4	A Yes, there was.	
5	Q That particular mark that was placed on the	
6	Governor's stand-in, did that correspond	
7	to the hole in the jacket or coat the	
8	stand-in was wearing?	
9	A I couldn't tell from the sixth floor. I	
10	couldn't see that well.	1
11	Q At any time did you have an occasion to make a	
12	close observation of these two stand-ins	
13	at any time?	
14	A Yes, sir.	
15	Q At the time you had an occasion to view these	1
16	gentlemen close up, did you see any mark	
17	on the back of the Governor's stand-in?	
18	A Yes, sir.	•
19	Q Can you tell us whether or not it was in the	
20	approximate location of where the bullet	
21	hole or hole was in the back of the	
22	Governor's jacket?	
23	A NO, I don't recall whether it was or not.	
24	Q Did you attempt to find out whether it was or	
25	not?	

-N2

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24-N3 1	A Di	Ld I?	+11
2	Q Ye	es, sir.	i
3	A NO	o, sir.	
4	Q In	referring to State Exhibit 63, what I am	
5		now pointing to, can you tell us whether	
6		or not this appears to be similar to the	
7		scene as you saw it on that particular	
8		day during part of the reconstruction?	
9	A NO	, sir, it does not.	
10	Q What	at is dissimilar about it, sir?	· .
11		the photograph the President is approximately	
12		on the same level with the Governor, where-	
13		as during the reconstruction he was located	
14	1	slightly higher than the Governor. Second-	
15	1	ly, the location of the white dot on the	1
16	I	President's stand-in with the line through	I
17	ĺ		l
18	I	it is located too far down on the person.	I
	I	I don't recall whether or not there was a	
19	I	chalk circle on the Governor's stand-in's	ř
20	I	coat.	i
21	Q Whe	en you viewed the Governor's stand-in through	ł
22	I	the telescopic sight, did you see any mark	ł
23	I	on this particular person?	l
24	A Yes	s, sir, I did. I don't recall what type mark,	l
25	l	whether it was a piece of white tape or chalk	k.



	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Reference copy, JFK Collection: ESCA (RG 233) //3	
с4-N4	1	Q Could it have been a piece of white tape or 11	-
	2	chalk mark on the coat?	
	3	A Yes, sir.	
	4	Q Mr. Frazier, you testified on direct examination	
	5	with regard to the Zapruder Frame 313, in	
	6	answer to one of Mr. Dymond's questions,	
	7	that you had a clear shot of the President	
	8	at Frame 313 from the sixth floor of the	
	9	Texas School Book Depository. Is that	
	10	right?	
	11	A Yes, sir.	
	12	Q In referring to State Exhibit 36, this mock-up,	
	13	I would ask you to step down and ask you	•
	14	whether or not you can recognize what this	4
	15	depicts. It is not made to scale. I ask	1
	16	you whether or not it is similar to any	7
	17	location you have seen before.	
	18	A Yes, sir, I recognize the general scene.	1
	19	Q Can you tell us what that general scene depicts	ſ
	20	to you, sir, what location in the United	• • • •
	21	States?	>
	22	A The location of Dallas, Texas.	
	23	Q Would that be a location commonly known as	
	24	Dealey Plaza, sir?	1
	25	A Yes, sir.	;;;;

. بر ش CH-N5 In using State Exhibit 36, can you point out 1 0 2 what location you were, or what window 3 you were in when you were constructing 4 your part of the reconstruction? 5 In the window just below the cornice and one Α 6 floor down from the seventh floor, which 7 would be the sixth floor window, the 8 window on the corner nearest the adjacent 9 building. Can you tell us whether or not on Frame 313 of 10 0 11 the Zapruder film, if there was not a clear 12 shot at the President's head or President's 13 body from the top of the Records Building? 14 I was not on the Records Building, so I have A 15 no way to judge that. 16 Did you have occasion to view the Records Build-Q 17 ing? 18 I don't know what the Records Building is. Α 19 0 If I point to this partcular building, this 20 light gray or light blue building and ask 21 you whether or not there was a clear shot 22 of the Presidential limousine at Frame 313 23 from this location --

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24 Α I couldn't tell you, I was never there.

25 Do you recall any obstructions that would have Q

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Ref	erence copy, JFK Collection: ESCA (RG 233)
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1	prevented anyone having a clear shot at
2	the Presidential limousine from that
3	position?
4 A	Only a few trees along the pond or pool along
5	the street there. I don't recall how high
6	they were or where they were located.
7 Q	I also ask you whether or not in referring to
8	the red building, which is next to the
9	Texas School Book Depository in which
10	you were, whether or not from this particu
11	lar building, from the roof or top floor,
12	whether or not there was a clear shot into
13	the Presidential limousine at approximately
4	Frame 313 of the Zapruder film?
¹⁵ A	I cannot answer that, since I was never in that
16	building or on it.
7 Q	Do you recall any particular obstructions that
8	would have prevented such a shot?
9 A	No, sir.
20 Q	Can you tell us whether or not there was a
21	clear shot at the Presidential limousine
22	at Frame 313 from the area of the grassy
23	knoll, more specifically the picket fence
24	area?
25 A	I don't know to what you are referring.

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	Reference copy, JFR Collection: ESCA (RG 253)
N7 1	Q I point on this particular plat to an area
2	of Dealey Plaza containing a small build-
3	ing, and to the right of that particular
4	building between the railroad tracks a
5	small picket fence area on a rise higher
6	than the ground level of the street, and
٦	ask you whether or not from that particu-
8	lar location there could have been a clear
9	shot at the Presidential limousine at
10	approximately Frame 313?
11	A I can't answer that unless I had been over
12	there and walked along that area.
13	Q At any time during your investigation and re-
14	construction did you take any views or
15	do any investigation in the area I have
16	described, namely, the light blue-colored
17	building, the red building or the area of
18	the picket fence?
19	A NO, SIT.
20	Q Mr. Frazier, can you tell us from the position
21	you were in at the sixth floor of the
22	Texas School Book Depository Building,
23	what the vertical angle, the angle from
24	the window to the street area at Frame 313
25	was? Can you calculate that? If so, can

-N7

	Reference copy, JFR Collection: ESCA (RG 233)
1 2	you give me the approximate angulation
3	A As I recall it was approximately 17 degrees.
4	
5	
	limousine was in the position it was in
6	at Frame 313, whether or not you all took
7	a perpendicular line and drew that perpendicu-
8	lar through the Governor and through Presi-
9	dent Kennedy back up Elm Street, and then
10	calculated the lateral angle from the sixth
11	floor window down to the Presidential
12	limousine at Frame 313?
13	A I don't know what you mean when you refer to a
14	perpendicular line.
15	Q Assuming Mr. Dymond is the Governor and I am
16	the President, would you say we are in
17	relatively the same position? By that I
18	mean I am in back of him. Did the
19	Zapruder film show that to you, one behind
20	the other?
21	A No, sir, the Governor was sitting more to the
22	left.
23	Q Would you say basically we were one behind the
24	other?
25	
	A NO, sir, I would say the Governor was sitting

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4-N8

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	Ref	ference copy, JFK collection: Esca (KG 155)	-
1		more to the left of the President, not	
2		completely in front of him but partway	
3		over.	
4	Q	Then if you take a line, and using myself as	
5		the President, and drew a line straight	
6		through me, all the way back, and placing	
7		the car at Frame 313, and drew that line	
8		all the way back, did you calculate the	
9		lateral angle from the sixth floor window	
10		down to where that car was?	
11	A	I don't know whether it was actually recorded	
12		or not. It was plotted on a plat which	
13		showed the horizontal angle.	
14	Q	The horizontal angle?	
15	A	That's right, between the axis of the car,	
16		but in that reference the axis created	
17		between the center of the President's	
18		body and the center of the Governor's	_
19		body, it was not the same as the axis of	~
20	1 • •	the vehicle.	
21	Q	Did you calculate it with regard to the skin	
22		hole in the President's back which you	
23		were using in your reconstruction, drawing	
24		a line through the skin hole in the	
25		President and back this way and calculate	

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4-N9

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Reference	copy,	JFK	Collection:	ESCA	(RG	233)
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that angle down for the lateral angle? I don't understand what you are talking about. Α 2 The angle of the President in the car, the 3 angle of the car in the street? 4 You are at the sixth floor of the Texas School Q 5 Book Depository Building looking down at 6 this car which you are using in this re-7 8 construction. As you are looking down 9 at that car and the individual representing the President, when you saw this white 10 spot or chalk mark or white tape on the 11 12 back of the stand-in of the President, 13 which represented the skin hole, did you 14 take a straight line and draw it through 15 that individual straight back and calculate 16 how far to the right you were, by that I 17 mean the lateral angle? You mean the lateral angle of the axis of the 18 Α automobile to the building? 19 20 21 NO HIATUS HERE. 22 23 24 25

C4-N10

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I	Q No. Did you all draw a line through there	29
2	and calculate	
3	MR. DYMOND:	
4	I object. In order to have an angle you	
5	have to have two points, and he has	
6	not asked that.	
7	THE COURT:	
8	I think the question was very confusing.	
9	I don't think the witness understands	
10	it. I don't understand what the	. 1
11	question is either.	h i
12	BY MR. OSER:	
13	Q How many lateral angles did you all measure?	
14	A As I recall the angles were plotted. I don't	
15	know whether they actually measured the	
16	angles or not. That was not part of my	
17	job.	
18	Q If they were measured you couldn't tell us at	
19	this time what those angles were?	<i>r</i>
20	A That is correct.	
21	Q Mr. Frazier, directing your attention to State	
22	Exhibit 34, I ask you whether or not you	
23	can see this particular exhibit from where	
24	you are, sir?	
25	A Yes, sir.	

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		(2)
1	Q	I ask you whether or not you recognize what
2		this is?
3	A	It represents the Dealey Plaza area in Dallas.
4	Q	Am I correct in pointing to a window in a
5		building as being where you were at the
6		time of the reconstruction on the sixth
7		floor??
8	A	Yes, sir.
9	Q	Are you familiar also with the fact the street
10		that passes in front of the Texas School
11		Book Depository is known as Elm Street and
12		the street approaching the Texas School
13		Book Depository is known as Houston?
14	A	One of the streets at the front of the deposi-
15		tory was Elm Street. There is a very
16		short dead-end street in front of the
17		building.
18	Q	What about the street that is approaching the
19		Texas School Book Depository, is that
20		Houston?
21	A	I believe it was, yes, sir.
22	Q	From the sixth floor of the Texas School Book
23		Depository, were you familiar with the
24		parade route the Presidential motorcade
25		took that particular day?

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	Reier	ence copy, JFK Correction. Lick (No 200)
1	A	Only a portion of it. That is, when they
2		entered Houston and made the turn onto
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3		Elm and proceeded down under the underpass.
4	Q	Were you familiar with the fact that parade
5		came down Houston towards the School Book
6		Depository, turned onto Elm Street and
7		went under the triple underpass, is that
8		correct?
9	A	Yes, sir.
10	Q	While you were in the Texas School Depository
11		sixth floor window, can you tell us
12		whether or not there was a clear shot
13		into the Presidential limousine as the
14		President approached?
15	A	There would have been, yes, sir.
16	Q	From your view from the sixth floor of the
17		Texas School Book Depository, can you tell
18		us whether or not the view from that window
19		down to Houston Street gave you a fuller
20		view of the Presidential stand-in's body
21		than it did looking down Elm Street as the
22		car moved away from you?
23	A	I don't know whether it would or not.
24	Q	Can you tell us whether or not, sir, the
25		reconstruction car drove down Houston
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1	Street towards the Texas School Book	
2	Depository and turned left onto Elm Street	
3	at any time you were in the sixth floor	
	window?	
	A No, sir, it did not.	
	Q Do you have any opinion as to whether or not,	
	having been there, having done this	
	reconstruction, whether more of the	
	President's body as seated in the	
	Presidential limousine would have been	4
	exposed as the car came to the sixth	•
	floor window down Houston Street as op-	
	posed to going away from the sixth floor	
	on Elm Street?	
	A No, sir, I don't.	
	Q Speaking of the examination of the gun, I	
	believe you testified, Mr. Frazier, that	
	the gun you examined was similar to this	
	particular gun, is that correct?	•
	A Only in certain features. It is different in	
	other features.	
	I believe you said one of the differences was	
	this gun was blued and the other gun was	
	not	
	No, sir, I said this gun appeared to be polished	
1		

Reference copy, JFK Collection: ESCA (RG 233)

	Refer	ence copy, JFK collection: Esck (xo 155)
1		and blued, whereas the gun I examined had
2		a rough surface.
3	Q	What about the color?
4	A	The stock is brown.
5	Q	What was the color of the gun you examined?
6	A	Black.
7	Q	I think you also made reference to the fact
8		there was something different with regard
9		to the telescopic sight of the particular
10		gun I am holding in my hand, State
11		Exhibit 18, as opposed to the gun you
12		examined?
13	A	Yes, sir.
14	Q	Can you describe what the difference was?
15	A	The mount of the telescopic sight on this
16		exhibit has four screws in it, whereas the
17		mount of the gun I examined only had two
18		screws in it. It had in addition one
19		hole which had not been used in the mount
20		for which there was no hole in the gun.
21		Secondly, this mount is located too far
22		forward of the gun as compared with the
23		mount of the gun I examined.
24		With reference to the scope, it is
25		moved too far to the rear.

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123		Reference copy, JFK Collection: ESCA (RG 233)
5/6	1	Those are about all the differences
E	2	with regard to the telescope.
	3	Q The gun you examined, Mr. Frazier, when was
	4	the first time you saw that particular
	5	gun?
	6	A I don't recall the exact time. It was on the
	7	23rd of November. I don't recall the
	8	exact time. I think it was about 7:00
	9	o'clock in the morning of the 23rd of
	10	November, 1963.
	11	Q You do recall it was the next day after the
	12	assassination?
	₂ 13	A That's my recollection, yes.
	14	Q Mr. Frazier, can you tell me how the gun came
	15	into your possession from Dallas, Texas,
	16	the scene of the homicide, when Lee Harvey
	17	Oswald was still alive at this time?
	. 18	A No, sir, I can only tell you I received it from
	19	a field agent of the F.B.I.
	20	Q He was stationed at Dallas, is that right?
	21	A I don't know where he was stationed.
	_ 22	Q But he was from the Dallas F.B.I. Office?
	23	A Yes, sir.
E.	24	Q Since you conducted firing tests with the rifle
2 94 2 2 4	25	you had, the first set of tests were shot

124		Reference copy, JFK Collection: ESCA (RG 233)	
5/7 1		at-45-feet, is that right?	1 5-5-
2	2	A Yes, sir.	
3	5	Q How many men were shooting?	
4	 	A Three.	
5	;	Q What were those men's names?	
6	5	A Courtland Cunningham, Charles Killian and	
7	,	myself.	
8		Q I believe you testified the time to get off	
9		three shots at 45 feet distance was 5.9	
10		seconds, is that right, sir?	. 4
11		A Yes, sir.	
12		Q How did you arrive at that figure?	
13		A Both Cunningham and Killian had stop watches.	
14		They began timing the firing from the	
15		sound of the first shot and ended it at	
16		the sound of the third shot. Their	
17		watches agreed.	
18	5	I take it each one of you shot at different	
19		times? Either you shot first,	~
20		Cunningham second and Killian third, or	
21		something of that sort, is that right?	
22	F	A Yes, sir.	
23	2	When you conducted this test at 45 feet, how	
24		was the gun loaded? What did it have in	
25		it?	

	Refer	ence copy, JFR Collection: ESCA (RG 233)
1	A	Three cartridges, two in the clip and one in
2		the chamber.
3	Q	So before you started firing at 45 feet,
4		Mr. Frazier, the gun you had had a clip
5		in the rifle with two live cartridges and
6		one cartridge in the chamber with the bolt
7		closed, is that correct?
8	A	Yes, sir.
9	Q	Ready to fire?
10	A	Yes, sir.
11	Q	In that time you began firing, you squeezed
12		off the first shot and got off three shots
13		in 5.9 seconds?
14	A	Yes, sir.
15	Q	Who got off the shots in 5.9 seconds?
16	A	I did.
17	Q	What was Cunningham's speed?
18	A	Approximately 8 seconds.
19	Q	What was Mr. Killian's?
20	A	Approximately 9 seconds.
21	Q	Then you all moved to 75 feet away, is that
22		right?
23	A	Yes, sir.
24	Q	Who shot then?
25	A	I did.

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176		Ref	erence copy, JFR Collection: HSCA (RG 233)	8-
5/9	1	Q	Did-anyone else shoot?	B 4
	2	A	No, sir.	
	3	Q	Why not?	
	4	A	No particular reason that I can recall.	
	5	Q	When you shot at 45 feet, Mr. Frazier, or when	
	6		the three of you shot at 45 feet, why	
	7		didn't you take the average time between	
	8		the three men of 9 seconds, 8 seconds and	
	9		5.9?	
	10	A	I have never done that.	
	11	Q	You have not have never done that?	
	12	A	We only fired, each of us only fired three	
	13		shots at 45 feet and we didn't average	
	14		the times.	
	15	Q	You can't tell us why Cunningham or Killian	
	16		didn't fire at 75 feet?	
•	17	A	No, sir.	
	18	Q	Could it be because their time was way off at	
	19		9 seconds and 8 seconds at 45 feet?	-
	20	A	No, sir. I don't know what the reason was.	
	21	Q	Those two agents that were firing with you at	
	22		45 feet, do they hold a rating of a	
	23		ballistics expert in the F.B.I.?	
	24	A	Yes, they do.	
	25	Q	What were your two times at 75 feet?	
	1			1

ž	(7 9		Reference copy, JFK Collection: ESCA (RG 233)
	5/10	1	A 4.8 and 4.6.
		2	Q Then if I recall your testimony, you all moved
		3	outside to approximately 300 feet away, is
		4	that right?
		5	A Yes, sir.
		6	Q Who did the shooting outside?
		7	A I did.
		8	Q Killian and Cunningham didn't shoot outside?
		9	A No, sir.
		10	Q Why?
		11	A I don't know.
		12	Q What were your times outside, Mr. Frazier at
-		13	300 feet?
		14	A 5.9 seconds for one series of three shots.
		15	6.2 seconds, 5.6 seconds and 6.5 seconds,
		16	all being a series of three shots.
		17	Q At the time that you all were conducting these
		18	various tests, who was the highest ranking
		19	agent at that particular time? Was it you,
		20	Mr. Cunningham or Agent Killian?
		21	A I don't understand what you mean by highest
		22	ranking.
		23	Q Were you over the other two agents? Could you
•		24	order them what to do?
		25	A Could I tell them, instruct them what to do?

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	Ref	erence copy, JFK Collection: HSCA (RG 233)
1	Q	Yes, sir.
2	A	No, sir.
3	Q	Could they order you what to do?
4	A	No, sir.
5	Q	In other words, you all were the same rank in
6		the Bureau?
7	A	We all held the same position, special agent,
8		firearms identification, F.B.I. Labora-
9		tory.
0	Q	What type of targets were you using?
1	A	At 45 feet we used a silhouette target. At
2		75 feet we made a round spot on the back
3		of a paper target. At 300 feet we used
4		black pasters forming a square, as I
5		recall, on a white background.
6	Q	Will you tell me, I think you testified before
7		the distance from the sixth floor of the
8		Texas School Book Depository to the
9		approximate location of the President's
20		car in frame 313, was 265 feet, is that
21		correct?
22	A	Yes.
23		
:4		NO HIATUS HERE.
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		Reference copy, JFK Collection: ESCA (RG 233)
C6-N1	1	Q Why did you not use the distance of 265 feet
	2	as opposed to 300 feet?
	3	A I don't recall, except the Warren Commission
	4	asked us to conduct these tests at 100
	5	yards or 300 feet. Their reasons for this
	6	I don't know.
	7	Q As an expert in this particular field, and as
	8	an investigating officer with all your
	9	years of experience, would you not have
	10	deemed it more reasonable to have shot
	11	the gun at 265 feet, the distance you
	12	measured from the Texas School Book De-
	13	pository down to the President's car,
	14	rather than 300 feet?
	15	A NO, SIT.
	16	Q Why not?
	17	A All the shots were not fired at 265 feet,
	18	therefore it had no bearing on the situa-
	19	tion.
	20	Q Were any of them fired at 45 feet?
	21	A I don't know.
	22	Q Were any of them fired at 75 feet?
	23	A I don't know.
e la	24	Q Were any of them fired at a still target?
	25	A NO, SİR.

C6-N2

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Why did you all use a still target and not a b 0 2 moving target? 3 Because we were conducting accuaracy and speed Α 4 tests at the same time in order to deter-5 mine how fast three aimed shots could be 6 fired from this weapon, and recording that 7 time. 8 You were not interested in ascertaining whether Q 9 or not someone on the sixth floor of the 10 Texas School Book Depository could have 11 gotten off three shots with the alleged 12 accuracy you talked about at a moving tar-13 get at the respective distance? 14 That was not the purpose of our test, otherwise Α 15 we would have fired at moving targets. 16 But you didn't, did you? 0 17 No, sir, we did not. Α 18 THE COURT: 19 Mr. Oser, I know you are on a second train 20 of thought, but it is about two minutes 21 after 12:00. I hate to interrupt at 22 this moment, but I expect you will 23 have more questions of Mr. Frazier. 24 MR. OSER: 25

I surely will.

THE COURT: 1 Then we will take a recess for lunch. 2 Mr. Oser, will you need these exhibits in 3 the same position they are in when we 4 5 come back from lunch? MR. OSER: 6 I probably will, Your Honor. 7 I don't know whether we will or not. 8 I will say 9 yes at this time. THE COURT: 10 Gentlemen, I must admonish you and instruct 11 12 you not to discuss the case amongst 13 yourselves or any other person until 14 it is given to you for your decision and verdict. 15 MR. OSER: 16 Your Honor, will you also instruct the 17 witness he has a right to talk to the 18 Defense Attorney and no one else 19 during the recess. 20 MR. ALFRED: 21 That includes the Government Attorneys. 22 23 THE COURT: He can certainly speak to his own attorney. 24 25 I understand the Assistant U.S. Attorney

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5 -N4 1	is in Court, Mr. Olson. If he wants
2	to converse with the witness, certain-
3	ly he may.
4	MR. OSER:
5	No objection to that.
6	THE COURT:
7	Don't discuss your testimony with any other
8	witness who has already testified or
9	who will be called to testify. You
10	may discuss it with the Defense
11	Attorney or the U.S. Attorney.
12	(Whereupon, at 12:05 o'clock p.m.,
13	a luncheon recess was taken until
14	1:30 o'clock p.m.)
15	AFTER THE RECESS:
16	THE COURT:
17	Are the State and Defense ready to pro-
18	ceed?
19	MR. OSER:
20	The State is ready, Your Honor.
21	MR. DYMOND:
22	The Defense is ready, Your Honor.
23	THE COURT:
24	You may proceed.
25	BY MR. OSER:

134

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Reference copy, JFK Collection: ESCA (RG 233) 135 Mr. Frazier, these test firings you conducted, Q 1 where were they conducted? 2 The first two were on the indoor range. 3 Α Whereabouts in the United States? 4 Q 5 In Washington, D.C., the first two tests, and A the last test was in Quantico, Virginia, 6 at the U.S. Marine School. 7 The first two tests, was that in the FBI Firing 8 0 9 Range in Washington, D.C.? Yes, sir. 10 Α From your examination and reconstruction, isn't 11 Q it true you testified from the sixth floor 12 of the Texas School Book Depository down 13 to the approximate location of where the 14 limousine was in the Zapruder Film Frame 15 313, that was approximately 265 feet, is 16 17 that correct? 18 Yes, sir. Α 19 Can you tell me how far you were from the 0 20 ground level on the sixth floor of the 21 Texas School Book Depository? 22 Approximately 60 feet. A little over 60 feet. Α 23 While you were at the firing range, the indoor Q firing range, were you 60 feet above the 24

target you were shooting at?

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Reference copy, JFK Collection: ESCA (RG 233)

136 Α No, sir. How far were you above the target you were Q shooting at? Α We were firing horizontally. Why weren't you 60 feet above the target which Q you were shooting at? I conducted tests at Quantico, Virginia, at the Α request of the Commission. Q I am speaking about the two tests you had inside now. Why didn't you shoot at a 60foot elevation? That was not the purpose of the test. Α 0 In other words, the Warren Commission didn't want to know this, is that right? Α There was no Warren Commission at that time. Q The representative of the Warren Commission or the Federal Government didn't want to know it at that time? MR. DYMOND: We object. How can the Federal Government want to know anything? The Federal Government is not a person. THE COURT: Rephrase your question. BY MR. OSER:

6-N7

Reference copy, JFK Collection: ESCA (RG 233)

1	Q	No one told you not to shoot at 60 feet?	136 9
2	A	NO, SİR.	
3	Q	Then why didn't you?	
4	A	I selected the ranges on the indoor range inside	
5		the building at Washington, D.C., for the	
6		purpose of firing time, rapid fire and	
7		accuracy tests with this rifle to deter-	
8		mine at that point in this investigation	
9		whether or not three aimed shots could be	
10		fired from this rifle in a matter of six	· a
11		seconds. There was no other purpose for	
12		this firing, and it was done horizontally	
13		at 45 feet and 75 feet, because that is	
14		the position on the range where there are	
15		lights to illuminate the targets.	
16	Q	You say you were trying to ascertain whether	
17	•	or not this rifle could fire within six	
18		seconds. Why the figure of six seconds?	
19	A	According to information which had come to me	•
20		from various sources I was asked to conduct	
21		this test to see if it could be fired in	
22		that length of time accurately.	
23	Q	Am I correct in stating that only you of the	
24		three marksmen there could do this in six	
25		* seconds?	



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Reference copy, JFK Collection: ESCA (RG 233)

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C6-N-8	1	A I was the only one that fired 75 feet. I don't 137
C	2	know if the others could or not.
	3	Q How about 45 feet?
	4	A My time was five and nine-tenths seconds at
	5	45 feet.
	6	Q What was Mr. Cunningham's?
	7	A Approximately eight seconds.
	8	Q What was Mr. Killion's?
	9	A Nine seconds.
	10	Q Above six seconds. Eight and nine are above
	11	six, is that right?
	12	A Yes, it is.
	13	Q Two marksmen firing at 45 feet couldn't shoot
	14	it at less than six seconds?
	15	A That is not so. Their tests were made to see if
	16	they could fire it accurately under those
	17	conditions. Their targets were primarily
	18	accuracy targets. However, they were timed
	19	to see how long it took.
	20	Q Didn't you say your purpose was to ascertain
	21	the time of firing and accuracy? Now you
	22	are telling me the only reason you were
	23	
	23	firing was because of accuracy. Which was it?
	25	A I didn't just tell you that. I said we fired

	S. J.	Reference copy, SFR confection. Loui (in the first sector 139
C6-N9	1	these tests to determine whether we could
A	2	fire this weapon three times in six seconds
	3	with aimed shots, that is for accuracy.
	4	The primary purpose was to determine the
	5	accuracy under rapid fire conditions.
	6	Q At the outdoor range was the target some 300
	7	feet away?
	8	A Yes, sir.
	9	Q What was the elevation at that time off the
	10	ground?
	11	A I don't recall, but approximately three or four
	12	feet.
	13	Q Why didn't you set up a range where you would
	14	have been 60 feet off the ground if you
	15	were trying to simulate the sixth floor
	16	of the Texas School Book Depository Build-
	17	ing?
	18	A We selected our conditions under the instruc-
	19	tions of the President's Commission. They"
	20	said fire the shots at a stationery target
	21	at a horizontal distance of 100 yards. Why
	22	they selected those values I don't know.
	23	Q At any time, Mr. Frazier, did you conduct any of
•	24	these firing tests with this particular
	25	rifle in any close proximity to what is
	ι	

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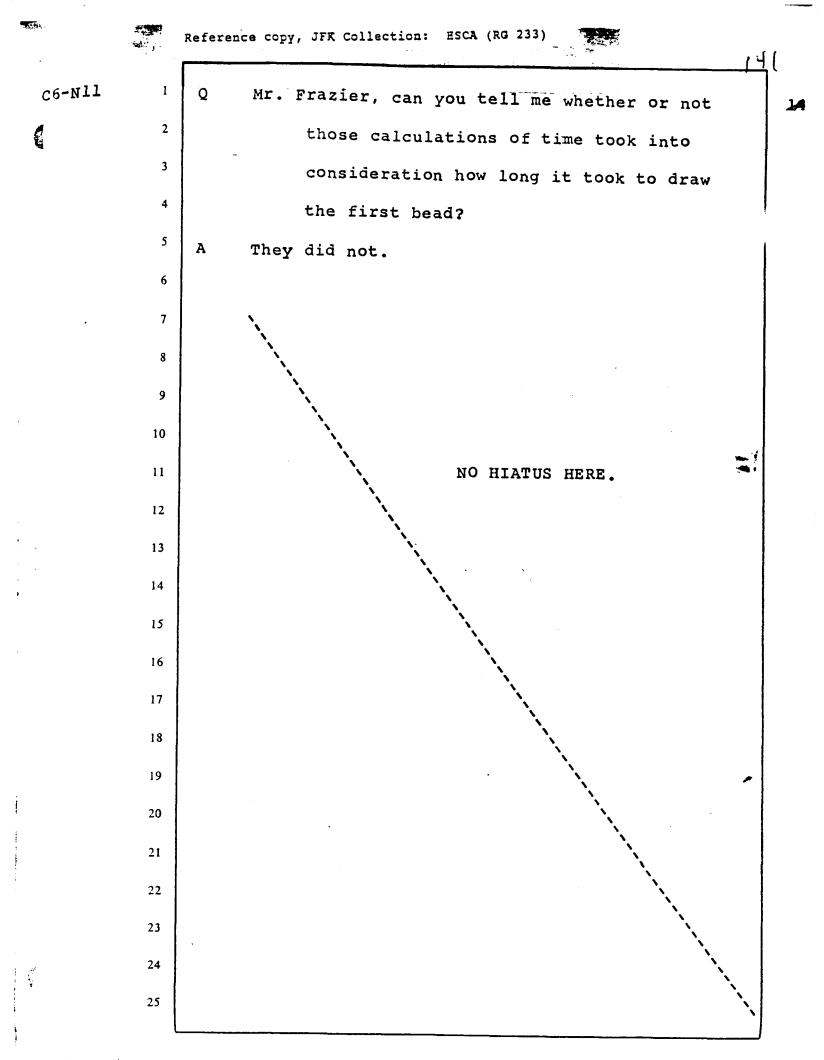
26-N10

Reference copy, JFK Collection: ESCA (RG 233)

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1 alleged to have happened on November 22, 2 1963? By that I mean, the elevation of 3 approximately 60 feet off the ground at 4 265 feet downrange of a moving target? 5 NO, sir. Α 6 Q When you were testing this rifle at the indoor 7 range and outdoor range, I believe you 8 said one bullet was already in the chamber, 9 two in the clip, is that right? 10 Α Yes, sir. 11 When did you start the timing? When was the 0 12 time started and when was the time stopped? 13 Α The time was started at the time of the first 14 shot and stopped at the sound of the last 15 shot. 16 May I have the rifle, please? Mr. Frazier, on 0 17 the outdoor range I believe you said one 18 bullet was in the chamber, two of them in 19 the clip and the time was started at the 20 sound of the first shot and stopped when? 21 At the sound of the last shot, the third shot. Α 22 0 At that time I believe you said your times were 23 5.9 seconds, 6.2 seconds, and 5.6 seconds, 24 am I correct in that? Α

Yes, sir, that is correct.



Ph. So if it was calculated, sir, from the time Q 1 X 7-1 it took you to take the first bead and 2 then go all the way through to the last 3 shot, the times would have been much more 4 5 than 5.9, 6.2 and 5.6, am I right? It would take somewhat more time to aim the Α 6 first shot, yes, sir. How much I have 7 no idea of knowing. You could take an 8 hour to aim the first shot. 9 An hour? 10 Q Yes, sir. 11 Α Therefore, as an expert in ballistics and a 12 0 rifleman, would you say if someone was 13 shooting from the sixth floor of the Texas 14 School Book Depository Building, before 15 that individual got the first shot off he 16 17 had to take aim? Not necessarily. 18 Α He would if he had to hit a moving target. 19 Q That was not part of your question, sir. 20 Α Then I add to it, to hit a moving target, Q 21 whether or not he would have to take aim? 22 23 Α Yes, he would. Mr. Frazier, can you give me an approximation 24 Q of time as to how long it took you on the 25

¥.1	Reference copy, ork contection. 14-3
1	300 foot range to aim and then get off
2	three shots?
3	A I can give you no estimate because that was no
4	part of our test. We paid no attention
5	to the time required, since we were
6	instructed to time the shots from the
7	sound of the first shot and end it at
8	the sound of the last shot. There was
9	no point in recording an unknown aiming
10	time before the test began.
11	Q Did you not deem it important to ascertain
12	exactly how long it took an individual
13	to shoot from the sixth floor, including
14	the aiming of the rifle and going all
15	through three shots?
16	MR. DYMOND:
17	We object on the ground Counsel is arguing
18	with the witness at this time.
19	THE COURT:
20	I think, Counsel, he has answered the
21	question.
22	BY MR. OSER:
23	Q I believe your answer was that the Warren
24	Commission didn't want you to ascertain
25	this. They wanted you to ascertain from

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10 - 12 PE

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	Refere	ence copy, JFK Collection: ESCA (RG 233)
1		sound to sound, is that right, basically?
2	A	Yes, sir.
3	Q	Mr. Frazier, in speaking of this particular
4		gun, am I not correct in stating this
5		particular gun doesn't contain one thing
6		the gun you examined contained, and by
7		that I mean the strap?
8	A	State that over again please.
9	Q	Did the gun you examined contain a sling strap
10	•	or not?
11	A	Yes, it did.
12	Q	Can you describe the sling strap to us using
13		the gun, approximately where it was
14		attached?
15	A	The sling strap attachments on this rifle are
16		not like those on the rifle I examined.
17		It would be difficult to describe on this
18		rifle. However, one was attached near
19		the butt of the weapon and one near the
20		front of the hand guard, approximately
21		half-way between the chamber and the
22		muzzle of the weapon.
23	Q	Now this gun that you examined containing this
24		strap, would this help in any way in
25		steadying the gun to make the shooting

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	Refer	ence copy, JFK Collection: ESCA (RG 233)
1		more accurate?
2	A	I would say yes, it would assist in accurate
3		shooting of the rifle but not necessarily
4		under rapid fire conditions.
5	Q	When you shot the rifle were you able to find
6		this assisted you in your accuracy \mathtt{tn} ?
7		shooting this particular rifle?
8	A	No, I didn't find that.
9	Q	Why was that, Mr. Frazier?
10	A	I found it difficult for me to use this sling,
11		therefore, I didn't use it.
12	Q	Therefore, because you found this particular
13		strap on the gun difficult to use it was
14		of no benefit to you in using it when you
15	. •	shot this particular gun on the range, is
16		that correct?
17	A	Yes, to the best of my recollection I never
18		fired the rifle under rapid fire condition
19		using the sling. I never fired it at any
20		time using the sling.
21	Q	When you were test firing the rifle,
22		Mr. Frazier, on the 300 foot range, can
23		you tell us how long it took you to get
24		off the first two shots? In other words,
25		the first shot, the reloading and the

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Reference copy, JFK Collection: ESCA (RG 233) 1 second shot? 2 Α Not exactly, no, I cannot. We did not time the 3 two, the two-shot interval. 4 Q Why not, sir? 5 A I saw no purpose in it. 6 Q Can you tell me approximately how fast you got 7 off two shots on the 300-foot range? Let 8 me correct that question and ask you if 9 you can tell me approximately how long it 10 took you to get off the first two shots on the 11 300-foot range? 12 I would say it would approximate half the Α 13 total time, not exactly half, possibly, but 14 in the neighborhood of three seconds. 15 In the neighborhood of three seconds? Q 16 Yes, sir. Α 17 Q If you took into consideration, Mr. Frazier,

how long it took you to aim the first shot,
how long would you say approximately it
took you to get off the first two shots
on the 300-foot range?
A. I couldn't estimate that. I don't know how
long it took to aim the first shot.

Q On Direct Examination, Mr. Frazier, Mr. Dymond was asking you some questions about the

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sounds or reports from a rifle, about 1 sonic boom. Being a ballistics expert 2 can you tell me whether or not the 3 locality or the type of topographical 4 area in which a rifle may be shot, would 5 this cause the sound of a rifle to vary 6 in any degree? 7 Α It can, yes. 8 In other words, if I were out in a prairie, 0 9 no trees, and I shot this rifle, would 10 this sound from this rifle sound differ-11 ent from if I shot this rifle in the 12 13 downtown of the City, say downtown New 14 Orleans, where all the buildings are? I would say the quality of the sound might 15 Α There may be echoes from the change. 16 17 buildings, but I still think you would hear the bullet report, that is the sonic 18 report of the bullet and the muzzle report 19 of the exploding gases, but there could be 20 echoes off the buildings. 21 0 In the reconstruction that you took part in, 22 23 Mr. Frazier, was there any effort made on 24 your part, or anybody present, to test any 25 other originating point the rifle may have

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	Refere	nce copy, JFR Collection: ESCA (RG 233)
1		been shot from other than the sixth floor
2		of the Texas School Book Depository
3	-	Building?
4	A	I don't know.
5	Q	Did you test any other originating point from
6		where the rifle may have been shot?
7	A	I didn't test any and I don't know anyone else
8		did.
9	Q	Why didn't you test any other originating point
10		other than the Texas School Book Depository
11		Building?
12	A	I was not asked to.
13	Q	Mr. Frazier, when you test fired the rifle that
14		you had at the time you did all your tests,
15		can you tell us what the condition of the
16		sight was, as to whether or not it was
17		securely fastened to the rifle itself?
18	A	It was.
19	Q	Can you tell me what the condition of the
20		sight was when you received the rifle as
21		to whether or not it was securely fastened
22		to the rifle itself?
23	A	It was not. The screws were loose.
24	Q	Because of the screws being loose, am I correct.
25		or safe in saying, the sight wobbled to

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1	.	some extent or moved?
2	A	Yes, when I received the weapon that is the
3		situation.
4	Q	As an expert in the field of ballistics, the
5		fact that a telescopic sight is on a
6		rifle and in such a condition that it
7		moves because it is not securely fastened,
8		would this in any way affect the accuracy
9		of the shooting of this rifle, sir?
10	A	Yes, sir.
11	Q	In shooting this rifle, Mr. Frazier, or the
12		rifle you shot rather on the range, when
13		you shot this rifle, after you shot the
14		first shot can you tell us whether or not
15		in rebolting the gun you had to move your
16		eye away from the scope?
17	A	Yes, sir, that was necessary.
18	Q	Why was that necessary?
19	A	To prevent the bolt of the rifle from striking
20		me in the face as it came to the rear.
21	Q	You have to draw a bead, fire, remove your eye
22		from the sight you had on the target every
23		time you rebolted, is that right, sir?
24	A	Yes, sir.
25	Q	When you fired that particular rifle on the

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7/9	1	range, was the scope sufficiently fastened
	2	tightly to the gun?
	3	A Yes, it was.
	4	Q How did you accomplish that, sir?
	5	A With a screwdriver.
	6	Q You tightened the telescopic sight to the gun
	7	before you shot it?
	8	A Yes, sir.
	9	Q Mr. Frazier, before you tightened the telescop-
	10	ic sight of the rifle, did you have
	11	occasion to shoot that rifle?
	12	A No, sir.
	13	Q Do you know whether or not anyone shot the
	14	rifle in the condition you received it
	15	first? By that I mean, the telescopic
	16	sight being loose?
	17	A No one in the F.B.I. Laboratory fired it. I
	18	don't know if anyone else did or not.
	19	Q Mr. Frazier, I show you what the State has
	20	marked for the purpose of identification
	21	as S-64, and I ask you to view this
	22	exhibit and tell me whether or not you have
	23	had occasion to see anything similar to
	24	what is depicted in this exhibit?

190 1 MR. OSER: 2 At this time the State wishes to offer, 3 introduce and file in evidence that 4 which the State has marked for the 5 purposes of identification as S-64. 6 MR. DYMOND: 7 Same objection. 8 THE COURT: 9 My ruling is the same. 10 MR. DYMOND: Same bill, except making the exhibit 11 12 No. S-64. 13 (Whereupon the document offered 14 by Counsel was received in 15 evidence.) 16 BY MR. OSER: Mr. Frazier, I believe you testified on Direct 17 0 18 Examination that you had an occasion to run 19 a test on a pellet, an intact pellet, 20 involved in this investigation you were 21 conducting, is that correct? 22 No, sir, I didn't testify that it was an intact Α 23 pellet. 24 Did you test a pellet? 0 25 A Yes, I did.

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Can you describe the pellet for me, please? 1 Q I tested three. One of them was a bullet in 2 Α practically original condition, except at 3 the base of the bullet it was flattened 4 sideways, lead had been extruded from the 5 6 base to a small amount. The rest of the bullet was in practically original condi-7 tion, except for the rifle impressions 8 from the barrel of the rifle. Other 9 pellets consisted of jacket fragments, 10 11 that is the nose portion of the bullet, 12 and base portions of the bullet, being the 13 jacket portion in the one instance and 14 jacket and part of the lead core in the 15 other instance. 16 Q This pellet you described as being slightly 17 smashed or bent on the back side of it, 18 was this Commission Exhibit 399? 19 Α Yes, sir. 20 I show you, and ask you again to refer to 0 State Exhibit 64, whether or not that 21 photograph of that particular pellet is 22 23 similar to the pellet, Commission Exhibit 24 399, that you examined? 25 A Yes, I would say it shows it fairly well.

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cg-N2

1 232 Did you also testify that you examined various Q 2 cartridges that were submitted to you for 3 examination in regard to the rifle you 4 had, is that right? 5 A Just one cartridge and three cartridge cases. 6 THE COURT: 7 Mr. Oser, I think you should make a cor-8 rection. When the witness described 9 the cartridge, I believe he means the 10 pellet still being in the casing. 11 When he describes the cartridge casing 12 he means the cartridge without the 13 pellet. 14 MR. OSER: 15 I will straighten that up right now. 16 BY MR. OSER: 17 I show you what the State marks as Exhibit S-66 0 18 for identification, and ask you to view 19 this exhibit and say whether or not you can 20 tell us what type of bullet this is? 21 Α This is a cartridge from which the powder has 22 been removed. It consists other than that 23 of a 6.5 milimeter Mannlicher-Carcano 24 cartridge, or an Italian military cartridge 25 which are made at East Alton, Illinois.

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1 Can you describe for the Gentlemen of the Jury 0 2 what parts make up this cartridge? 3 Α The part of the cartridge which leaves the 4 barrel consists of the bullet or forward 5 portion of the cartridge which is fastened 6 into the neck of the cartridge case, the 7 cartridge case being the brass rear portion 8 of the cartridge which contains in its 9 base the primer which serves to ignite 10 the cartridge when the firing pin strikes 11 the primer. 12 In referring to Commission Exhibit 399, or Q 13 the bullet you examined, can you point 14 out what area that is you are speaking of? 15 A The nose portion. 16 0 In regards to the test you made on the casings 17 that were submitted to you, can you point 18 out what area of that cartridge is known 19 as the casing area? 20 Α That is the larger brass portion which holds 21 the bullet. 22 Q I believe you said when you tested the casing 23 in your opinion the casing was fired from 24 that particular rifle you were examining 25 at that time, is that correct, sir?

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c8-N4

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1 ¥94 Yes, sir, all three of the casings, cartridge A 2 cases. 3 You tested all three of the cartridge cases Q 4 and they were all fired from that particu-5 lar rifle? 6 Α Yes, sir. 7 From your examination, Mr. Frazier, would you 0 8 tell the Gentlemen of the Jury whether 9 or not those three cartridge cases having 10 been fired from that rifle, whether or not 11 they were fired on November 22, 1963, 12 October 22, 1963, or September 22, 1963? 13 I have no way of knowing when they were fired. Α 14 In regard to Commission Exhibit 399, the pellet Q 15 that you examined, I believe it was your 16 testimony that particular pellet was fired 17 from the rifle you examined, is that also 18 correct? 19 Α Yes, it is. 20 Are you able to tell us when that particular 0 21 bullet may have been fired from that 22 Mannlicher-Carcano rifle, whether on 23 November 22nd or any other date in 1963? 24 Α I have no information as to that. 25

	Reference copy, JFR Collect	156 ISCA (NG 255)
1	Q During your var	ious tests and examinations, 555.
2	did you hav	ve an occasion to weigh the
3	pellet of a	a 6.5 milimeter Mannlicher-
4	Carcano bu	llet?
5	A I weighed severa	al cartridges of that type, yes.
6	Q Can you tell us	what weight you arrived at, sir,
7	in those ye	ou weighed?
8	A The weight varia	ed around 161 grains. It may be
9	half a gra	in above or half a grain below.
10	It average	i 161 grains.
11	Q How many of the	se pellets did you weigh?
12	A I only have note	es here of three, as I recall
13	I weighed n	nore of them.
14	Q Can you give us	the three weights in your notes?
15	A 160.85, 161.5,	161.1.
16	Q Also during you:	r various tests and examinations,
17	Mr. Frazie:	r, did you have an occasion to
18	weigh_Comm	ission Exhibit 399, or the pellet
19	you had in	your possession?
20	A Yes, sir.	
21	Q Can you give me	the weight of the pellet at the
22	time you e:	kamined it?
23	A 158.6 grains.	
24	MR. OSER:	
25	At this tin	ne the State wishes to offer,

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<u>Reference</u>		ur.			(

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		Reference copy, JFK Collection: ISCA (RG 255)
_C 8-N6	1	introduce and file into evidence,
	2	that which has been marked as S-66
•	3	for the purpose of identification.
	4	MR. DYMOND:
	5	NO Objection.
	6	THE COURT:
	7	Let it be received.
	8	(Whereupon, the document offered by counsel was MR. OSER: received into evidence.)
	9	I ask to display this to the Jury before
	10	I proceed.
	11	THE COURT:
	12	They may be shown.
	13	BY MR. OSER:
	14	Q How many pieces of pellet or fragments of
	15	pellet did you have in your possession
	16	at the time you were conducting these
	17	tests, do you recall?
	18	A I believe there were nine.
	19	Q Can you give me the weights of those individual
	20	pieces?
	21	A The first one I referred to as Exhibit 399, the
	22	weight was 158.6 grains. Another one, this
	23	is one of the jacket particles that had
	24	lead in it, weighed 44.6 grains. The base
	25	portion of the bullet jacket weighed 21.0

158 grains. The three fragments of lead 1 ¥57 taken from the floor board in the passenger 2 section of the limousine weighed .9 grains, 3 .7 grains and .7 grains. The two lead 4 particles submitted to me as having come 5 from the President's head, weighed 1.65 6 grains, and .15 grains. The fragments 7 submitted as originating from Connally's 8 arm weighed .5 grains. I believe that is 9 all. 10 11 0 Mr. Frazier, am I correct in stating in the 12 field of ballistics, when a bullet such 13 as the 6.5 milimeter Mannlicher-Carcano is fired through a rifle, does the pellet 14 15 come out with a reduction in the weight 16 because it passes through the barrel and 17 is rubbed against the rifling of the 18 barrel? Might there be a loss of weight? 19 Α There might possibly be a slight loss in weight, 20 yes. From your tests, will you tell us what was the 21 Q speed you found this particular rifle to 22 23 shoot? I think you said something around 24 1,975 feet per second was the average. 25 If I said that I was in error. Α Our tests

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	r,	eference copy, ork collection []	59
1		averaged 2,165 feet per second.	138
2	Q	Did you also have occasion to test what the	
3		muzzle energy was as the bullet came out	
4		of the muzzle? How much force was being	
5		applied behind a pellet?	
6	A	NO, I didn't perform any tests to determine	
7		that. I calculated that value from the	•
8		muzzle velocity and bullet weight.	
9	Q	What was the result of your calculations?	
10	A	The calculated muzzle energy, and this muzzle	
11		energy term is used to express the rela-	
12		tive energy produced when comparing one	
13		bullet with another, and it is a function	
14		of the weight of the bullet and its	
15		velocity, rather the square of its velocity	
16		under gravity conditions, I calculated that	
17		muzzle energy at 1,676 foot pounds of ener-	
18		a y •	
19	Q	Would I be correct or incorrect in stating from	
20		your calculations that a pellet coming out	
21		of that particular gun would have been	
22		coming out at a force the equivalent of	
23	ł	if you took a 1,676 pound ball and dropped	
24		it one foot? Would that be a safe state-	
25		ment to make?	

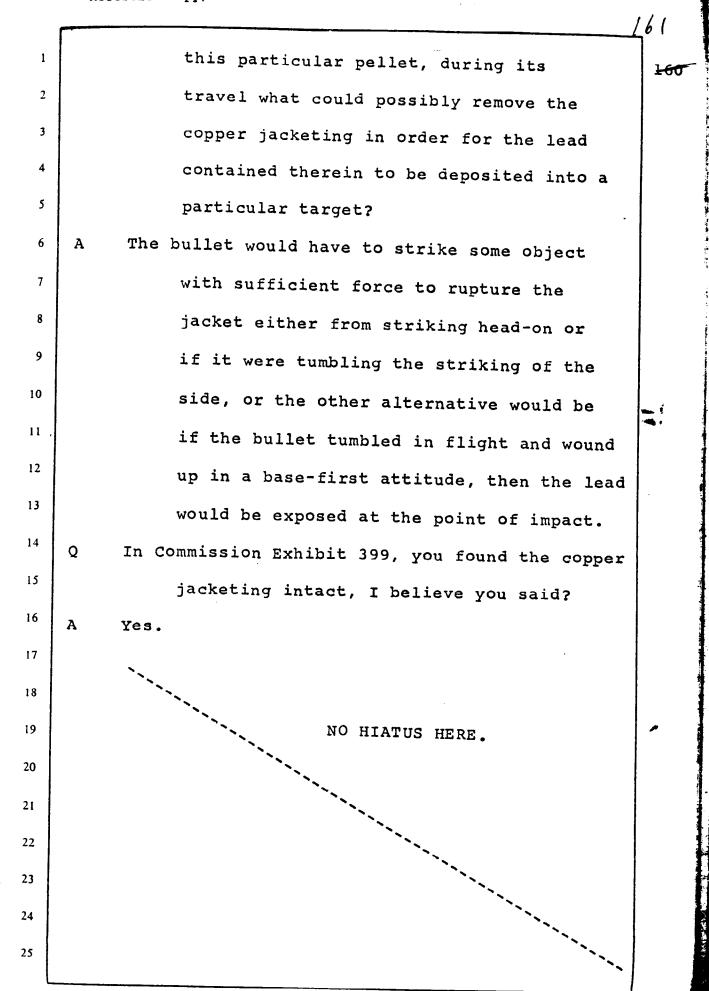
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3 -N 9 1	A	Yes, theoretically that would be an expression	159
2		of that figure.	
3	Q	The particular pellet you examined, Commission	
4		Exhibit 399, would you describe that partic	a -
5		lar pellet as a jacketed pellet?	
6	A	Yes, sir.	
7	Q	Would you explain what you mean by a jacketed	
8		pellet?	
9	A	The bullet consists of a copper alloy envelope,	
10		or outside layer, relatively thin copper	
11		alloy which covers a lead core, relatively	
12		soft lead core. In this Exhibit 399 the	
13		nose of the bullet has a solid jacket, and	
14		the base of the bullet is open or exposed	
15		and the core is inserted from the base up	
16		into this copper jacket to form the bullet	
17		by the manufacturer.	
18	Q	In the particular 399 exhibit, were you able to	
19		ascertain whether or not any of the copper	~
20		jacketing was missing?	
21	A	In my opinion there was no jacketing missing,	
22		no discernible amount of jacket missing.	
23	Q	As a ballistics expert, Mr. Frazier, what, in	
24		your opinion, if such a pellet as Exhibit	
25		399 is shot, and during the shooting of	
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1	Q	Were you able to ascertain from Commission	11.
2		Exhibit 399 whether any parts of the	
3		particular pellet were missing?	
4	A	There very easily could have been. I couldn't	
5		say how much.	
6	Q	Did you remove any of the parts or any scrapings	
7		from Exhibit 399 to run any particular	
8		tests?	
9	A	Yes, there were both particles of copper and	
10		lead base removed for a spectrographic	
11		analysis.	•
12	Q	From what area did you remove the copper alloy	
13		for your spectrographic analysis?	
14	A	From near the rounded nose portion.	
15	Q	Were you able to ascertain from your examination	
16		from a spectrographic analysis or any	
17		other tests of 399 whether there was	
18		any blood or flesh or fabric contained	
19		on Exhibit 399?	<i>,</i> ,
20	A	There was not. When I examined this bullet it	
21		was relatively clean.	
22	Q	Can you tell us when you got Commission Exhibit	
23		399 in your possession?	
24	A	I don't seem to be able to find that figure.	۰.
25		From memory I would say Exhibit 399 was	

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1 received at about 6:30 p.m. on November 22, 1963. 2 3 Q Approximately some six hours after the President was killed you came into pos-4 session of it, if your recollection is 5 correct? 6 Yes, sir, that is about correct. 7 Α I now show you that which has been marked for 8 Q the purpose of identification as S-65. 9 I ask you whether or not you have ever 10 seen what is contained in this photograph 11 as being similar to something you have 12 seen before during your investigation of 13 this case? 14 Α 15 Yes, sir, it is similar to something I have 16 seen in a photographic way and also as 17 physical evidence. 18 MR. OSER: 19 At this time the State wishes to offer, 20 introduce and file into evidence that which is marked as S-65 for the 21 22 purpose of identification. 23 MR. DYMOND: Same objection. 24 25 THE COURT:

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	Reference copy, JFK Collection: ESCA (RG 253)	64
1	Same ruling.	
2	MR. DYMOND:	
3	Same bill of exception except the Exhibit	
4	will be numbered S-65.	
5	(Whereupon the document offered	
6	by counsel was received into	
7	evidence.)	
8	BY MR. OSER:	
9	Q Mr. Frazier, can you tell the gentlemen of the	
10	Jury and The Court, where you have seen	1
11	a physical piece of evidence similar to	
12	that which is depicted in the right-hand	
13	half of State Exhibit 65?	
14	A In the F.B.I. Laboratory.	
15	Q Can you tell me, Mr. Frazier, whether or not	
16	during the examination and investigation	
17	that you were assisting in, whether or not	
18	you had an occasion to view a pellet of	
. 19	a 6.5 millimeter Mannlicher-Carcano that	~
20	had been fired into a wrist area and the	
21	resulting effects to this pellet?	
22	A I don't recall ever seeing that pellet in that	
23	connection. When I saw this pellet it was	
24	delivered to me by the President's	
25	Commission for the purpose of photographing	

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9/4 it. I had all of the Commission's 1 exhibits photographed in which we had 2 any interest, and made special photographs 3 for the Commission of those items sub-4 mitted by other individuals than the 5 F.B.I., and that is the only occasion I 6 recall seeing a pellet of that type. 7 Q Mr. Frazier, during your career in the area 8 and field of ballistics, have you had 9 occasion to see a pellet that has struck 10 the wrist area of an individual? 11 Α Not to my knowledge. 12 Have you had occasion to see a pellet that has Q 13 struck a rib and a wrist of an individual? 14 Α Not to my knowledge. 15 Q What is your expert opinion, Mr. Frazier, from 16 your specialty in ballistics, as to what 17 the condition of a pellet that strikes 18 a rib and a wrist would be? 19 A That would depend on the type of ammunition 20 being used. It would also depend on the 21 hardness of the bone, the portion of the 22 rib which was contacted, the type of 23 bone in the wrist which was struck, and 24 various other factors such as the 25

velocity of the bullet and so on. 1 Q I believe you said before in answer to one of 2 Mr. Dymond's questionsunder Direct 3 4 Examination, that from your investigation 5 you found nothing inconsistent with a bullet being fired from the sixth floor 6 of the Texas School Book Depository 7 Building and going through President 8 Kennedy and Governor Connally, is that 9 correct, sir? 10 Yes, sir, I believe I did testify to that. Α 11 I believe you also testified that in examining 0 12 the Governor's clothes, that the type of 13 14 hole you found in the Governor's coat was an irregular type of hole. Am I correct 15 in stating that? 16 No, I don't recall I testified to that with A 17 reference to the coat. With reference to 18 19 the shirt I did. Q What type of hole did you find in the 20 Governor's coat? 21 There was a hole approximately 1/4 inch in Α 22 23 width and slightly elongated, that is oval in shape, in the back of the 24 Governor's coat, about 1-1/8 inches in 25

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Reference copy, JFK Collection: ESCA (RG 233) from the sleeve seam, and this had 1 slightly torn edges. Beyond that it had 2 no physical characteristics of value to 3 me. 4 Q And the hole in the Governor's shirt, I believe 5 you testified you examined his coat cuff 6 area, the sleeve of his cuff? 7 Α Yes, sir. 8 Was that a ragged type hole? Q 9 Α In the shirt it was, yes, particularly in the 10 bottom side. The top side was not 11 excessively ragged. 12 Q In referring to State Exhibit 62, the lower 13 14 right-hand corner, Mr. Frazier, the area of the front of President Kennedy's shirt 15 that you have circled in red, the hole 16 area in the front of President Kennedy's 17 shirt, can you tell us whether that was 18 an irregular type of hole in the shirt 19 at that point? 20 Α NO. I would say it was fairly regular rather 21 than being irregular. It was an elongated 22 slit in the cloth. It didn't have side 23 tears coming out from the slit. 24 What type of hole was in President Kennedy's Q 25

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9/7	1		shirt in the back?
	2	A	That was a regular round hole approximately
	3		1/4 inch in diameter.
	4	Q	And the hole was about the same in the coat
	5		also at the back, is that right?
	6	A	Yes, sir.
	7	Q	If an individual would shoot a 6.5 millimeter
	8		Mannlicher-Carcano rifle carrying an
	9		average velocity of 2,165 feet per second,
	10		packing a force of approximately 1,676
	11		foot pounds, and this particular pellet
	12		hits one person in the back, as you found
	13		in President Kennedy's back, his shirt
	14		and coat, exits the shirt in the area
	15		where you found the slit and goes into
	16		another individual where you found the
	17		holes in the Governor's back of his coat
	18		and shirt and sleeve, and the sleeve of
	19		his shirt, and remains intact as in
	20		399, can you explain for us why there
	21		would be the slit-type of hole in the
	22		shirt and not the regular round hole as
	23		you found it as it went into his back,
	24		and why there would be the ragged hole
	25		in the sleeve of his shirt and not a round
		1	

	Reference copy, JFK Collection: ESCA (RG 233)
1	type of hole if the pellet remains intact,
2	as Commission Exhibit 399?
3	A Are you speaking of the Governor's clothing
4	now?
5	A I am speaking of both the President's clothing
6	and
7	MR. DYMOND:
8	We object. There are a number of questions
9	there. We ask the question be
10	divided up.
11	MR. OSER:
12	The witness can answer that question.
13	MR. DYMOND:
14	If you have the question read back you
15	will see how impossible it is to
16	answer.
17	THE COURT:
18	Read the question back.
19	THE REPORTER:
20	Question: "If an individual would shoot
21	a 6.5 millimeter Mannlicher-Carcano
22	rifle carrying an average velocity of
23	2,165 feet per second, packing a
24	force of approximately 1,676 foot
25	pounds, and this particular pellet

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1	hits one person in the back, as you 199
2	found in President Kennedy's back,
3	his shirt and coat, exits the shirt
4	in the area where you found the slit
5	and goes into another individual where
6	you found the holes in the Governor's
7	back of his coat and shirt and sleeve,
8	and the sleeve of his shirt, and
9	remains intact as in 399, can you
10	explain for us why there would be the
11	slit-type of hole in the shirt and
12	not the regular round hole as you
13	found it as it went into his back,
14	and why there would be the ragged
15	hole in the sleeve of his shirt and
16	not a round type of hole if the
17	pellet remains intact as
18	Commission Exhibit 399?"
19	MR. DYMOND:
20	You are speaking there of two people and
21	one shirt.
22	THE COURT:
23	I didn't understand it that way. I think
24	the question can be answered, if you
25	know how to answer it, Mr. Frazier.

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Reference copy, JFK Collection: ESCA (RG 233)

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THE WITNESS:

With reference to the slit-type hole in the shirt as compared to the round hole in the back, this often occurs because there is no substance backing up the shirt at the exit point, whereas at the entrance point the person's body backs up the garment and causes a round hole. On the exit side, however, the shirt tends to be carried away from the victim and the fibers break along the weakest part of them. In my opinion the slit-type hole in the front of the shirt is because the shirt has less strength in a vertical direction causing it to tear more rapidly in the vertical direction.

With reference to a hole in the Governor's sleeve, in his shirt, this could be due to a number of factors. This bullet apparently passed through the sleeve of the Governor's coat. At that point it may have removed considerable cloth

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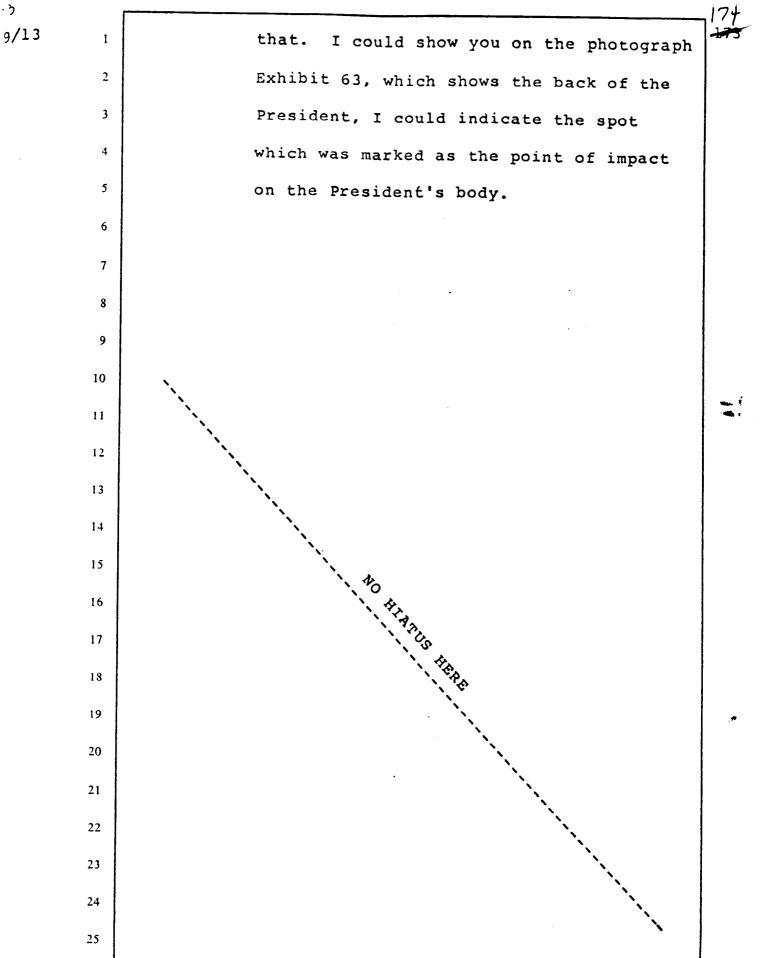
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material from that coat. It could have carried that through into the shirt and slightly enlarging and tearing the shirt on the sleeve. A second factor is that by the time under this hypothetical situation this bullet had passed through the President and through Governor Connally, its velocity would be gradually reduced, and in fact the bullet may have been tumbling end over end at that time, in which case if it struck partially sideways it would leave an enlarged hole. BY MR. OSER: Q From your examination of 399, can you tell us whether or not you found any type of fabric contained on any part of this exhibit which you examined? No, sir, I did not. Α Heretofore, Mr. Frazier, in speaking about the Q fact if you line up President Kennedy and Governor Connally where one bullet passed through both of these men at the particular time, can you show us the relative position

	Reference copy, JFK Collection: ESCA (RG 233)
1	from your examination that President
2	Kennedy had to be in from knowing where the
3	holes were in the coat and shirt and nick
4	in the tie in order for this to happen?
5	A I could show you with reference to where the
6	hole was in the President's body but not
7	necessarily where it was with reference
8	to his coat, because his coat could have
9	been hunched up at the back and not be
10	anywhere near the same position as the
11	hole in his body.
12	When you sit with your coat in a car
13	it wrinkles at the collar and the back,
14	and a bullet passing through that area,
15	when the coat straightens down, could be
16	several inches lower than the point of
17	impact in the back of the individual. In
18	our reconstruction in Dallas, the hole was
19	marked on the President's body according
20	to medical testimony and not according to
21	his clothing. In that instance it was
22	located just at the base of the neck, 5
23	inches below the mastoid area of the right
24	area, and 5 inches in from the shoulder.
25	There is no photograph here which represents

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175 Ph Q Are you referring to this particular exhibit, 1 10/1 Mr. Frazier? 2 3 A Yes. Q Would you step down, Mr. Frazier, and show us 4 5 the area to which you are referring? The spot was marked on the President's body Α 6 about 5 inches down from the right mastoid 7 area at the base of the neck. In the back 8 or at the base of the neck, and 5 inches 9 10 in, which would put the bullet impact on 11 this photograph about where I am indicat-12 ing here, about 4 inches above and 3 inches to the right of the white spot on 13 14 the back of the coat. 15 Q Mr. Frazier, you said all this was done, this particular area was marked because of the 16 17 fact the President's coat might have been rucked up or creased in some way, is that 18 19 what you are saying? Yes, sir. 20 Α Were you able to view any photographs during 0 21 22 your investigation that showed the President's coat was puckered up? 23 I don't recall if that detail was shown or 24 A 25 not.

	Refe	erence copy, JFK Collection: ESCA (RG 233)	76
1	Q	Did you see it?	133
2	A	I don't recall whether I did or not.	
3	Q	Didn't you all take into account that	
4		Governor Connally's coat might have been	
5		puckered up also?	
6	A	Sir, I didn't take any of this into account.	
7		This was decided by the Commission, not	
8		by me.	
9	Q	You were there to do just what the Commission	
10		asked you to do, is that right, sir?	m i
11	A	I didn't catch that question.	
12	Q	You were just there doing what the Commission	
13		asked you to do?	
14	A	Yes, sir, assisting them.	
15	Q	Before, Mr. Frazier, you demonstrated to	
16		Mr. Dymond in regard to the area of one	
17		bullet passing through the President and	
18		the Governor, that the President had to be	
19		in some position of bending over or down	
20		or forward, is that correct? Did you give	
21		some testimony to that effect?	
22	A	No, sir.	
23	Q	You are saying the President could be seated	
24		erect and that bullet still could have	
25		passed through both President Kennedy and	

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1 Governor Connally? 2 The question was asked, and my answer in that Α 3 regard was, there was a time during this 4 reenactment, according to the Zapruder 5 film, at which the President's stand-in 6 and Governor Connally's stand-in were in 7 line, the path of the bullet through the 8 President's body, was generally in line 9 with the impact area on the back of 10 Governor Connally, and the angle of the 11 bullet through the President's body both 12 horizontally and vertically coincided with 13 the angle of the projectile, through 14 Governor Connally's body both horizontally 15 and vertically so it was possible for this 16 event to have occurred. I didn't testify 17 it did actually occur. 18 What frame of the Zapruder film could this have Q 19 happened in? 20 Α From Frame 207 to a few frames possibly after 21 Frame 225. 22 Can you see the President and Governor 0 23 Connally between Frame 207 up to Frame 24 2232 25 Α Yes, sir. They have cleared the tree as I saw

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Reference copy, JFK Collection: ESCA (RG 233)

them from the sixth floor in the reenactment. I'm not asking you about the reenactment, I am Q asking you if you can see them in the Zapruder film? I don't know what the frame numbers were. Α Ι didn't make a note of those particular frame numbers with reference to my study of the film. You don't recall which frame numbers of the Q Zapruder film shows President Kennedy and the Governor between frame 207 and 223? No, I don't know what the film shows with A reference to the President and Governor Connally. If I tell you this particular area, from where Q Mr. Zapruder was standing, that the presidential limousine was behind a sign and you couldn't see the President or the ' Governor at this particular time, would that refresh your memory as to what took place during that span in the Zapruder film? MR. DYMOND: This is irrelevant. I don't think anyone

. در	Ref	Serence copy, JFK Collection: ESCA (RG 233)
۱ 0/5	1	has suggested Mr. Zapruder shot the
	2	President.
	3	THE COURT:
	4	I understand the question. I overrule
	5	the objection.
	6	THE WITNESS:
	7	According to my recollection from what I
	8	saw from the sixth floor window, and
	9	as the car was placed from the
	10	Zapruder film and other films, from
	11	what I saw there was a clear air line
	12	view from the window to the car durin
	13	these various frames. I didn't make
	14	a detailed study and place the car in
	15	the street.
	16	BY MR. OSER:
	17	Q Who placed the bodies in their position during
	18	the reconstruction?
	19	A They were placed according to the Warren
	20	Commission members' instructions.
	21	Q Mr. Frazier, you said before you were not using
	22	the President's limousine, you were using
	23	a Cadillac, and you calculated a 10 inch
	24	difference between the car you were using
	25	and the actual car in which the President

80 was shot. How did you accomplish this 1 149 10 inch difference? What did you do to 2 calculate for this 10-inch difference? 3 The mark on the back of the President at the Α 4 base of his neck was marked and in plain 5 view from the window. I looked through 6 the telescopic sight at a ruler held on 7 his back. I had them move the ruler to 8 the 10-inch distance and mark another spot 9 down on the automobile. 10 Isn't it a fact, Mr. Frazier, you had stand-ins Q 11 that were acting for President Kennedy 12 sitting on some blankets in that car? 13 Only the Presidential stand-in was sitting on Α 14 a blanket because the rear seat in the 15 Cadillac was considerably lower with 16 reference to the jump seat than the rear 17 seat in the Lincoln or the car in which 18 the President was assassinated. 19 As an expert in the field of this type of in-Q 20 vestigation, can you tell me why you all 21 didn't use the President's car and used 22 another car when you had to calculate 23 some 10 inches and sit one person on a 24 blanket? 25

10/6

	Reference copy, JFK Collection: ESCA (RG 233)	
10/7	MR. DYMOND:	181
2	We object on the ground it is repetitious:	
3		
4		
5	I think you have covered that subject	
6		
7		
8	Your Honor, can we take a coffee break?	
9		
10		
11		
12	recess.	
13		
14	(SHORT RECESS.)	
15		
16		
17		
18	No	
19	NO HIANUS HERE	
20	"S HERD	
21	, a de la de	
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	÷.,	3.4	

Reference copy, JFK Collection: ESCA (RG 233) 82 通 AFTER THE RECESS: 1-N1 1 THE COURT: 2 Are the State and the Defense ready to 3 proceed? 4 5 MR. DYMOND: We are ready. 6 MR. OSER: 7 Yes, Your Honor. 8 BY MR. OSER: 9 Mr. Frazier, is it correct from your testimony, 10 0 11 sir, that when you examined the coat, from 12 the back of President Kennedy's shirt and 13 his coat, that you found traces of copper 14 on the fibers in the area of the hole? 15 Α There were, yes. 16 Did you find any such copper traces on the 0 17 front slits or the tie area of President 18 Kennedy's shirt and tie? 19 A NO, sir. 20 Now, pursuant to your investigation, did you Q

21 have occasion to examine a piece of concrete removed from the curbing in Dealey 22 23 Plaza, to ascertain whether or not this was 24 a nick from a bullet containing any 25 metallic substance?

 1 A Yes, sir. 2 Q And did your examination of this piece of concrete reveal any metallic substance thereon? A Yes, there was a slight smear on the on this object, which purportedly was a piece of curbing. 8 Q Was there any copper alloy or any metallic consistency or chemical analysis of copper on this piece of curbing? 11 A No, sir. 12 Q Do you know, sir, where this curbing was removed from? 14 A I do not. 15 Q Mr. Frazier, from your examination in Dealey Plaza, from reviewing what you reviewed, are you able to ascertain as to what the angle, the downward angle of entry that a bullet may have made into the back of President Kennedy? 14 A t certain points, yes. 15 Q At what point did you first calculate this, sir, and what was the angle? 14 A I did not calculate it. As I recall, a surveyor 	-		eference copy, JFK Collection: HSCA (RG 233)
 and did your examination of this piece of concrete reveal any metallic substance thereon? Yes, there was a slight smear on the on this object, which purportedly was a piece of curbing. Was there any copper alloy or any metallic consistency or chemical analysis of copper on this piece of curbing? No, sir. Do you know, sir, where this curbing was removed from? I do not. Mr. Frazier, from your examination in Dealey Plaza, from reviewing what you reviewed, are you able to ascertain as to what the angle, the downward angle of entry that a bullet may have made into the back of President Kennedy? A t certain points, yes. A t did not calculate it. As I recall, a surveyor 	-N2	1	
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8 Q Was there any copper alloy or any metallic 9 consistency or chemical analysis of copper 10 on this piece of curbing? 11 A No, sir. 12 Q Do you know, sir, where this curbing was removed 13 from? 14 A I do not. 15 Q Mr. Frazier, from your examination in Dealey 16 plaza, from reviewing what you reviewed, 17 are you able to ascertain as to what the 18 angle, the downward angle of entry that a 19 bullet may have made into the back of 20 President Kennedy? 21 A At certain points, yes. 22 Q At what point did you first calculate this, 23 sir, and what was the angle? 24 A I did not calculate it. As I recall, a surveyor		6	object, which purportedly was a piece of
 was there any copper alloy or any metallic consistency or chemical analysis of copper on this piece of curbing? A No, sir. Q Do you know, sir, where this curbing was removed from? A I do not. Q Mr. Frazier, from your examination in Dealey Plaza, from reviewing what you reviewed, are you able to ascertain as to what the angle, the downward angle of entry that a bullet may have made into the back of President Kennedy? A At certain points, yes. Q At what point did you first calculate this, sir, and what was the angle? A I did not calculate it. As I recall, a surveyor 		7	curbing.
10 on this piece of curbing? 1 11 A No, sir. 1 12 Q Do you know, sir, where this curbing was removed 13 13 from? 1 A I do not. 14 A I do not. 1 Q 15 Q Mr. Frazier, from your examination in Dealey Plaza, from reviewing what you reviewed, 16 Plaza, from reviewing what you reviewed, are you able to ascertain as to what the 18 angle, the downward angle of entry that a pullet may have made into the back of 19 bullet may have made into the back of President Kennedy? 21 A At certain points, yes. Q 22 Q At what point did you first calculate this, 23 sir, and what was the angle? 24 A I did not calculate it. As I recall, a surveyor		8	Q Was there any copper alloy or any metallic
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 NO, SIF. Q Do you know, sir, where this curbing was removed from? A I do not. Q Mr. Frazier, from your examination in Dealey Plaza, from reviewing what you reviewed, are you able to ascertain as to what the angle, the downward angle of entry that a bullet may have made into the back of President Kennedy? A At certain points, yes. Q At what point did you first calculate this, sir, and what was the angle? A I did not calculate it. As I recall, a surveyor 		10	on this piece of curbing?
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14AI do not.15QMr. Frazier, from your examination in Dealey16Plaza, from reviewing what you reviewed,17are you able to ascertain as to what the18angle, the downward angle of entry that a19bullet may have made into the back of20President Kennedy?21A22Q24A24I did not calculate it. As I recall, a surveyor		12	Q Do you know, sir, where this curbing was removed
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 Mr. Frazier, from your examination in Dealey Plaza, from reviewing what you reviewed, are you able to ascertain as to what the angle, the downward angle of entry that a bullet may have made into the back of President Kennedy? A At certain points, yes. Q At what point did you first calculate this, sir, and what was the angle? A I did not calculate it. As I recall, a surveyor 		14	A I do not.
Plaza, from reviewing what you reviewed,17are you able to ascertain as to what the18angle, the downward angle of entry that a19bullet may have made into the back of20President Kennedy?21A22Q24A24A24A27A28A29A20are you able to ascertain as to what the angle?24A24A25I did not calculate it. As I recall, a surveyor		15	Q Mr. Frazier, from your examination in Dealey
are you able to ascertain as to what the angle, the downward angle of entry that a bullet may have made into the back of President Kennedy? A At certain points, yes. Q At what point did you first calculate this, sir, and what was the angle? A I did not calculate it. As I recall, a surveyor		16	Plaza, from reviewing what you reviewed,
angle, the downward angle of entry that a bullet may have made into the back of President Kennedy? A At certain points, yes. At what point did you first calculate this, sir, and what was the angle? A I did not calculate it. As I recall, a surveyor		17	are you able to ascertain as to what the
bullet may have made into the back of 20 President Kennedy? 21 A At certain points, yes. 22 Q At what point did you first calculate this, 23 sir, and what was the angle? 24 A I did not calculate it. As I recall, a surveyor		18	angle, the downward angle of entry that a
President Kennedy? ²¹ A At certain points, yes. ²² Q At what point did you first calculate this, ²³ sir, and what was the angle? ²⁴ A I did not calculate it. As I recall, a surveyor		19	bullet may have made into the back of
A At certain points, yes. 22 Q At what point did you first calculate this, 23 sir, and what was the angle? 24 A I did not calculate it. As I recall, a surveyor		20	President Kennedy?
Q At what point did you first calculate this, 23 sir, and what was the angle? 24 A I did not calculate it. As I recall, a surveyor		21	A At certain points, yes.
²⁴ A I did not calculate it. As I recall, a surveyor		22	Q At what point did you first calculate this,
A I did not calculate it. As I recall, a surveyor		23	sir, and what was the angle?
		24	A I did not calculate it. As I recall, a surveyor
²⁵ placed a transit on the street and read the		25	placed a transit on the street and read the

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1-N3

Reference copy, JFK Collection: ESCA (RG 233)

6 4	Keiere	ince copy, Jrx correction. Lot (
1		angle with his transit. He wrote these
2		figures down, I did not write them down.
. 3	Q	Well, do you know the angle at approximately
4		Frames 223 or 224?
5	A	I could approximate it but I don't know the
6		angle.
7	Q	Would you give me that approximation?
8	A	Between 17 and 20 degrees, in that neighborhood.
9	Q	And when you were conducting your examination
10		and arriving at the results that you
11		arrived at upon the instructions of the
12		Warren Commission, which you were doing,
13		did you have available any information
14		from two agents, one by the name of
15		O'Neill and one by the name of Siebert,
16		who were present at the autopsy and stated
17		that the angle of entry was between 45
18		and 60 degrees into the President's back?
19		Did you have that available at that time? "
20	A	NO, I don't recall that information.
21	Q	Did you have available, sir, during your in-
22		vestigation the fact that Agents Siebert
23		and O'Neill (stated) that at the time of
24		the autopsy the opening in the President's
25		back, the hole in the President's back,

Þ		Reference copy, JFK Collection: ESCA (RG 233)
D1-N4	1	could be felt by the autopsy operator
	2	with the tip of his finger and that it
	3	wasn't a through-and-through gunshot
	4	wound? Did you have that available, sir?
	5	A I don't understand.
2	6	MR. DYMOND:
	7	If Your Honor please, we object. There is
•	8	no evidence to this effect at all,
	9	that there is such a report even.
	10	Counsel is referring to a report here.
	11	We don't even know whether such a re-
	12	port exists, and he is purportedly
	13	quoting from it.
	14	MR. OSER:
	15	I am asking if he had it at his disposal,
	16	the quoted
	17	MR. DYMOND:
	18	He is asking whether he had a report to
1	19	that effect from certain named agents.
	20	MR. OSER:
	21	As I say, we don't
	22	THE COURT:
	23	I think to be fair with the witness, in-
	24	stead of quoting from any report you
1	25	should ask him first did he have any

1 H. M.

-7:

	2	Reference copy, JFK Collection: ESCA (RG 233)
1-N5	1	reports available to him; if he says
	2	yes, then you can go into specific
	3	reports, but, if he didn't have any
	4	of them available, then you shouldn't
	5	quote from five or six different
	6	MR. OSER:
	7	All right.
	8	BY MR. OSER:
	9	Q Did you have the report of Special Agents
	10	Siebert and O'Neill available to you during
	11	your entire investigation?
	12	A No, sir.
	13	Q Now, Mr. Frazier, before you testified in front
	14	of the Warren Commission, and I ask you
	15	whether or not you made the particular
	16	statement in front of the Warren Commission
	17	with regard to whether or not one bullet
	18	could have passed through President Kennedy
	19	and Governor Connally between Frames 207
	20	and 225. I ask you whether or not you made
	21	this particular statement:
	22	"I myself don't have any technical evidence
	23	which would permit me to say one way or
	24	the other, in other words, which would sup-
	25	port it as far as my rendering an opinion as

p1-N6

Reference copy, JFK Collection: ESCA (RG 233)

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1	an expert. I would say, I would certainly
2	say it was possible but I don't say it
3	probably occurred because I don't have
4	the evidence on which to base a statement
5	like that."
6	Did you make that statement in front of the
7	Warren Commission in regards to one bullet
8	passing through the President and the
9	Governor at Frames 207 to 225?
10	A (Referring to volume) Page 172. That is part
11	of the discussion concerning a hypothetical
12	question which was asked me, and I did make
13	that statement with regard to those assump-
14	tions they asked me to make.
15	MR. OSER:
16	That is all.
17	MR. DYMOND:
18	Is that all, you said?
19	MR. OSER:
20	Yes, sir.
21	REDIRECT EXAMINATION
22	BY MR. DYMOND:
23	Q Mr. Frazier, with reference to the piece of
24	material purporting to be a piece of curbing
25	on which you say that you found lead smears.

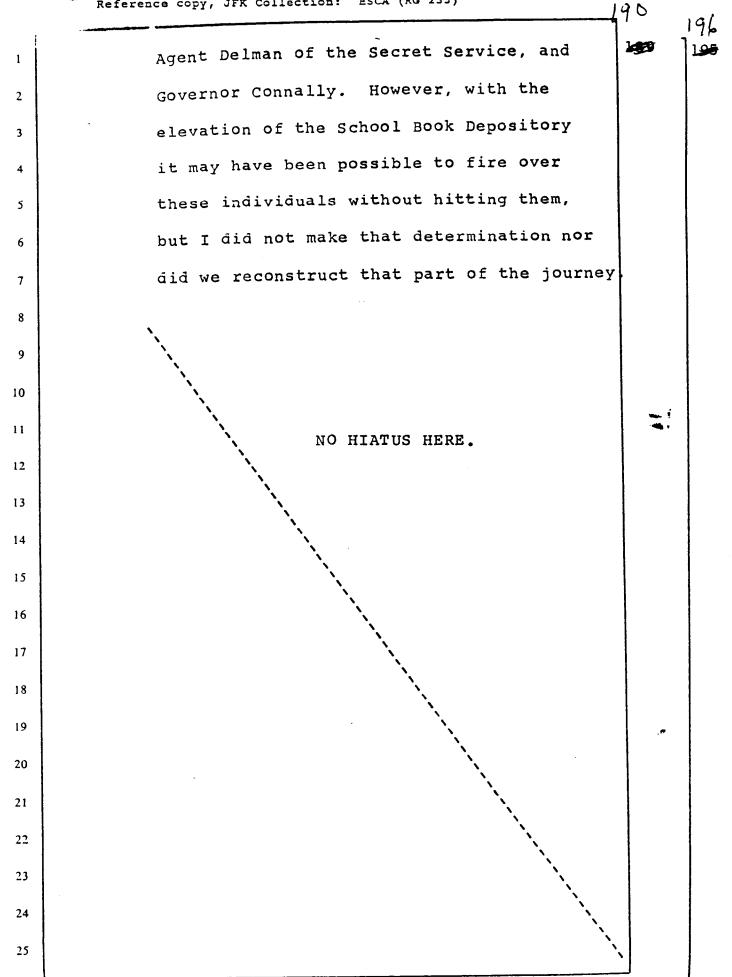
Reference copy, JFK Collection: ESCA (RG 233)

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	THE REAL	Reference copy, JFK Collection: ESCA (RG 255)
Ol-N7	1	was this lead smear consistent in
	2	metallic composition with the cartridge
	3	particles which you examined?
	4	A I don't have that information available.
	5	Q You do not?
	6	A No, sir.
	7	Q Now, Mr. Frazier, have the opinions which you
	8	rendered in this case been your honest
	9	objective opinions, or have they been in-
	10	fluenced in any way by any supposed desires
	11	of the Warren Commission or anybody else?
	12	A No, sir, absolutely not.
	13	Q Are these your honest professional opinions?
	14	A Yes, sir.
	15	Q Now referring to State Exhibit No. 34, Mr.
	16	Frazier, you were asked on direct examina-
	17	tion whether or not there would have been
	18	
	19	a clear shot at the President's vehicle
	20	while it was going on Houston Street in the
	21	direction of the School Book Depository.
	22	When the vehicle was going in that direc-
	23	tion in the reenactment, would anyone have
	24	been sitting between President Kennedy and
	25	the School Book Depository?
		MR. ALCOCK:

your Honor, we are going to object, be-1 cause the witness's testimony was 2 that the vehicle never went in that 3 direction on the reenactment, it only 4 went down Elm Street, he said it did 5 not approach Elm and Houston. 6 7 MR. DYMOND: If that is so, I will change the form of 8 9 the question. 10 THE COURT: 11 Mr. Dymond, may I suggest that you use the 12 microphone. Then if you turn away 13 from the court reporter, she will be 14 able to hear you. 15 BY MR. DYMOND: Referring to your answer on direct, that there 16 0 17 would have been a clear shot at the 18 President's vehicle from the School Book 19 Depository as it was going on Houston 20 Street toward the Depository, at that time 21 would there have been anything between 22 President Kennedy and the School Book De-23 pository in the line of fire? 24 Α Yes, sir, there would, two things, three things: 25 The windshield of the automobile, Special

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A STATE

			Reference copy, JFK Collection: ESCA (RG 233)	191	196
12-1	1	Q	Now, with reference to the similarity in the	100 -	195
- 2 - 1	2		gun, which is in evidence here as State		
	3		Exhibit 18, and the gun which was examined		
	4		by you, after having examined both of		
	5		these weapons, Mr. Frazier, is there any		
	6		difference in the mechanical operation of		
	7		the two weapons, that is, the manner in		
	8		which		
-	9	A	Yes, sir, yes, sir, I would say this weapon		
·	10		operates more difficultly than the one		
	11		which I examined in the laboratory. It	986 € 1980 €	
	12	4 	is more difficult to open the bolt and		
	13		draw the bolt back and to close the bolt.		
	14	Q	Now with reference to the test which you		
	15		performed on the speed and accuracy of		
	16		firing the rifle which you examined, as		
	17		an expert in the field of ballistics		
	18		would you say that practice with a	V	
	19		particular rifle would be helpful in	,# *	
	20		increasing the speed and accuracy of such		
	21		firing?		
	22	A	Yes, it would.		
	23	Q	Now in connection with your reenactment of the		
	24		assassination scene with the aid of the		
	25		Zapruder film, which is State-37, prior		
	L				J

	Reference copy	, JFK Collection: ESCA (RG 233)	192	19	٢
1	to the	time that the Presidential vehicle	5	فا	ē.
2	got to	the position indicated at Frame 13,			
3	was the	re a clear shot at the vehicle?			
4	A Yes, sir. A	t any stage back through this film,			
5	through	all the frames back to Frame No.			
6	207 as	the car was placed on the street			
7	by the o	Commission with reference to the			
8	film, w:	ith the assistance of			
9	Special	Agent Shaneyfelt, and beyond			
10	207 the	car would be underneath a live			
11	oak tree	e growing along the street. At		-	
12	that poi	nt you could see the individuals			
13	in the c	ar through the tree, but you could			
14	not clea	rly see them, that is, see their			
15	entire o	utlines.			
16	Q For approxima	tely how many frames before Frame			
17	313 was	there sufficient clearing to			
18	enable a	person to draw a bead on			
19	Presiden	t Kennedy from the sixth floor		."	
20	Deposito	ry window?			
21	A (Computing) I	would say approximately 106			
22	frames.				
23	Q And approxima	tely what length of time would			
24	those 10	6 frames consume, Mr. Frazier?			
25	A Slightly over	six seconds.			

		Reference copy, JFK Collection: ESCA (RG 233)
/2-3	Q	Would that be sufficient time to draw a bead
	2	on President Kennedy before he reached
	3	the position indicated by frame 313?
	A	Yes, sir.
	5 Q	Now with reference to the telescopic sight on
	5	the gun which you examined, do you know of
	,	your own knowledge whether that sight was
	3	loose and not firmly secured to the gun
. <u> </u>	,	at the time that the gun was originally
1		recovered, before it was turned over to
1	ı	you?
1	2 A	No, sir, I have no knowledge of the gun prior
1	3	to the time when I received it.
1	¢ Q	Now, Mr. Frazier, would it have been within the
l	5	scope of your expertise to examine and
1	5	analyze any particles of flesh or blood
1	7	which might have been on Exhibit 399 when
1	3	it was turned over to you?
1	A	No, sir, I do not make that type of examination
2	5	in the laboratory.
2	ı Q	(Indicating photograph) Mr. Frazier, referring
2	2	to the exhibit marked for identification
2	3	"State-63," the point which was marked on
. 2	•	the back of the stand-in for President
2	5	Kennedy, was that estimated or was it taken

		94	196
1	from the point of the wound on President	193	195
2	Kennedy's remains?		
3	A From the point of the wound by measurement		
4	taken at the time of the autopsy.		
5	MR. DYMOND:		
6	That is all, sir.		
7	RE-CROSS-EXAMINATION		
8	BY MR. OSER:		
9	Q Mr. Frazier, can you tell us whether or not		
10	anybody in the F.B.I., or the Federal	-	
11	Bureau of Investigation, made any tests	•	•
12	on 399, and whether or not it was ascer-		
13	tained whether there was any blood or		
14	flesh on that particular pellet?	1	
15	A Yes, sir, I can. There was no such test. I		
16	saw no debris on this bullet and therefore		
17	I decided there was no need for any test		
18	since there was nothing on it.		
19	Q Not even microscopically you didn't examine		
20	this bullet?		
21	A There was not anything but a slight stain which		
22	would be insufficient for any examination.		
23	Q Mr. Frazier, you said that the shot from the		
24	sixth floor was a relatively easy shot to		
25	hit President Kennedy while he proceeded		

	Reference copy, JFK Collection: HSCA (RG 233)	15 _	196
² -5 1	on Elm Street. Can you name anybody in	1-24	195
2	the Federal Bureau of Investigation or		
3	any expert rifleman under the Bureau's		
4	direction who could accomplish the same		
5	feat that is alleged to have been accom-		
6	plished, by the Warren Commission, namely,		
7	that the rifleman was in the sixth floor		
8	some 60 feet off of ground level at a		
9	distance of 265 feet away at frame 313,		
10	and with a moving target?		4
11	MR. DYMOND:		·
12	If the Court please, we object to this		
13	on the grounds, number one, that it		
14	is argumentative, number two, it is		
15	not proper re-cross-examination.		
16	Nothing was brought out on re-direct		
17	which permits such a question as		
18	this.		
19	THE COURT:	.	
20	You needn't argue, Mr. Oser, it is within		
21	my discretion to permit it, and I		
22	will overrule your objection.		
23	THE WITNESS:		
24	I know of no such tests or individuals.		
25	MR. OSER:		
1			

	A	eference copy, JFK Collection: ESCA (RG 233)	196
D/2-6	1	That is all.	195
م م بن ب	2	MR. DYMOND:	
ت م	3	That is it.	
	4	(Witness excused.)	
	5		
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CERTIFICATE

I, the undersigned, Helen R.Dietrich, do hereby certify:

1 August - C

4 That the above and foregoing (195 pages of 5 typewritten matter) is a true and correct transcription 6 of the stenographic notes of the proceedings had herein, 7 the same having been taken down by Charles A. Neyrey, 8 Clifford Jefferson, and the undersigned, and transcribed 9 under our supervision, on the day and date hereinbefore 10 noted, before the Criminal District Court, Parish of 11 Orleans, State of Louisiana, in the matter of the State 12 of Louisiana vs. Clay L. Shaw, 198-059 1426 (30) 13 Section C on the 21st and 22nd days of February, 1969, 14 before the Honorable Edward A. Haggerty, Jr., Judge, 15 Section "C", being the testimony of Robert A.Frazier. 16

New Orleans, Louisiana, this 23rd day of

February, 1969.

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DIETRICH,

HELEN R. REPORTER