

A. LEE HARVEY OSWALD FIRED THREE SHOTS AT PRESIDENT JOHN F. KENNEDY ; THE SECOND AND THIRD SHOTS HE FIRED STRUCK THE PRESIDENT ; THE THIRD SHOT HE FIRED KILLED THE PRESIDENT

1. PRESIDENT KENNEDY WAS STRUCK BY TWO RIFLE SHOTS FIRED FROM BEHIND HIM

The President's Commission on the Assassination of President Kennedy (Warren Commission) concluded that President Kennedy was struck by two bullets that were fired from above and behind him.(1) According to the Commission, one bullet hit the President near the base of the back of the neck, slightly to the right of the spine, and exited from the front of the neck. The other entered the right rear of the President's head and exited from the right side of the head, causing a large wound.(2)

The Commission based its findings primarily upon the testimony of the doctors who had treated the President at Parkland Memorial Hospital in Dallas and the doctors who performed the autopsy on the President at the Naval Medical Center in Bethesda, Md.(3)

In forming this conclusion, neither the members of the Warren Commission, nor its staff, nor the doctors who had performed the autopsy, took advantage of the X-rays and photographs of the President that were taken during the course of the autopsy.(4) The reason for the failure of the Warren Commission to examine these primary materials is that there was a commitment to make public all evidence examined by the Commission.(5) The Commission was concerned that publication of the autopsy X-rays and photographs would be an invasion of the privacy of the Kennedy family.(6) The Commission's decision to rely solely on the testimony of the doctors precluded the possibility that the Commission might make use of a review of the autopsy evidence by independent medical experts to determine if they concurred with the findings of the doctors at Parkland and Bethesda.

A determination of the number and location of the President's wounds was critical to resolving the question of whether there was more than one assassin. The secrecy that surrounded the autopsy proceedings, therefore, has led to considerable skepticism toward the Commission's findings. Concern has been expressed that authorities were less than candid, since the Navy doctor in charge of the autopsy conducted at Bethesda Naval Hospital destroyed his notes, and the Warren Commission decided to forego an opportunity to view the X-rays and photographs or to permit anyone else to inspect them.

The skepticism has been reinforced by a film taken of the Presidential motorcade at the moment of the assassination by an amateur movie photographer, Abraham Zapruder. In the Zapruder film, the President's head is apparently thrown backward as the front right side of the skull appears to explode, suggesting to critics of the Warren Commission's findings that the President was struck by a bullet that entered the front of the head.(7) Such a bullet, it has been argued, was fired

by a gunman positioned on the grassy knoll, a park-like area to the right and to the front of where the moving limousine was located at the instant of the fatal shot. (8)

Since the Warren Commission completed its investigation, two other Government panels have subjected the X-rays and photographs taken during the autopsy on President Kennedy to examination by independent medical experts. A team of forensic pathologists appointed by Attorney General Ramsey Clark in 1968, (9) and a panel retained by the Commission on CIA Activities Within the United States (Rockefeller Commission) in 1975, (10) reached the same basic conclusion: the President was struck by two bullets from behind. But neither panel published the X-rays and photographs, nor did either explain the basis of its conclusions in a public hearing. Consequently, neither panel was able to relieve significantly doubts that have persisted over the years about the nature and location of the President's wounds.

(a) *Reliance on scientific analysis*

The committee believed from the beginning of its investigation that the most reliable evidence upon which it could base determinations as to what happened in Dealey Plaza on November 22, 1963, was an analysis of hard scientific data. Accordingly, the committee contracted with leading independent experts in the fields of forensic pathology, ballistics, photography, acoustics, neutron activation analysis and other disciplines. The reports submitted by these experts were fully considered by the committee in formulating its findings.

(1) *The medical evidence.*—The committee's forensic pathology panel was composed of nine members, eight of whom were chief medical examiners in major local jurisdictions in the United States. (11) As a group, they had been responsible for more than 100,000 autopsies, (12) an accumulation of experience the committee deemed invaluable in the evaluation of the medical evidence—including the autopsy X-rays and photographs—to determine the cause of death of the President and the nature and location of his wounds. The panel was also asked to recommend guidelines in the event of a future assassination of a President or other high Federal official. (13)

The committee also employed experts to authenticate the autopsy materials. Neither the Clark Panel nor the Rockefeller Commission undertook to determine if the X-rays and photographs were, in fact, authentic. The committee, in light of the numerous issues that had arisen over the years with respect to autopsy X-rays and photographs, believed authentication to be a crucial step in the investigation. (14)

The authentication of the autopsy X-rays and photographs was accomplished by the committee with the assistance of its photographic evidence panel as well as forensic dentists, forensic anthropologists and radiologists working for the committee. (15) Two questions were put to these experts:

Could the photographs and X-rays stored in the National Archives be positively identified as being of President Kennedy?

Was there any evidence that any of these photographs or X-rays had been altered in any manner?

To determine if the photographs of the autopsy subject were in fact of the President, forensic anthropologists compared the autopsy

photographs with ante-mortem pictures of the President. This comparison was done on the basis of both metric and morphological features. The metric analysis relied upon a series of facial measurements taken from the photographs, while the morphological analysis was focused on consistency of physical features, particularly those that could be considered distinctive (shape of the nose, patterns of facial lines, et cetera). Once unique characteristics were identified, posterior and anterior autopsy photographs were compared to verify that they, in fact, depicted the same person.

The anthropologists studied the autopsy X-rays in conjunction with premortem X-rays of the President. A sufficient number of unique anatomic characteristics were present in X-rays taken before and after the President's death to conclude that the autopsy X-rays were of President Kennedy. This conclusion was consistent with the findings of a forensic dentist employed by the committee.⁽¹⁶⁾ Since many of the X-rays taken during the course of the autopsy included the President's teeth, it was possible to determine, using the President's dental records, that the X-rays were of the President.

Once the forensic dentist and anthropologists had determined that the autopsy photographs and X-rays were of the President, photographic scientists and radiologists examined the original autopsy photographs, negatives, transparencies, and X-rays for signs of alteration. They concluded there was no evidence of the photographic or radiographic materials having been altered.⁽¹⁷⁾ Consequently, the committee determined that the autopsy X-rays and photographs were a valid basis for the conclusions of the committee's forensic pathology panel.

While the examination of the autopsy X-rays and photographs was the principal basis of its analysis, the forensic pathology panel also had access to all relevant witness testimony. In addition, all tests and evidence analyses requested by the panel were performed.⁽¹⁸⁾ It was only after considering all of this evidence that the panel reached its conclusions.

The forensic pathology panel concluded that President Kennedy was struck by two, and only two, bullets, each of which entered from the rear.¹ The panel further concluded that the President was struck by one bullet that entered in the upper right of the back and exited from the front of the throat, and one bullet that entered in the right rear of the head near the cowlick area and exited from the right side of the head, toward the front. This second bullet caused a massive wound to the President's head upon exit. There is no medical evidence that the President was struck by a bullet entering the front of the head,⁽¹⁹⁾ and the possibility that a bullet could have struck the President and yet left no evidence is extremely remote. Because this conclusion appears to be inconsistent with the backward motion of the President's head in the Zapruder film, the committee consulted a wound ballistics expert to determine what relationship, if any, exists between the direction from which a bullet strikes the head and subse-

¹ In many of its conclusions, the forensic pathology panel voted 8 to 1, with the dissenting vote being consistently that of Cyril H. Wecht, M.D., coroner of Allegheny County, Pa. In all references to conclusions of the panel, unless it is specifically stated that it was unanimous, it should be assumed that Dr. Wecht dissented.

quent head movement. (20) The expert concluded that nerve damage from a bullet entering the President's head could have caused his back muscles to tighten which, in turn, could have caused his head to move toward the rear. (21) He demonstrated the phenomenon in a filmed experiment which involved the shooting of goats. (22) Thus, the committee determined that the rearward movement of the President's head would not be fundamentally inconsistent with a bullet striking from the rear. (23)

The forensic pathology panel determined that Governor Connally was struck by a bullet from the rear, one that entered just below the right armpit and exited below the right nipple of the chest. It then shattered the radius bone of the Governor's right wrist and caused a superficial wound to the left thigh. (24) Based on its examination of the nature and alinement of the Governor's wounds, the panel concluded that they were all caused by a single bullet that came from the rear. It concluded further that, having caused the Governor's wounds, the bullet was dislodged from his left thigh.

The panel determined that the nature of the wounds of President Kennedy and Governor Connally was consistent with the possibility that one bullet entered the upper right back of President Kennedy and, after emerging from the front of the neck, caused all of the Governor's wounds. (25) A factor that influenced the panel significantly was the ovoid shape of the wound in the Governor's back, indicating that the bullet had begun to tumble or yaw before entering. (26) An ovoid wound is characteristic of one caused by a bullet that has passed through or glanced off an intervening object. (27) Based on the evidence available to it, the panel concluded that a single bullet passing through both President Kennedy and Governor Connally would support a fundamental conclusion that the President was struck by two, and only two, bullets, each fired from behind. (28) Thus, the forensic pathology panel's conclusions were consistent with the so-called single bullet theory advanced by the Warren Commission. (29)

(2) *Reaction times and alinement.*—The hypothesis that both the President and the Governor were struck by a single bullet had originally been based on the Warren Commission's examination of the Zapruder film and test firings of the assassination rifle. The time between the observable reactions of the President and of the Governor was too short to have allowed, according to the Commission's test firings, two shots to have been fired from the same rifle. (30) FBI marksmen who test fired the rifle for the Commission employed the telescopic sight on the rifle, and the minimum firing time between shots was approximately 2.25 to 2.3 seconds. (31) The time between the observable reactions of the President and the Governor, according to the Commission, was less than two seconds.²

The Commission determined that its hypothesis that the same bullet struck both the President and the Governor was supported by visual observations of the relative alinement of the two men in the limousine, by a trajectory analysis and by wound ballistics tests. The Commis-

² In its report, the committee's photographic evidence panel suggested that Governor Connally reacted to his wounds approximately one second after President Kennedy. This interval might have been even less, but a sign obstructing Zapruder's field of view made it impossible to study the Governor immediately after the President first appeared to be reacting to having been shot.

sion said, however, that a determination of which shot hit the Governor was "not necessary to any essential findings." (32)

(3) *Neutron activation analysis.*—In addition to the conclusions reached by the committee's forensic pathology panel, the single bullet theory was substantiated by the findings of a neutron activation analysis performed for the committee. (33) The bullet alleged to have caused the injuries to the Governor and the President was found on a stretcher at Parkland Hospital. (34) Numerous critics have alleged that this bullet, labeled "pristine" because it appeared to have been only slightly damaged, could not have caused the injuries to both the Governor (particularly his shattered wrist) and the President. Some have even suggested the possibility that the bullet wounded neither Connally nor Kennedy, that it was planted on the stretcher. (35) Neutron activation analysis, however, established that it was highly likely that the injuries to the Governor's wrist were caused by the bullet found on the stretcher in Parkland Hospital. (36) Further, the committee's wound ballistics expert concluded that the bullet found on the stretcher—Warren Commission exhibit 399 (CE 399)—is of a type that could have caused the wounds to President Kennedy and Governor Connally without showing any more deformity than it does. (37)

In determining whether the deformity of CE 399 was consistent with its having passed through both the President and Governor, the committee considered the fact that it is a relatively long, stable, fully jacketed bullet, typical of ammunition often used by the military. Such ammunition tends to pass through body tissue more easily than soft nose hunting bullets. (38) Committee consultants with knowledge in forensic pathology and wound ballistics concluded that it would not have been unusual for such a fully jacketed bullet to have passed through the President and the Governor and to have been only minimally deformed. (39)

The neutron activation analysis further supported the single bullet theory by indicating that there was evidence of only two bullets among the fragments recovered from the limousine and its occupants. (40) The consultant who conducted the analysis concluded that it was "highly likely" that CE 399 and the fragments removed from Governor Connally's wrist were from one bullet; that one of the two fragments recovered from the floor of the limousine and the fragment removed from the President's brain during the autopsy were from a second bullet. (41) ³ Neutron activation analysis showed no evidence of a third bullet among those fragments large enough to be tested.

(4) *Photographic evidence.*—The committee also considered photographic evidence in its analysis of the shots. The Zapruder film, the only continuous chronological visual record of the assassination, is the best available photographic evidence of the number and timing of the shots that struck the occupants of the Presidential limousine.

The committee's panel of photographic experts examined specially enhanced and stabilized versions of the Zapruder film for two purposes: (1) to try to draw conclusions about the timing of the shots from visual reactions of the victims; and (2) to determine whether

³ The other large fragment recovered from the floor of the limousine had no lead in it, and therefore was not subjected to neutron activation analysis.

the alinement of the President and the Governor was consistent with the single bullet theory. The panel also examined still photographs.

Several conclusions with respect to the validity of the single-bullet theory were reached. (42) The panel concluded there is clear photographic evidence that two shots, spaced approximately 6 seconds apart, struck the occupants of the limousine. By Zapruder frame 207, when President Kennedy is seen going behind a sign that obstructed Zapruder's view, he appears to be reacting to a severe external stimulus. This reaction is first indicated in the vicinity of frame 200 of the Zapruder film. The President's right hand freezes in the midst of a waving motion, followed by a rapid leftward movement of his head. (43) There is, therefore, photographic evidence of a shot striking the President by this time.

Governor Connally shows no indication of distress before he disappears behind the sign at Zapruder frame 207, but as he emerges from behind the sign after frame 222, he seems to be reacting to some severe external stimulus. (44) By frame 226, when all of the limousine occupants have reappeared in Zapruder's field of view, the panel found indications in observable physical attitude and changes of facial expression to indicate that both the President and the Governor were reacting to their wounds. The President's reactions are obvious—he leans forward and clutches his throat. The Governor displays a pronounced rigid posture and change in facial expression. (45)

To study the relative alinement of the President and Governor Connally within the limousine, the photographic panel paid particular attention to the Zapruder frames just before the President and the Governor were obstructed by the sign, employing a stereoscopic (depth) analysis of frames 187 and 193 and still photographs taken at about the same time from the south side of Elm Street. The panel found that the alinement of the President and the Governor during this period was consistent with the single bullet hypothesis. (46)

The photographic evidence panel determined, further, that the explosive effect of the second shot to strike President Kennedy, the fatal head shot, is depicted in Zapruder frame 313. By frame 313, the President's head is seen exploding, leading the panel to conclude that the actual moment of impact was approximately frame 312. (47)

(5) *Acoustical evidence and blur analysis.*—The committee performed two other scientific tests that addressed the question of the direction and timing of the bullets that struck the President. First, it contracted with acoustical consultants for an analysis of a tape recording of a radio transmission made at the time of the assassination. The experts decided there were four shots on the recording. (48) The first, second and fourth came from the Texas School Book Depository behind the President, the third came from the grassy knoll to the right front of the President. Taking the shot to the President's head at frame 312 as the last of the four shots, and thus as a possible base point,⁵ it was possible to correlate the other sounds identified as probable gunfire with the Zapruder film. (49) Since the acoustical

⁴ There is no scientific method for determining the elapsed time between when a shot hits and when a person visibly reacts. Different people have different reaction times; moreover, a person's reaction time often depends on where he has been hit.

⁵ The committee considered using frame 328 as a possible base point. In this analysis, the head shot occurring at frame 312 would, according to the acoustics results, have originated from the grassy knoll. This alternative, however, was rejected.

consultants concluded that the two earliest shots came from the depository, the shots (or at least their shock waves) would have reached the limousine at between frames 157 and 161 and frames 188 and 191. When coupled with the photographic evidence showing a reaction by President Kennedy beginning in the vicinity of frame 200, it appeared that he was first struck by a bullet at approximately frame 190.⁶

Second, the photographic evidence panel also studied the blurs on the Zapruder film that were caused by Zapruder's panning errors, that is, the effect of a lack of smooth motion as Zapruder moved from left to right with his camera. This was done in an effort to determine whether the blurs resulted from Zapruder's possible reaction to the sound of gunshots.⁽⁵⁰⁾ This analysis indicated that blurs occurring at frames 189-197 and 312-334 may reasonably be attributed to Zapruder's startle reactions to gunshots. The time interval of the shots associated with these blurs was determined to be approximately 6 to 7 seconds. The possibility that other blurs on the film might be attributable to Zapruder's reactions to gunshots could not be confirmed or dismissed without additional data.

Taken together with other evidence, the photographic and acoustical evidence led the committee to conclude that President Kennedy and Governor Connally were struck by one bullet at approximately Zapruder frame 190, and that the President was struck by another bullet at frame 312.

Thus, from the results of the analyses by its experts in the fields of forensic pathology, photography, acoustics, wound ballistics and neutron activation analysis, the committee concluded that President Kennedy was struck by two shots fired from behind.

2. THE SHOTS THAT STRUCK PRESIDENT KENNEDY FROM BEHIND WERE FIRED FROM THE SIXTH FLOOR WINDOW OF THE SOUTHEAST CORNER OF THE TEXAS SCHOOL BOOK DEPOSITORY BUILDING

The Warren Commission concluded that the shots that killed President Kennedy and wounded Governor Connally " * * * were fired from the sixth floor window at the southeast corner of the Texas School Book Depository."⁽⁵¹⁾ It based its conclusion on eyewitness testimony, physical evidence found on the sixth floor of the depository, medical evidence and the absence of " * * * credible evidence that the shots were fired from * * * any other location."⁽⁵²⁾

(a) Scientific analysis

In investigating this aspect of the case, the committee relied heavily on the scientific analysis of physical evidence, and again the conclusions of the forensic pathology panel were relevant. The panel concluded that the two bullets that struck the President came from behind and that the fatal head shot was moving in a downward direction when it struck the President.⁽⁵³⁾⁷ Thus, forensic pathology provided reli-

⁶ A more detailed description of the reasoning leading to this conclusion is set forth in section I B, *infra*.

⁷ The panel used both the location of the wounds and Zapruder frame 312 to determine the "downward" slope of the fatal head shot. It did not attempt to determine the slope of the bullet that struck the President's back because the moment of impact was not thought to be visible in the film. This decision by the forensic pathology panel was made well before the photographic panel reached its conclusion regarding the President's and Governor Connally's reactions as shown in the Zapruder film.

able evidence as to the origin of the shots: The gunman who fired the shot that hit President Kennedy and Governor Connally at approximately frame 190 of the Zapruder film fired from behind, and the gunman who fired the shot that hit the President in the head at frame 312 was positioned above and to the rear of the Presidential limousine.

(1) *Trajectory analysis.*—Another project pertaining to the origin of the shots involved the trajectory of the bullets that hit the President. Although the Warren Commission also studied trajectory, its analysis consisted of proving that a bullet fired from the southeast corner of the sixth floor of the book depository could have hit the President and then hit the Governor and that another bullet fired from that location could have caused the wound to the President's head. Basically, the purpose of the Commission's trajectory analysis was to prove that it was possible for the prime suspect, Lee Harvey Oswald, to have hit both the President and the Governor from the sixth floor of the depository.

The committee approached the problem without making prior assumptions as to the origin of the shots. It was an interdisciplinary effort, drawing from the expertise of forensic pathologists, acoustical and photographic analysts and an engineer from the staff of the National Aeronautics and Space Administration, who plotted the trajectories. (54)

The trajectory analysis was based on three types of data. From the acoustical analysis of the radio transmission, the timing of the shots was obtained. From the photographic analysis of the Zapruder film and the acoustical analysis, it was possible to know with relative precision when each of the shots struck—at approximately Zapruder frame 190, for the shot that struck the President in the back of the neck, and at Zapruder frame 312, for the fatal shot to the President's head. Through an analysis of those frames and still photographs taken at approximately the same time from the south side of Elm Street, it was possible to determine the location of the limousine in the plaza, the sitting positions of President Kennedy and Governor Connally and their alinement to one another. (55)

By then coordinating this data with the forensic pathology panel's analysis of the exit and entry wounds sustained by President Kennedy, it was possible to plot the path of the bullets out to their source. Separate direction and slope trajectories were developed for two bullets—the one that caused the President's back and neck wounds, and the one that caused his fatal head wound. (56) A third trajectory analysis was conducted to test the hypothesis that the first bullet also caused the wounds to Governor Connally, using for this analysis the exit wounds to the President's neck and the entry wound to the Governor's back. (57)

All three trajectories intercepted the southeast face of the Texas School Book Depository building. (58) While the trajectories could not be plotted with sufficient precision to determine the exact point from which the shots were fired, they each were calculated with a margin of error reflecting the precision of the underlying data. The margins of error were indicated as circles within which the shots originated. The southeast corner window of the depository was inside each of the circles. (59)

(2) *Photographic evidence.*—The photographic evidence panel examined evidence possibly relevant to the question of the origin of the shots, as follows:

The panel examined a motion picture of the southeast corner window of the depository taken a short time prior to the shots. (60) While there is an impression of motion in the film, the panel could not attribute it to the movement of a person or an object and instead attributed the motion to photographic artifacts. (61) The panel's findings were the same with respect to apparent motion in adjacent windows shown in the film. (62)

The panel studied two photographs taken within minutes of the assassination. (63) While no human face or form could be detected in the sixth floor southeast window, the panel was able to conclude that a stack of boxes in the window had been rearranged during the interval of the taking of the two photographs. (64)

There is evidence, a motion picture film made by Charles L. Bronson, that some independent researchers believe shows a figure or figures in the sixth floor depository window several minutes before the shooting. The film came to the attention of the committee toward the end of its investigation. Some members of the committee's photographic evidence panel did conduct a preliminary review (without enhancement) of the film. While motion was detected in the window, it was considered more likely to be a random photographic artifact than human movement. Nevertheless, the limited review was not sufficient to determine definitively if the film contained evidence of motion made by human figures. (65) Because of its high quality, it was recommended that the Bronson film be analyzed further.

(b) *Witness testimony*

While the committee relied primarily on scientific analysis of physical evidence as to the origin of the shots, it also considered the testimony of witnesses. The procedure used to analyze their statements was as follows:

First, all available prior statements were read by the committee and studied for consistency. The objective was to identify inconsistencies either between the words of one witness and another or between the various words of a witness whose story had changed. The statements were obtained from the files of the Dallas Police Department, Dallas Sheriff's Office, the FBI, Secret Service and Warren Commission.

Second, an attempt was made to locate the witnesses and to show them the statements they made in the course of the original investigation. Each witness was asked to read his statements and to indicate whether they were complete and accurate. If statements were inaccurate, or if a witness was aware of information that was not included, he was asked to make corrections or provide additional information. In addition, where relevant questions had not been asked, the committee asked them. (66)

There are inherent limitations in such a process. Any information provided by a witness in 1978—15 years after the assassination—must be viewed in light of the passage of time that causes memories to fade and honest accounts to become distorted. Certainly, it cannot be considered with the same reliability as information provided in 1963–64.

To the extent that they are based on witness testimony, the conclusions of the committee were vitally affected by the quality of the original investigation. The inconsistencies in the statements—the questions not asked, the witnesses not interviewed—all created problems that defied resolution 15 years after the events in Dallas.

Nevertheless, the committee considered all of the witness statements and determined to what extent they corroborated or independently substantiated, or contradicted, the conclusions indicated by the scientific evidence.

An example of such witness testimony is that relating to the discovery of the rifle and shell casings in the Texas School Book Depository. (Because detailed versions of witness testimony taken in the original investigation are a matter of public record, only brief résumés are included here.)

Deputy Sheriff Luke Mooney testified to the Warren Commission that at approximately 1 p.m. on November 22, 1963, he discovered three spent rifle shells on the sixth floor of the Texas School Book Depository. (67) He stated that he was in the southeast corner of the building when he noticed boxes stacked high in the vicinity of the window. (68) He then squeezed in between a space in the boxes and saw three spent rifle shells in the vicinity of the window. (69) Mooney also told of seeing boxes stacked up as though they were a prop or rest for a weapon. (70)

Deputy Sheriff Eugene Boone told the Warren Commission that he arrived on the sixth floor of the depository subsequent to the discovery of the three spent rifle shells. (71) He said he went to the east end of the floor and began working his way across to the west end, looking in, under and around boxes and pallets. (72) At the wall near a row of windows, he noticed a small space between some of the boxes. When he squeezed through the opening, he saw a rifle between two rows of boxes. The time was 1:22 p.m. (73)

(c) *Firearms evidence*

The rifle Boone found, a 6.5 millimeter Mannlicher-Carcano, was analyzed by the FBI in 1963-64 and by the committee's firearms panel in 1978, as was the other firearms evidence that was recovered. It was determined in both investigations that the bullet found on a stretcher at Parkland Hospital had been fired from the rifle found in the depository, as were two fragments recovered from the Presidential limousine. (74) Further, the three cartridge cases found on the sixth floor of the depository were determined to have been fired in the Mannlicher-Carcano.⁸ (75)

Through neutron activation analysis, the committee found that the firearms evidence could be even more directly linked to the wounds suffered by the President and Governor Connally. It is highly likely that the bullet found on the stretcher was the one that passed through Governor Connally's wrist, leaving tiny particles behind, and the frag-

⁸The committee firearms panel determined that the evidence stored in the National Archives ballistically matched the bullets fired by the FBI in 1964 tests from the Mannlicher-Carcano found by Boone. Since the rifle had been test fired numerous times since 1963, its barrel had been altered by wear, and bullets the panel fired from the rifle did not match either the FBI test cartridges or those found on the sixth floor of depository or that found on the stretcher.

ments retrieved from the limousine came from the same bullet as the fragments taken from President Kennedy's brain. (76)

Over the years, skepticism has arisen as to whether the rifle found in the depository by Boone is the same rifle that was delivered to the Warren Commission and is presently stored in the National Archives. The suspicion has been based to some extent on allegations that police officers who first discovered the rifle identified it as a 7.5 millimeter German Mauser. (77) The controversy was intensified by the allegation that various photographs of the rifle, taken at different times, portray inconsistencies with respect to the proportions of the various component parts. (78)

To resolve the controversy, the committee assembled a wide range of photographs of the rifle: a police photograph taken where it was found in the depository; a motion picture film taken by a television station showing the rifle when it was found by the police; a series of photographs of a police officer carrying the rifle from the depository; photographs taken as the rifle was carried through the halls of Dallas Police Department; and photographs taken later by the FBI and Dallas Police Department. (79)

The examination by committee photographic consultants determined that all photographs were of the same rifle. Both a study of proportions and a comparison of identifying marks indicated that only one rifle was involved. (80)

(d) Summary of the evidence

In the final analysis, the committee based its finding that the shots that struck President Kennedy were fired from the Texas School Book Depository on the quantity and quality of the evidence, to wit:

The findings of forensic pathologists that the shots that hit the President came from behind;

The results of the trajectory analysis that traced the bullets to the vicinity of sixth floor window of the depository;

The conclusion of acoustics experts that the shots came from the vicinity of the sixth floor window of the depository;

The positive identification by firearms experts that the rifle found on the sixth floor of the depository was the one that fired the bullet found on a stretcher at Parkland Hospital and fragments retrieved from the Presidential limousine;

The results of neutron activation analysis indicating that it was highly likely that the bullet found on the stretcher at Parkland Hospital was the one that passed through Governor Connally's wrist, and that the fragments found in the limousine were from the bullet that struck the President in the head;

The conclusion of photographic experts that the rifle found in the depository was the same one that was repeatedly photographed in November 1963 and that is presently stored at the National Archives.

The committee also weighed the firsthand testimony of witnesses but with caution, because of the problem of the passage of time. Besides the statements of law officers on the scene immediately after the assassination, it considered the accounts of bystanders in Dealey Plaza, bearing in mind that these were recollections of fleeting mo-

ments when emotions were running high. The committee noted, however, that a number of the Dealey Plaza witnesses said they saw either a rifle or a man with a rifle in the vicinity of the sixth floor southeast corner window of the book depository.

3. LEE HARVEY OSWALD OWNED THE RIFLE THAT WAS USED TO FIRE THE SHOTS FROM THE SIXTH FLOOR WINDOW OF THE SOUTHEAST CORNER OF THE TEXAS SCHOOL BOOK DEPOSITORY BUILDING

The Warren Commission concluded that Lee Harvey Oswald owned the rifle found on the sixth floor of the Texas School Book Depository. Since the Commission further concluded that Oswald was the assassin of the President, his background is relevant.

(a) Biography of Lee Harvey Oswald

Oswald was born in New Orleans, La., on October 18, 1939, two months after the death of his father. His mother remarried, and, from 1945 until 1952, the family lived in a number of cities in Texas and Louisiana. This marriage ended in divorce when Oswald was nine.

In 1952, Oswald and his mother moved to New York City. His school record was marked by chronic truancy, and a psychiatric examination suggested that he was emotionally disturbed. Oswald and his mother returned to New Orleans in 1954.

After finishing the ninth grade, the 16-year-old Oswald dropped out of school. The following year, he joined the U.S. Marine Corps. Asserting the ill-health and distressing financial situation of his mother, Oswald obtained a release from the Marines in 1959. Following his discharge, he spent 3 days with his mother in Fort Worth, Tex., and then went to New Orleans. From there, he traveled to the Soviet Union where he tried to become a Soviet citizen.

In April 1961, Oswald married a 19-year-old Russian woman, Marina Nikolaevna Prusakova, whom he had met while working in Minsk. Having become disillusioned with Soviet life, he returned to the United States with his wife and baby daughter the following year. The Oswalds arrived in Fort Worth, Tex., on June 14, 1962, and soon became acquainted with a number of people in the Dallas-Fort Worth Russian-speaking community. Oswald moved to Dallas in October 1962 where he found a job with a graphic arts company. Marina followed in November, but their marriage was plagued by intermittent feuding.

In March 1963, according to the Warren Commission, Oswald purchased a Mannlicher-Carcano rifle and telescopic sight from a Chicago mail order house. He also ordered a .38 caliber Smith and Wesson pistol from a Los Angeles firm. According to Marina Oswald, he probably used the rifle in an attempt in April to kill Edwin A. Walker, a retired Army general who had been relieved from his post in West Germany for distributing rightwing literature to his troops. Walker was not harmed.

In April 1963, Oswald went to New Orleans. Meanwhile, Marina and the baby moved to the home of a friend, Ruth Paine, in Irving, Tex., in late April. In May, she joined Oswald in New Orleans. On July 19, Oswald was dismissed from his job for inefficiency. In May

and June, Oswald had expressed an interest in the Fair Play for Cuba Committee. In August, he distributed pro-Castro leaflets and also made two radio broadcasts on behalf of the Castro regime. Marina Oswald and her baby returned to Texas to stay with Ruth Paine in Irving on September 22.

Oswald went to Mexico City in the latter part of September. He visited the Russian Embassy and Consulate and the Cuban Consulate there, but he failed to get permission to travel to either country. He returned to Dallas on October 3, 1963. He visited Marina in Irving on several occasions but continued to try to find a place to live in Dallas. On October 14, Oswald moved into a roominghouse on North Beckley Avenue in Dallas. He began work at the Texas School Book Depository 2 days later. On October 20, Marina gave birth to their second daughter. She returned to the Paine home in Irving where Oswald visited on November 1, and from November 8 until November 11. Oswald next visited Marina and his children in Irving on the evening of November 21. He returned to Dallas the following morning.

Shortly after the assassination of President Kennedy on November 22, 1963, Dallas Patrolman J. D. Tippit was shot and killed. At approximately 2 p.m., Lee Harvey Oswald was arrested in the Texas Theatre. He was subsequently charged in the murder of Tippit and named as a suspect in the Kennedy assassination.

On November 24, 1963, while he was being escorted through the basement of Dallas police headquarters in preparation for being transferred to the Dallas County Sheriff's office, Oswald was fatally wounded by a single shot fired from a pistol by Jack Ruby, a Dallas nightclub operator.

As noted, the Warren Commission had traced the chain of possession of the alleged assassination rifle and determined that the name on the money order and purchase form used to buy the rifle was "A. Hidell," which it determined to be an alias used by Oswald. (81) It also determined that the rifle was sent to a Dallas post office box rented on October 9, 1962 by Oswald. (82) Through handwriting analysis, the Commission determined that Oswald had filled out and signed the documents relative to the purchase and receipt of the rifle. (83) Moreover, the Commission received testimony that Oswald owned a rifle and that it was not in its usual storage place at the residence of Michael and Ruth Paine in Irving, Tex., when police searched the residence on the afternoon of November 22, 1963. (84)

Photographs of Oswald holding a rifle were also recovered from among his personal possessions, and the Commission concluded that the rifle in the photograph was the one found on the sixth floor of the book depository. (85) A palmprint taken from the barrel of the rifle was identified as a latent palmprint of Oswald. (86) Finally, the Commission treated as significant evidence a brown paper sack on which was identified a latent palmprint of Oswald. (87) It contained fibers that were determined to be identical to certain fibers of a blanket in which Oswald had allegedly wrapped the rifle. (88)

The committee concluded that the rifle found on the sixth floor of the book depository was the murder weapon. This determination, coupled with Warren Commission evidence of Oswald's ownership of the rifle, if accepted, proved conclusively that Oswald was the owner of the murder weapon.

Nevertheless, doubt has been cast on the evidence that Oswald owned the rifle in question. Critics of the Warren Commission have asserted that the chain of possession is meaningless, because more than one Mannlicher-Carcano was issued with the serial number C2766. (89) They have also argued that the photograph of Oswald holding the rifle is a fake and that his palmprint was planted on the barrel. (90)

(b) *The committee's approach*

The committee decided that one way to determine whether Oswald did, in fact, own the murder weapon was to test the reliability of the evidence used by the Warren Commission to establish ownership and to subject the available evidence to further scientific analysis.

The committee posed these questions:

Could the handwriting on the money order used to purchase the rifle and the application for the post office box be established with confidence as that of Lee Harvey Oswald? ⁹

Are the photographs of Oswald holding the rifle authentic, and is that rifle the one that was found in the book depository after the assassination?

(1) *Handwriting analysis*.—With respect to the first issue, the committee's questioned documents panel, composed of three experts with approximately 90 years of combined experience in the field of questioned document examination, was provided with approximately 50 documents allegedly containing Oswald's handwriting. (91) The panel was asked to determine whether all of the documents were written by the same person. Among the documents provided to the panel was the money order sent to Klein's Sporting Goods Co. of Chicago to pay for a Mannlicher-Carcano, serial number C2766, the application for the post office box to which the rifle was subsequently mailed, and two fingerprint cards signed by Oswald. (92) One of the cards was signed at the time of his enlistment in the Marine Corps on October 24, 1956; the other, dated August 9, 1963, was signed by Oswald at the time he was arrested in New Orleans for disturbing the peace. (Although Oswald was fingerprinted when he was arrested in Dallas on November 22, 1963, he refused to sign the card.) ¹⁰

The questioned documents panel determined that the money order and the post office box application were filled out and signed by the same person and that the handwriting on them was identical to the handwriting on the two fingerprint cards signed by Oswald. (94) On the basis of this analysis, the committee determined that Oswald bought the weapon in question from Klein's Sporting Goods Co.

(2) *The backyard photographs*.—The photographs of Oswald holding the rifle, with a pistol strapped to his waist and also holding copies of "The Militant" and "The Worker," were taken by his wife in the backyard of Oswald's home on Neeley Street in Dallas in March or April 1963, according to the testimony of Oswald's widow, Marina,

⁹ The committee also attempted to have its handwriting experts analyze other documents, such as the order for the rifle and the envelope in which it was mailed. The originals had, however, been destroyed, and microfilm copies that existed were not suitable for conclusive tests.

¹⁰ The fingerprints on all three cards were examined by the committee's fingerprint expert and determined to be those of the same person. (93)

given to the Warren Commission and the committee.¹¹ (95) There has been considerable controversy about the photographs. While in the custody of the Dallas police from November 22 to November 24, 1963, Oswald claimed that he did not own a rifle and that the photographs were composites, with his head superimposed over someone else's body. (96) The Warren Commission, however, concluded that the photographs were authentic. (97) Critics of the Commission have questioned their authenticity for reasons generally based on alleged shadow inconsistencies, an indication of a grafting line between the mouth and chin, inconsistent body proportions and a disparate square-shaped chin. (98)

To determine if evidence of fakery was present in these photographs, the photographic evidence panel first sought to determine if they could be established as having been taken with Oswald's Imperial Reflex camera. This was done by studying the photographs (and the single available original negative) for unique identifying characteristics that would have been imparted by that camera. Once this was successfully done, the objects imaged in the photographs, as well as their shadows, were analyzed photogrammetrically. Finally, the materials were visually scrutinized, using magnification, stereoscopic analysis and digital image processing. (99)

In its analyses, the photographic evidence panel worked with the original negative and first-generation prints of the photographs. (100) Only such materials contain the necessary and reliable photographic information. In contrast, some of the critics who claimed the photographs were faked relied on poor quality copies for their analyses. (101) Copies tend to lose detail and include defects that impair accurate representation of the photographic image.

After subjecting these original photographic materials and the camera alleged to have taken the pictures to sophisticated analytical techniques, the photographic evidence panel concluded that it could find no evidence of fakery. (102)

Of equal significance, a detailed scientific photographic analysis was conducted by the panel to determine whether the rifle held by Oswald in the backyard photographs was, in fact, the rifle stored at the National Archives. The panel found a unique identifying mark present on the weapon in the Archives that correlated with a mark visible on the rifle in the Oswald backyard photographs, as well as on the alleged assassination rifle as it appeared in photographs taken after the assassination in 1963. (103) Because this mark was considered to be a unique random pattern (i.e., caused by wear and tear through use), it was considered sufficient to warrant the making of a positive identification.

¹¹ Marina Oswald, because of her testimony, played a central but troubling role in the investigation of the Warren Commission. A great deal of what the Commission sought to show about Oswald rested on her testimony, yet she gave incomplete and inconsistent statements at various times to the Secret Service, FBI and the Commission. Marina's role in the committee's investigation was less central, since the committee's examination of what happened in Dallas rested primarily on the results of scientific analysis. The committee found no evidence that would indicate that Marina had foreknowledge of the assassination or that she helped her husband in any way in his efforts to assassinate the President. In its investigation of conspiracy, the committee's undertaking was not furthered by Marina's testimony, since she professed to know little of Oswald's associates in New Orleans or Dallas.

In addition, the relative lengths of component parts of the alleged assassination rifle at the National Archives were compared to component parts of the rifle that appeared in various 1963 photographs, including the backyard photographs. (104) They were found to be entirely consistent, component part for component part, with each other.¹² Upon completion of its analysis, the photographic evidence panel concluded that the rifle depicted in the backyard photographs is the one that was found in the book depository after the assassination and that was stored at the National Archives. (105)

In addition to the photographic analysis, the committee was able to employ handwriting analysis to aid in the determination of whether the photograph was authentic. During the course of the committee's investigation, George de Mohrenschildt, who had been a friend of Oswald, committed suicide. The committee, pursuant to a subpoena, obtained de Mohrenschildt's personal papers, which included another copy of the Oswald backyard photograph. This copy, unlike any of those previously recovered, had an inscription on the back: "To my dear friend George, from Lee." It was dated April 1963 and signed "Lee Harvey Oswald." (106)

In an unpublished manuscript, de Mohrenschildt referred to this copy of the photograph and stated that after his return from Haiti, where he had been at the time of the assassination, he discovered the photograph among personal possessions that he had previously stored in a warehouse. (107) The committee examined the photograph to determine its authenticity and examined the handwriting to determine if Oswald had actually written the inscription and signed it. If Oswald did sign the photograph, his claim that he did not own the rifle and that the photograph was a fake could be discounted.

The photographic panel found no evidence of fakery in the backyard photographs, including the one found in de Mohrenschildt's effects. (108) The handwriting on the back of the de Mohrenschildt copy was determined by the questioned documents panel to be identical to all the other documents signed by Oswald, including the fingerprint cards. (109)

Thus, after submitting the backyard photographs to the photographic and handwriting panels, the committee concluded that there was no evidence of fakery in the photographs and that the rifle in the photographs was identical to the rifle found on the sixth floor of the depository on November 22, 1963. Having resolved these issues, the committee concluded that Lee Harvey Oswald owned the rifle from which the shots that killed President Kennedy were fired.

4. LEE HARVEY OSWALD, SHORTLY BEFORE THE ASSASSINATION, HAD ACCESS TO AND WAS PRESENT ON THE SIXTH FLOOR OF THE TEXAS SCHOOL BOOK DEPOSITORY BUILDING

The Warren Commission found that Lee Harvey Oswald worked principally on the first and sixth floors of the Texas School Book Depository, gathering books listed on orders and delivering them to

¹² Previous studies analyzing the relative lengths of the component parts of rifles shown in various post-assassination photographs that questioned the identification of the rifle failed to consider the effect of perspective on the way that an object is imaged in a photograph.

the shipping room on the first floor.(110) He had, therefore, ready access to the sixth floor and to the southeast corner window from which the shots were fired. The Commission reached this conclusion by interviewing Oswald's supervisors and fellow employees.(111)

(a) Testimony of school book depository employees

In its investigation, the committee also considered the statements and testimony of employees of the Texas School Book Depository who worked with and supervised Oswald. Roy Truly, superintendent of the depository, had stated to the Warren Commission that Oswald "had occasion to go to the sixth floor quite a number of times every day, each day, after books."(112) Truly and others testified that Oswald normally had access to the sixth floor of the depository, and a number of them said that they saw and heard Oswald in the vicinity of the sixth floor throughout the morning of November 22, 1963.(113)

(b) Physical evidence of Oswald's presence

In determining whether Oswald was actually present on the sixth floor of the depository, the committee paid primary attention to scientific analysis of physical evidence. Materials were examined for fingerprints, including a long, rectangular paper sack that was discovered near the southeast corner window and cartons that were found stacked adjacent to the window. The paper sack, which was suitable for containing a rifle, showed a latent palmprint and fingerprint of Oswald; one of the cartons showed both a palmprint and fingerprint identified as belonging to Oswald, and the other showed just his palmprint. The determination that Oswald's prints were on the sack and cartons was originally made in the investigation that immediately followed the assassination. It was confirmed by a fingerprint expert retained by the committee. (114)

The committee was aware that Oswald's access to the sixth floor during the normal course of his duties would have provided the opportunity to handle these items at any time before the assassination. Nevertheless, the committee believed that the way the boxes were stacked at the window and the proximity of the paper sack to the window from which the shots were fired must be considered as evidence indicating that he handled the boxes in the process of preparing the so-called sniper's nest and that he had used the paper sack to carry the rifle into the depository.

(c) Oswald's whereabouts

As for Oswald's presence on the sixth floor shortly before the assassination, the committee considered the testimony of Oswald's fellow employees at the depository. Although a number of them placed him on the fifth or sixth floor just before noon, a half hour before the assassination, one recalled he was on the first floor at that same time.(115)

The committee decided not to try to reconcile the testimony of these witnesses. Whether Oswald was on the first, fifth or sixth floor at noon, he could have still been on the sixth floor at 12:30. There was no witness who said he saw Oswald anywhere at the time of the assassination, and there was no witness who claimed to have been on the sixth floor and therefore in a position to have seen Oswald, had he been there.

(1) *Lovelady or Oswald?*—It has been alleged that a photograph taken of the President's limousine at the time of the first shot shows Oswald standing in the doorway of the depository. (116) Obviously, if Oswald was the man in the doorway, he could not have been on the sixth floor shooting at the President.

The Warren Commission determined that the man in the doorway was not Oswald, it was Billy Lovelady, another depository employee. (117) Critics have challenged that conclusion, charging that Commission members did not personally question Lovelady to determine if he was in fact the man in the photograph. In addition, they argue that no photograph of Lovelady was published in any of the volumes issued by the Warren Commission. (118)

The committee asked its photographic evidence panel to determine whether the man in the doorway was Oswald, Lovelady or someone else. Forensic anthropologists working with the panel compared the photograph with pictures of Oswald and Lovelady, and a photo-analyst studied the pattern of the shirt worn by the man in the doorway and compared it to the shirts worn by the two men that day. (119) Based on an assessment of the facial features, the anthropologists determined that the man in the doorway bore a much stronger resemblance to Lovelady than to Oswald. In addition, the photographic analysis of the shirt in the photograph established that it corresponded more closely with the shirt worn that day by Lovelady. Based on these analyses, the committee concluded that it was highly improbable that the man in the doorway was Oswald and highly probable that he was Lovelady.

The committee's belief that the man in the doorway was Lovelady was also supported by an interview with Lovelady in which he affirmed to committee investigators that he was the man in the photograph. (120)

(2) *Witness testimony.*—The committee also considered witness testimony as to Oswald's whereabouts immediately following the assassination. Three witnesses were particularly significant. Depository Superintendent Roy Truly and Dallas Police Officer M. L. Baker both entered the depository right after the shots were fired. They encountered Oswald on the second floor, and in testimony to the Warren Commission, they gave the time as 2 to 3 minutes after the shots. (121) A witness who personally knew Oswald, Mrs. Robert A. Reid, also a depository employee, testified to the Warren Commission that she also saw him on the second floor approximately 2 minutes after the assassination. (122)

The testimony of these three witnesses was mutually corroborating. Since all were outside the depository when the shots were fired, their statements that it took them about 2 minutes to get to the second floor were reasonable. (123) It appeared equally reasonable that in those same 2 minutes Oswald could have walked from the sixth floor window to the rear stairway and down four flights of stairs to the second floor.

The conclusion with respect to this evidence alone was not that Lee Harvey Oswald was the assassin, but merely that the testimony of these witnesses appeared credible and was probative on the question of Oswald's whereabouts at the time of the assassination.

5. LEE HARVEY OSWALD'S OTHER ACTIONS TEND TO SUPPORT THE CONCLUSION THAT HE ASSASSINATED PRESIDENT KENNEDY

The Warren Commission concluded that shortly after the assassination, Oswald boarded a bus, but when the bus got caught in a traffic jam, he disembarked and took a taxicab to his roominghouse. (124) The Commission also found that Oswald changed clothes at the roominghouse and walked about nine-tenths of a mile away from it before he encountered Dallas Police Officer J. D. Tippit. (125) After being stopped by Tippit, the Commission concluded, Oswald drew a revolver and shot Tippit four times, killing him. He then ran from the scene. (126) He was apprehended at approximately 1:50 p.m. in a nearby movie house, the Texas Theatre. (127)

The committee found that while most of the depository employees were outside of the building at the time of the assassination and returned inside afterwards, Oswald did the reverse; he was inside before the assassination, and afterward he went outside. That Oswald left the building within minutes of the assassination was significant. Every other depository employee either had an alibi for the time of the assassination or returned to the building immediately thereafter. Oswald alone neither remained nor had an alibi.

(a) *The Tippit murder*

The committee investigated the murder of Officer Tippit primarily for its implications concerning the assassination of the President. The committee relied primarily on scientific evidence. The committee's firearms panel determined positively that all four cartridge cases found at the scene of the Tippit murder were fired from the pistol that was found in Lee Harvey Oswald's possession when he was apprehended in the Texas Theatre 35 minutes after the murder.¹³ (128)

In addition, the committee's investigators interviewed witnesses present at the scene of the Tippit murder. (129) Based on Oswald's possession of the murder weapon a short time after the murder and the eyewitness identifications of Oswald as the gunman, the committee concluded that Oswald shot and killed Officer Tippit. The committee further concluded that this crime, committed while fleeing the scene of the assassination, was consistent with a finding that Oswald assassinated the President.

The Warren Commission had investigated the possibility that Oswald and Tippit were associated prior to the assassination, but it failed to find a connection. (130) Similarly, the committee's investigation uncovered no direct evidence of such a relationship, nor did it attribute any activity or association to Officer Tippit that could be deemed suspicious. The committee, however, did find and interview one witness who had not been interviewed by the Warren Commission or FBI in 1963-64. His name is Jack Ray Tatum, and he reported witnessing the final moments of the shooting of Officer Tippit. (131) Oswald, according to Tatum, after initially shooting Tippit from his position on the sidewalk, walked around the patrol car to where Tippit

¹³ Since Oswald's revolver had been partially modified to shoot different ammunition than the type it was manufactured to shoot, it was not possible for the panel to determine whether the bullets that killed Tippit were fired from it. The panel did determine that the characteristics of the bullets were consistent with their having been fired from Oswald's revolver.

lay in the street and stood over him while he shot him at point blank range in the head. This action, which is often encountered in gangland murders and is commonly described as a coup de grace, is more indicative of an execution than an act of defense intended to allow escape or prevent apprehension. Absent further evidence—which the committee did not develop—the meaning of this evidence must remain uncertain.¹⁴

(b) Oswald: A capacity for violence?

The committee also considered the question of whether Oswald's words or actions indicated that he possessed a "capacity for violence." The presence of such a trait would not, in and of itself, prove much. Nevertheless, the absence of any words or actions by Oswald that indicated a capacity for violence would be inconsistent with the conclusion that Oswald assassinated the President and would be of some significance.

In this regard, the committee noted that Oswald had on more than one occasion exhibited such behavior. The most blatant example is the shooting of Officer Tippit. The man who shot Tippit shot him four times at close range and in areas that were certain to cause death. There can be no doubt that the man who murdered Officer Tippit intended to kill him, and, as discussed above, the committee concluded that Oswald was that man.

Another example of such behavior occurred in the Texas Theatre at the time of Oswald's arrest. All of the police officers present—and Oswald himself—stated that Oswald physically attempted to resist arrest. (132) The incident is particularly significant, if, as some of the officers testified, Oswald attempted, albeit unsuccessfully, to fire his revolver during the course of the struggle.

Another incident considered by the committee in evaluating Oswald's capacity for violence was the attempted murder of Maj. Gen. Edwin A. Walker on April 10, 1963. The Warren Commission concluded that Oswald shot at Walker and that this demonstrated "his propensity to act dramatically and, in this instance violently, in furtherance of his beliefs." (133) Many critics of the Commission, however, dispute the conclusion that Oswald was the shooter in the Walker case. (134).

The committee turned to scientific analysis to cast light on the issue. As discussed earlier, the evidence is conclusive that Oswald owned a Mannlicher-Carcano rifle. The committee's firearms panel examined the bullet fragment that was removed from the wall in the home of General Walker and found that it had characteristics similar to bullets fired from Oswald's Mannlicher-Carcano rifle. (135) In addition, neutron activation analysis of this fragment confirmed that it was probably a Mannlicher-Carcano bullet. (136)

In addition, the committee considered the testimony of Marina Oswald, who stated, among other things, that Lee Harvey Oswald told her that he had shot at Walker. (137) Further, the committee's handwriting experts determined that a handwritten note that, according to Marina Oswald's testimony, was written to her by Oswald prior to the

¹⁴ The committee did verify from the Tippit autopsy report that there was one wound in the body that slanted upward from front to back. Though previously unexplained, it would be consistent with the observations of Jack Ray Tatum.

Walker shooting, was written by Oswald. (138) This undated note, although it did not mention General Walker, clearly indicated that Oswald was about to attempt an act during the course of which he might be killed or taken into custody. (139)¹⁵

The committee concluded that the evidence strongly suggested that Oswald attempted to murder General Walker and that he possessed a capacity for violence. Such evidence is supportive of the committee's conclusion that Oswald assassinated President Kennedy.

(c) *The motive*

Finding a possible motive for Oswald's having assassinated President Kennedy was one of the most difficult issues that the Warren Commission addressed. The Commission stated that "many factors were undoubtedly involved in Oswald's motivation for the assassination, and the Commission does not believe that it can ascribe to him any one motive or group of motives." (140) The Commission noted Oswald's overriding hostility to his environment, his seeking a role in history as a great man, his commitment to Marxism, and his capacity to act decisively without regard to the consequences when such action would further his aims of the moment. (141)

The committee agreed that each of the factors listed by the Warren Commission accurately characterized various aspects of Oswald's political beliefs, that those beliefs were a dominant factor in his life and that in the absence of other more compelling evidence, it concluded that they offered a reasonable explanation of his motive to kill the President.

It is the committee's judgment that in the last 5 years of his life, Oswald was preoccupied with political ideology. The first clear manifestation of this preoccupation was his defection to the Soviet Union in the fall of 1959 at the age of 20. (142) This action, in and of itself, was an indication of the depth of his political commitment. The words that accompanied the act went even further. Oswald stated to officials at the American Embassy in Moscow that he wanted to renounce his citizenship and that he intended to give the Russians any information concerning the Marine Corps and radar operations that he possessed. (143) In letters written to his brother Robert, Oswald made it clear that in the event of war he would not hesitate to fight on the side of the Russians against his family or former country. (144) The paramount importance of his political commitment was indicated in one letter in which he informed his family that he did not desire to have any further communications with them as he was starting a new life in Russia. It was also reflected in his attempt to commit suicide when he was informed he would not be allowed to remain in the Soviet Union. (145) In considering which were the dominant forces in Oswald's life, the committee, therefore, relied on Oswald's willingness

¹⁵ With respect to the Walker shooting, reports of the Dallas Police Department, made at the time of the shooting and referred to in the Warren Report, reflected that there was one witness who stated he saw more than one person leaving the scene after the shooting. Another witness, according to police reports, stated he saw two men, two nights before the shooting, driving in the vicinity of the Walker house in a suspicious manner. These statements were never substantiated, and the case remains unsolved. Nevertheless, if they are true, a possible implication is that Oswald had associates who would engage in a conspiracy to commit murder. The committee conducted a limited investigation to see if leads could be developed that might assist in identifying these possible associates. No leads were developed, and this line of inquiry was abandoned.

to renounce his citizenship, to betray military secrets, to take arms against his own family, and to give up his own life, if necessary, for his political beliefs.

Upon Oswald's return to the United States from the Soviet Union in 1962, although his fervor for that country might have diminished, his words and actions still revolved around ideological causes. Oswald made no attempt to hide or tone down his deep-seated feelings. He expounded them to those with whom he associated, even when they could be expected to be opposed. He subscribed to Marxist and Communist publications such as "The Worker" and "The Militant," and he openly corresponded with the American Communist Party and the Socialist Worker's Party. (146) His devotion to his political beliefs was cogently symbolized by the photograph, authenticated by the committee's photographic and handwriting panels, in which he is defiantly holding copies of "The Worker" and "The Militant" and his rifle, with a handgun strapped to his waist. (147)

His involvement in the Fair Play for Cuba Committee was another example of Oswald's affinity for political action. (148) This organization was highly critical of U.S. policy toward the Cuban government of Fidel Castro. Oswald not only professed to be a member of the organization, but he characteristically chose to become a highly visible spokesman. He corresponded with the national office, distributed handbills on the streets of New Orleans and twice appeared on a local radio program representing himself as a spokesman for the organization.

The committee fully recognized that during the course of Oswald's activities in New Orleans, he apparently became involved with certain anti-Castro elements, although such activities on Oswald's part have never been fully explained. (149) Considering the depth of his political commitment, it would not have been uncharacteristic for Oswald to have attempted to infiltrate anti-Castro Cuban organizations. (150) But the significant point is that regardless of his purpose for joining, it is another example of the dominance of political activity in Oswald's life.

A short time before the assassination of the President, Oswald traveled to Mexico City, where he went to the Cuban Consulate and indicated an intense desire to travel to Cuba and Russia. (151) Once again, it appears that Oswald was ready to leave his family and his country to fulfill a political goal. Precisely why Oswald wanted to go to Cuba or Russia is not known, but it was certainly of significance that he chose those particular countries, both of which are Marxist.

Finally, in considering the extent to which Oswald acted on behalf of his political beliefs, the Walker shooting also was relevant. As discussed above, the committee concluded that Oswald attempted to murder Major General Walker in April 1963. In the city of Dallas, no one figure so epitomized anticommunism as General Walker. Considering the various activities to which Oswald devoted his time, his efforts and his very existence, General Walker could be readily seen as "an ultimate enemy." It is known that Oswald was willing to risk death for his beliefs, so it is certainly not unreasonable to find that he might attempt to kill Walker, a man who was intensely opposed to his ideology.

In analyzing Oswald's possible political motive, the committee considered the fact that as one's position in the political spectrum moves

far enough to the left or right, what may otherwise be recognized as strikingly dissimilar viewpoints on the spectrum may be viewed as ideologically related. President Kennedy and General Walker hardly shared a common political ideology. As seen in terms of American political thinking, Walker was a staunch conservative while the President was a liberal. It can be argued, however, that from a Marxist's perspective, they could be regarded as occupying similar positions. Where Walker was stridently anti-Communist, Kennedy was the leader of the free world in its fight against communism. Walker was a militarist. Kennedy had ordered the invasion of Cuba and had moved to within a hairsbreadth of nuclear war during the Cuban missile crisis. Consequently, it may be argued that Oswald could have seen Walker and Kennedy in the same ideological light.

The depth and direction of Oswald's ideological commitment is, therefore, clear. Politics was the dominant force in his life right down to the last days when, upon being arrested for the assassination, he requested to be represented by a lawyer prominent for representing Communists. Although no one specific ideological goal that Oswald might have hoped to achieve by the assassination of President Kennedy can be shown with confidence, it appeared to the committee that his dominant motivation, consistent with his known activities and beliefs, must have been a desire to take political action. It seems reasonable to conclude that the best single explanation for the assassination was his conception of political action, rooted in his twisted ideological view of himself and the world around him.

