Concerning the so-called clerical error concerning People's 55 introduced at trial, Wolfer testified that he had handed over four test fired bullets to the Grand Jury (Grand Jury 5B) and had kept three test fired bullets (what Wolfer described as three bullets in better condition than the other four), and had put these three bullets in a unmarked coin envelope and placed the envelope in his desk drawer and locked it. Wolfer felt that for security reasons these three test bullets should be placed in his custody in an unmarked envelope until the trial. Wolfer stated in September 1975 that these three bullets remained in his custody until they were offered into evidence at trial. In the weeks preceding his 1969 trial testimony, Wolfer put the wrong serial number, from the subsequently destroyed second gun, on the coin envelope when he asked someone, whom Wolfer does not recall, the serial number of the particular Sirhan weapon.

On the other hand, the four test fired bullets introduced before the Grand Jury on June 7, 1968, which were also in an envelope, had the correct Sirhan gun serial number (53725). These four Grand Jury bullets, 5B, were found by the 1975 ballistics experts to have no distinguishing differences from the three test fired bullets introduced at trial, Exhibit 55.

Throughout the cross examination of Wolfer, Judge Wenke emphasized that the purpose of the examination was the identification of exhibits, which would assist the seven ballistics experts in their own test and examination. Wenke stressed that the manner and procedure of DeWayne Wolfer, in his examination in 1968, was not at issue. Wenke stated that the police personnel with whom Wolfer consulted and the reason for this consultation and examination was not to be a part of the ballistics examination procedings. However, the judge ruled that the experts should have information on the particular tests that Wolfer had conducted if these tests would be of any aid to the experts themselves.

Wolfer stated that he had put his initials D.W. in very small markings on the test fired bullets in 1968, but due to the deterioration and oxidation, he could find them in 1975 only with the assistance of a magnifying glass. Furthermore, Wolfer stated that he had no record or written notes to determine the rifling pitch, the markings or scars or indentations concerning the lands and grooves of the barrel, or the projection and pitch of the bullet from the barrel. Wolfer stated that he could not tell if the barrel revolver itself was in the same condition in September 1975 as it was in 1968.

Wolfer stated that one of the factors that made the actual identification of the Kennedy death bullet, People's 48, impossible was that the bullet had flattened out as it fragmented in the brain. As such, the bullet exploded in a fragmented and enlarged manner, causing it to look larger and flat. It was this particular problem, as reported in Robert Houghton's book (Special Unit Senator), that first gave criminalist William Harper a feeling that there were possible discrepancies in the ballistics evidence. In the book Special Unit Senator, Houghton had mistakenly described this death bullet as being .12 inches in diameter when in reality it should have been described as .12 millimeters in diameter. Harper felt that the transcription in the book stating .12 inches meant that a bullet of that size would be too large to have come from a .22 caliber revolver, and it was this statement that first gave Harper his interest in re-examining the ballistics evidence. It was determined, however, that Houghton's reference in the book concerned very enlarged photographs of the fragment from People's 48, thus causing the misconception of the actual diameter of the bullet. Even defense counsel, Grant Cooper, had commented at trial on the large nature of the bullet fragment in the photograph, (People's 49), of the bullet, (People's 48), and had been assured by prosecution attorneys that the fragment had been blown up several hundred times to account for the seemingly large diameter of the fragment.

Additionally, while under cross examination by the several lawyers, Wolfer essentially repeated the same testimony he had earlier given before the Grand Jury in 1968 and before the trial court in 1969, explaining the nature of ballistics and firearms identification. Since the purpose of this hearing was to serve as a guideline for the seven ballistics experts being assembled, Wolfer described how he had earlier reached the conclusion that the Sirhan gun and "no other gun in the world" had fired the evidence bullets.

Before the Grand Jury in 1968, Wolfer had testified that in order to read the markings on a bullet fired from a particular gun, and in order to determine which particular gun fired the bullet, it was necessary to check the specific barrel or rifling of the gun or revolver. This was because there are imperfections that scratch the bullet as the bullet crosses the imperfections within the barrel of the gun or revolver. Additionally, testified Wolfer, these imperfections produce in the bullet a series of valleys and ridges called lands and grooves. When a comparison test is made by taking an evidence bullet and a test bullet placed under a comparison microscope (two microscopes with one eye piece), it is possible to identify the particular lands and grooves and markings on the bullets. It is through this test mechanism that one can identify whether certain bullets have been fired from a certain barrel of a gun or revolver.

Wolfer also testified before the Grand Jury that the gold plating on the copper alloy bullets fired by Sirhan and also used by Wolfer for his own test fired bullets in 1968, was significant because this particular gold plating prevented the leading of the barrel by a bullet, which would tear the bullet if it did not have the particular gold plating. This plating kept the bullet from being unstable in flight. This was the nature of the mini-mag ammunition used by Sirhan and Wolfer.

Wolfer testified at the September 1975 hearing (as he had previously given statements to the press and to critics), that he was unable to use the Sirhan weapon for sound tests and muzzle tests. Wolfer stated that when he applied to use the Sirhan weapon for additional tests, he was told by representatives of the District Attorney's Office that the weapon was under the custody of the Grand Jury. And until the District Attorney's Office had a court order approved by Sirhan's new counsel, they would be unable to obtain the Sirhan weapon for additional tests.

In answer to the question why the eighth test fired bullet was never found, Wolfer replied that the particular bullet could not be found in the water tank where he had fired the Sirhan weapon (to obtain the bullets eventually identified as Grand Jury 5B and Trial Exhibit 55).

In discussing ceiling panels, Wolfer stated that he had found holes that had been made by fragments of fired bullets from Sirhan's weapon. These fragments had exploded, being hollow point mini-mag ammunition, and had split as they penetrated the ceiling tiles. Wolfer could not recall who else had looked at the holes in the ceiling tiles, or who else had participated in the x-ray analysis of the now destroyed ceiling tiles. Wolfer had removed the ceiling panels to the crime lab, but did not recall what other tests were made on the ceiling tiles. Wolfer did state that the ceiling panels in their entirety were three separate panels that reflected three bullet holes, the result of two bullets fired, one bullet entering and then ricocheting out, a second bullet entering and lost "somewhere in the inner space."

Additionally, Wolfer stated in addition to booking the ceiling panels, the L.A.P.D. had booked into the Property Division of the Criminalistics Laboratory two boards from a door frame. These boards containing circled holes were examined, and according to Wolfer, no bullets or fragments were found in the wood. These boards were the center divider pantry door frames, the object of much notoriety in several photographs of circled holes that appeared in periodicals for several years. These photos again surfaced in November and December 1975 as part of petitioner Schrade's motion for additional ballistics and trajectory tests.

Again, in June 1976, pursuant to the Freedom of Information Act, the FBI released 803 pages of its file on the Robert Kennedy assassination. On page 48 of the FBI report dated June 9, 1968, FBI photographer, Grinner, stated in his signed report (page 48) that there were "four reported bullet holes" in the area of the two swinging doors. Photographs of the swinging doors taken by Grinner to substantiate his one page report were included in the file.

However, no other reference is made to these "reported four bullet holes" in the other 802 pages of the FBI files. Special Counsel Kranz (although no longer a deputy District Attorney at the time) and District Attorney's Office investigators, interviewed FBI investigators who had conducted the 1968 assassination investigation, including Chief Deputy LaJeunesse in June and July 1976. No ballistics evidence or other references to Greiner's one page report were found to substantiate the report of photographer Greiner.

Additionally, District Attorney Van de Kamp thoroughly reviewed the 803 pages of the FBI report, and found no evidence to suggest that either four bullets had been fired into the circled and much photographed swinging doors, or that four bullets had been found in the vicinity of the swinging doors.

Concerning the sound and muzzle tests, Wolfer took hogs ears, closely approximating human tissue, for the purpose of powder pattern tests. Using the second .22 caliber revolver obtained from L.A.P.D. Property Division on June 11, 1968, he fired shots at given distances at approximate angles obtained from the autopsy report until he had a similar diameter circle which gave a tatooing, or powder particle effect, to determine the particular distance of the muzzle from the wound. It was from these tests that Wolfer determined the close range effect of the muzzle to the various wounds of Senator Kennedy.

Concerning the various circled holes in the pantry, particularly the circles on the wooden frames that had been removed, Wolfer replied that the police had circled every hole within the kitchen area as a matter of course. All holes and all possible indentations were examined, and Wolfer repeated that the only bullets found were the seven that have previously been described with their pathways and trajectories. Wolfer described that the police procedure had been to probe each of the holes looking for any possibility of expended shells or expended bullets. No tracings of any shells or bullets had been found in any of the particular holes circled in the kitchen area and the pantry area. During the investigation of the crime scene and during trajectory studies by the L.A.P.D., all ceiling panels and areas of wood that were determined to have possible bullets or bullet holes were seized and taken from the pantry for further analysis. However, the final analysis by Wolfer and the L.A.P.D. was that only eight bullets had been fired at the crime scene and that Sirhan had fired all eight bullets. Seven of these bullets were recovered, the eigth "lost somewhere in the ceiling inner space."

1975 Ballistics and Firearms Exhibit Tests and Re-examination

Court Order Issued to Seven Ballistics Experts

On September 18, 1975, Superior Court Judge Robert Wenke signed an 11-page court order calling for the retesting and examination of the ballistics and firearms exhibits. Included in the exhibits to be tested were the Sirhan weapon, and the evidence bullets and Wolfer test fired bullets, including the autopsy reports, and the packages containing Senator Kennedy's clothing.

The principal questions that the panel of seven independent firearms experts were asked to answer were:

1. Is the condition of the exhibits at the present time such that a reliable firearms identification can now be made?

2. If the exhibits are no longer in a condition which permits a reliable firearms identification, what accounts for that conclusion?

3. If a firearms identification can now be made, does such an examination confirm the original identification made at the trial of Sirhan?

4. Do the exhibits in any way support a conclusion that a second weapon was fired at the time of the assassination?

Included in this fourth question were the following questions:

a. Do all the bullets recovered after the assassination have the same number of cannelures?

b. Are the rifling angles of the bullets recovered after the assassination consistent with the proposition that each bullet was fired from the same gun?

The test procedures provided that each expert was to perform his own individual classical bullet comparison identification using a comparison microscope with a stereomicroscope. Finally, very detailed procedures were provided for in the court order which outlined the analysis of the various bullets and the procedures to be followed. Other more sophisticated and elaborate tests, such as micro measurements of the bullets, trace metal analysis, and powder residue examination, and the test firing of the Sirhan weapon were also provided for in the court order, if so agreed upon by the experts.

One important provision that would later become a subject during cross examination of the experts in November was a section of the court order, on page two, that provided that if the experts determined that additional exhibits in the clerk's custody required examination, they could seek a court order that such items be produced. However, during their 10-day examination, the experts never requested any other exhibits which might have gone to the issue of trajectories, bullet pathways, and so-called missing bullets.

Also, the court order provided that the use of the complete testing procedure as outlined in the order was adopted to arrive at as definitive a scientific determination as possible and to foreclose the necessity of similar scientific examinations in the future. This provision was also a significant point during cross examination of the experts, with all seven experts later admitting during cross examination that any additional tests would be either unnecessary or inconclusive. In the joint report issued by the experts after the test and examination, no additional test procedures were recommended.

Review of Facts and Disputes

The potential refiring of the Sirhan weapon received nationwide publicity, with underlying ramifications that perhaps a major conspiracy was about to be unfolded, and dramatic new discoveries which might lead to the disclosure of a second gun. Lost in this battle of words and accusations was the sevenyear overture to the ballistics examination. The orchestration of events, issues, allegations, suspicions, media happenings, and the resulting merger of myth and reality that surrounded political assassinations and conspiracy theories were all about to be crystallized in the ballistics tests and examination. In reality, this particular hearing had, for its foundation, the bare essentials that there had only been a few legitimate discrepancies and mistakes which justified the accusation that there were unexplained problems in the Sirhan case.

Basically and specifically, the underground press, the two gun advocates, and the national media had focused on a few problems that had been dramatized into various scenarios exaggerated on essentially the same theme. There had been the mismarked envelope, and the fact that the scientific evidence admitted before the trial court did not actually reflect that the Sirhan weapon fired the particular evidence bullets in People's 55. Additionally, two criminalists, William Harper and Herbert MacDonell, had expressed reservations, based primarily on photographs, and not through traditional examination through a classical comparison microscope, that People's Exhibit 47 and 54 did not match up, thus suggesting that two guns fired the two bullets. Additionally, MacDonell had advanced the theory that the cannelures on these two bullets were different, which also suggested two guns. Neither Harper, nor Lowell Bradford, ever raised the cannelure issue. Additionally, Harper had admitted that he still felt that there was "more work to do" and was not really sure that, without a comparison microscope, his examination was that valid. Finally, the fact that the conviction of Sirhan had been upheld by every appellate court in California and by the U.S. Supreme Court, and the fact that all of the most recent allegations regarding two guns, cannelures, mismarked envelopes, a possible security guard shooting his gun, additional "bullet holes," doorframes, AP photographs, and the like, had all been raised in a writ filed with the State Supreme Court in January, 1975, by Sirhan's attorney and promptly denied by the State Supreme Court in February, 1975, further emphasized that there was very little, if any, evidence to suggest any possibility of a second gun.

Nevertheless, due to the magnitude of the crime of the murder of Senator Kennedy, and the consuming public interest in the case, it was necessary that a thorough and complete ballistics examination be held. This was particularly evident after Assistant Police Chief Gates told of the destruction of ceiling panels and x-ray analysis reports. Additionally, the woeful lack of evidence reports and documentation concerning previous ballistics examination and trajectory studies, which had become evident during the examination of DeWayne Wolfer, made the forthcoming ballistics examination of the exhibits by the seven experts an event of crucial importance.

Robert Kennedy had been a major political figure, and his political assassination had worldwide impact. There were growing fears that the unexplaned destruction of potential evidence, and the lack of documentation, were part of massive coverups and conspiracies that could concievably involve the highest level of government officials. This was despite the fact that several people had actually seen Sirhan shoot Senator Kennedy and had so testified at trial. Additionally, no other witness had come forward and stated conclusively and substantially that a second person within the pantry had actually fired a gun.

Ten Day Examination and Testing of Exhibits

Amidst the accusations that the Los Angeles Police Department and the Los Angeles District Attorney's Office had deliberately, intentionally, and knowingly suppressed facts and evidence relating to the assassination of Senator Kennedy, (inherent in this accusation was the charge that a security guard, Thane Cesar, had fired his weapon, injuring or killing Senator Kennedy, the act being witnessed by KNXT news runner Donald Schulman and covered up by a monumental conspiracy involving the destruction of evidence, including ceiling panels, door frames, etc.), in this atmosphere seven independent, carefully selected ballistics experts assembled in late September, 1975, to begin their testing and examination of the exhibits and to respond to the court order of September 18th. Due to all the varying circumstances surrounding ballistics examination, and the nature and integrity of the exhibits to be examined, there was strong probability that the seven experts would reach inconclusive findings concerning a positive matchup and identification of the evidence bullets and test fired bullets to the Sirhan weapon. But such a finding of inconclusiveness, or inability to positively link the fired bullets with the Sirhan weapon, would not in itself have meant or indicated more than one gun had fired the bullets. That was the reason why the court order had been phrased to ask the significant question, "Do the exhibits in any way support a conclusion that a second weapon was fired at the time of the assassination?" This one particular question was perhaps the central point to the entire court order, (the wording of the order having been negotiated for five weeks by the more than 13 lawyers representing the various parties involved).

It must be emphasized that the seven experts themselves modified the original court order concerning test procedures. They felt that the court order was too restructive in that the original Wenke order gave specific legal guidelines. The seven experts agreed unanimously, through their spokesman and coordinator, Patrick Garland, that they would proceed with the test procedures according to their own manner of professional expertise. They followed the directives of the Wenke court order completely and impartially, and with exacting thoroughness. All the experts worked for well over a ten-day period, from 8:00 a.m. until 10:00 p.m. every night, relaxing only for meals and sleep. Their examination was conducted in jury panel rooms adjacent to Department 3 of Los Angeles Superior Court in the County Courthouse.

During the ten-day examination procedure, the experts examined 23 special exhibits that had been requested in the original CBS and Schrade petitions filed in August 1975 for examination, inspection, and testing of exhibits. Additionally, Balliscan photographs from the Baxter Ward 1974 Hearings were made available to the experts. The transcript of the September 1975 examination of DeWayne Wolfer relative to documents and records pertaining to his 1968 examination were also made available to the experts. One of the ballistics experts, Charles Morton, took microphotographs of the bullets for bullet comparisons. These photographs, numbered 43 in total, were comparisons of several of the original 1968 evidence bullets, 1968 Wolfer test fired bullets, and the experts' 1975 test fired bullets.

As part of a subsequent court order during the actual ten day test and examination procedure, the seven experts requested permission to examine all photographs and negatives of the exhibits that had previously been made by William Harper in 1970 and under the direction of Thomas Noguchi in 1974 for the Baxter Ward Hearings. During a subsequent court examination of the procedures used by the ballistics experts, it was revealed that there were no documents or records supplied by the County Clerk's Office, or the Coroner's Office, or the Supervisor's Office, that could actually identify the number of photographs taken, or a positive identification of the particular photographs given to the seven experts. It was revealed during this October, 1975, court examination that Balliscan camera photographs had been taken of several bullets for the 1974 hearings, that each photograph represented two rotations of the Balliscan camera. It was admitted by representatives of the County Clerk's Office and of the Coroner's Office on cross examination that the Balliscan camera technique used in the 1974 hearings was a fine focused camera, but subject to the problem of continuous balance to obtain an exact identification photograph. The slightest "wibble-wobble" of the camera would have the effect of having a miniscule differentiation in focus. It was admitted by the Coroner's Office representatives that it was not possible to totally eliminate the effect of a "wibble-wobble" from photographs taken by the Balliscan camera, the very photographs used in previous hearings, and supplied to the experts in 1975 as assistance in their identification of the several exhibits.

Essentially, the greater the "wibble-wobble" effect of the camera, the more potential of an out of focus photograph. Additionally, it was admitted on cross examination by a representative of the County Coroner's Office, that he could not positively identify in 1975, looking at the photographs given the experts, whether those photographs reflected the particular exhibits that had been photographed in 1974 for the Ward hearings. It also was admitted that even though prints of Bullet 47 and Bullet 54 were made for the 1974 hearings, the representative from the County Clerk's Office could not recall if other prints had been taken of the other bullets in question. Deputy District Attorney Bozanich felt that the possibility of supplying photographs to the 1975 ballistics experts of Bullets 47 and 54, without any other photographs of the other evidence bullets and Wolfer test fired bullets, could have the effect of prejudicing the experts in their conclusions reached during their examination. In this sense, Bozanich argued that a neutral scientific inquiry, the very objective outlined in the Wenke court order, would be lessened by a failure to include all photographs that had been previously taken and used as part of the escalating controversy concerning the bullets and exhibits. This was certainly not done, as only a very limited number of photographs concerning a very limited number of bullets were supplied to the experts.

Ballistic Experts' Opinion: No Second Gun

On October 6, 1975, after a ten day thorough examination and test procedure in response to the court order of Judge Wenke and after test-firing the Sirhan weapon and obtaining eight test bullets on September 26, the examiners, working independently, submitted their comprehensive joint report and conclusions. The seven examiners found that there was "no substantive or demonstrable evidence to indicate that more than one gun was used to fire any of the bullets examined." It must be emphasized that the term "any of the bullets examined" meant, as specified in the original petitions filed in August, 1975, and incorporated in the attorneys' agreement and court order for examination by the experts, all evidence bullets obtained from Senator Kennedy and the victims' bodies, two spent bullets found on the front seat of Sirhan's car the day following the assassination containing wood fragments, the spent bullet removed from the glove compartment of Sirhan's car, and the expended bullet removed from Sirhan's pocket at Rampart Division hours after the shooting. Additionally, the term "any of the bullets examined" also included the seven recovered 1968 Wolfer test fired bullets, and the eight recovered 1975 test fired bullets.

Cannelures

Additionally, the seven experts specifically answered two troublesome questions that had surfaced in the past several years, the Herbert MacDonell allegation concerning cannelures and the William Harper allegation concerning rifling angles. The experts found that People's Exhibit 47, the Kennedy wound bullet, had two cannelures. Thus the number of cannelures on People's 47 were the same as the number of cannelures on People's 54. The same number of cannelures, two, were found on all other bullets examined. These two cannelures on all bullets reflected the same make of ammunition, CCI .22 caliber long rifle, copper coated, hollow point bullets.

Rifling Angles

Secondly, the seven experts found that preliminary rifling angle measurements did not disclose any significant differences in rifling angles between Exhibits 47 and 54. In subsequent cross examination of the several experts, only Professor Turner of Michigan State University felt that he would like to pursue the study of rifling angles as an academic inquiry. All other experts felt that the matter had been settled, and thus the original questions raised by criminalist Harper concerning rifling angles appeared to have been settled. Additionally, after the test results were revealed in early October, and prior to cross examination of the several experts in November, the several attorneys submitted a letter to William Harper, signed by their spokesman, Assistant Chief Deputy County Counsel Robert Lynch, asking Mr. Harper to submit any questions that he might have concerning the experts' examinations and findings. His questions (Harper's) would be asked the several experts by Judge Wenke. Inherent in this request of Harper was that opportunity was being given to Harper to submit his comments and suggestions concerning the area of rifling angles, and what subsequent investigations Harper felt the experts should pursue concerning the subject of rifling angles. Harper, in a transcribed statement before attorney Robert Lynch, made a very short statement, and said he did not wish to make any further inquiry into the matter of rifling angles at that time.

Failure to Link Bullets to Sirhan Gun

Additionally, the comprehensive joint report of the experts filed on October 6, stated that it could not be concluded that the three identifiable evidence bullets, exhibits 47, 52, and 54 (the Kennedy, Goldstein, and Weisel bullets) were fired from the Sirhan revolver. The reason for this, stated the experts, was that there were insufficient corresponding individual characteristics on the bullets to make an identification. This was because of the poor reproductability of striations left on the evidence bullets and the consecutively fired test bullets. And this poor reproduction of striations, concluded the experts, could be attributed to the following factors:

(a) barrel fouling (leading);
(b) copper alloy coating of the bullets;
(c) impact damage and distortion;
(d) cylinder alignment;
(e) possible loss of fine detail over intervening years.

No Additional Tests Recommended

Finally, the experts concluded their joint report by stating that they made no recommendations for additional types of testing of the physical evidence in the case. This final statement of the experts was to become a point of controversy in the subsequent cross examination of the experts. The essence of their conclusion was that, with the exception of Ralph Turner, who wished to pursue the rifling angle issue from an academic standpoint, none of the experts felt, and so later testified during cross examination, that any additional tests or procedures would be conclusive. All experts felt that after ten days exhaustive testing and examination, they had reached a point of diminishing returns, and with respect to the emphatic sentences in the original court order (that gave the experts the right to seek further court order for additional exhibits to be produced if such exhibits would be helpful, and the court directive that the experts were to arrive at as "definitive, scientific determination as possible and foreclose the necessity of similar scientific examination in the future,") the experts felt that they had satisfied the court directive.

Reaction of Critics Following Joint Report Issued by Panel Experts October, 1975

The issuance of the comprehensive joint report filed by the seven ballistics experts received nationwide publicity that there was no evidence of a second gun being fired in the pantry. At that time, most of the parties involved, and their respective counsel, seemed satisfied that the issue had been concluded. However, upon lengthy studies of the working papers of the ballistics experts, some of the original advocates of the two-gun theory began to express their doubts in public. Dr. Robert Jolling, the president of the American Academy of Forensic Sciences, held a press conference with Paul Schrade, Allard Lowenstein, Attorney Mel Levine, and other critics, and stated that the media had jumped the gun in emphasizing that there had been no second gun. To Jolling, Lowenstein and Schrade, in particular, they felt the ballistics panel had not concluded that only one gun, and no other gun was fired in the pantry. Jolling, satisfied that the cannelure question had been finally answered, asked that further research be done concerning the issue of rifling angles of the gun barrel. Jolling was particularly critical of L.A.P.D. criminalist DeWayne Wolfer, and felt that Wolfer had committed mistakes during his 1968 analysis and examination. Specifically, at the September hearing, Wolfer had identified a photomicrograph taken on June 6, 1968, as consisting of two separate negatives representing the Kennedy bullet Exhibit 47 and a test bullet. These negatives were, in fact, as verified by the seven experts, the Kennedy bullet, Exhibit 47, and the Goldstein bullet, Exhibit 52. Additionally, Jolling recommended that additional tests be conducted in an area beyond traditional ballistics and firearms examination. Jolling felt that no definite conclusions had been reached, and there was still a need for:

1. photo-grametric reconstruction of the scene;
2. a re-examination of the bullet pathways;
3. a determination of the minimum and maximum number of bullets fired within the pantry;
4. a test firing into comparable ceiling panels suspended below like concrete material similiar to that found at the Ambassador Hotel so as to scientifically determine the ricochet potential of .22 caliber hollow-point, copper coated, mini-mag ammunition.

Admitting that there was no substantive evidence to date to suggest that a second gun was involved, Jolling still felt such conclusion neither excluded nor included the possibility of a second gun. Jolling admitted that there had been similar class characteristics found in the Kennedy, Weisel, and Goldstein bullets, and that these bullets were identified and matched to each other. Jolling ignored the fact that five of the seven experts were able to link these three particular bullets as being fired from the same gun. Jolling also ignored the fact that the other two experts did not express any opinion contrary to that expressed by the other five experts. These two experts stated they could not make a 100% positive determination matching these three bullets with having come from the same gun.

Special Counsel Kranz made an appointment that very week with Allard Lowenstein, one of the most severe critics and advocates of the two-gun theory. Lowenstein expressed his interest in pursuing the rifling angle theory, and a fear that there may have been substitution of bullets during the preceding years prior to the 1975 ballistics tests. Lowenstein also felt that there existed the possibility that identifiable gouge marks had been put on the bullets as part of a conspiracy to perpetuate the "coverup." Lowenstein had no evidence to substantiate this charge. Lowenstein also suggested that the recommendation inthe joint report that the experts make "no recommendation for additional tests" actually meant that the experts were waiting for additional instructions from the court to conduct additional tests. Lowenstein seemed to ignore the very specific directive in the September 18th court order instructing the experts to request any and all exhibits that they felt necessary to conduct their experiments, and the fact that other more sophisticated tests, such as micromeasurement of the bullets, trace metal analysis, and powder residue composition analysis had been provided for in the court order. Finally, a directive of the court stated in paragraph 2 of page 2 was that the procedure outlined and given to the ballistics experts had been adopted to "arrive at as definitive a scientific determination as possible and to foreclose the necessity of similar scientific examinations in the future."

In later cross examination of the experts, all experts stated positively and clearly that they felt they had reached a point of diminishing returns to conduct any future tests. This was due to the nature of the exhibits, and the lack of thorough identifying marks which foreclosed the usefulness of any additional tests. Additionally, all the experts stated that they felt there was no need to recommend any additional tests and this had been the intent of the final paragraph in their joint report filed with the court October 7, 1975.

Lowenstein also expressed his concern that Wolfer may never have actually test fired the Sirhan weapon and may never have matched up the bullets. Technically, Wolfer had testified that he had only taken one of the seven test fired bullets recovered from the water tank in 1968 and matched it with the evidence bullets. When asked by Kranz if Lowenstein agreed that three of the seven experts positively matched up the three victim bullets with one gun, and two more did so by inference, Lowenstein replied in the affirmative. Finally, Lowenstein expressed his opinion that the photographs taken by Lystrup for the Baxter Ward Hearings in 1974 would show that the gouge marks were not present at the time of the photographs, and therefore, such gouge marks must have been substituted on the various bullets after May, 1974. However, this appears to be contradicted by a close analysis of the photomicrograph taken by DeWayne Wolfer in 1968, which shows the identifying characteristic of the so-called gouge mark. Additionally, the Harper photographs taken in 1970, on close examination, also reveal the so-called gouge mark.

In the several days following the release of the joint report of the ballistics experts, Special Counsel Kranz met with several of the critics and two-gun advocates. In essence, their position could be simply stated that there had been no proof that a second gun had not been used. Stated in another way, the experts had not, by stating there was no evidence of a second gun, positively stated that only one gun had been fired. In support of their attempt to ask the experts to prove a negative, the critics had cited the fact that the victim bullets had not in themselves been identified as being fired from the Sirhan gun and "no other gun in the world." Additionally, the critics felt that Exhibit 55 (the three test bullets entered as exhibits at the trial) and Grand Jury 5B (the four Wolfer test-fired bullets) had not actually been matched specifically with each other or identified with other evidence bullets taken from the victims at the crime scene. Additionally, Lowell Bradford issued a press release stating "the firearms evidence does not in and of itself establish a basis for a two-gun proposition; likewise, this same proposition, on the basis of other evidence is not precluded either." The other evidence suggested by Bradford:

(a) "witness statements that another gun was being fired in the Ambassador;

(b) bullet pathways contradictory to the direction from which Sirhan was firing;

(c) suspicion or speculation that more than eight bullets had been fired."

Special Counsel Kranz met with Ted Charach in the days following the release of the joint report and Charach was convinced that the experts had totally contradicted DeWayne Wolfer. Charach felt that Wolfer had never actually fired the Sirhan weapon in the test firing, even though all the experts were able to identify similar gross characteristics on all of the bullets, including the Wolfer test-fired bullets. Charach was critical of Wolfer for having testfired copper coated bullets, since the cooper had been easily destroyed and the bullets had not been easily identified. However, Sirhan himself had fired copper coated bullets at the particular crime, and it can be assumed that Wolfer was trying to get an analysis from similar ammunition.

Critic Lillian Castellano, always a believer that the bullets found in the glove compartment of Sirhan's automobile near the Ambassador Hotel had been removed from wood paneling inside the pantry and placed in Sirhan's car, was interested in pursuing the fact that People's Exhibit 38 (the bullets found in the Sirhan car) had been found to have some wood samplings on the bullets. These bullets were also examined by the examiners, and found to have similar characteristics as all other bullets. The wood samplings were not identified as to their origin. The bullet found in the pocket of Sirhan at the time of his arrest was identified as being a federal manufactured bullet with one cannelure, a bullet of different manufacture from the bullets found in the Ambassador Hotel.

Journalist John Newhall had asked that a question concerning People's 48 be resolved, the fact that several of the experts had only been able to identify three of four cannelures on the bullet that actually murdered the Senator. However, upon closer investigation, it was determined that all examined bullets had four cannelures, two knurled, and two grooved cannelures. Since this bullet, People's 48, had been heavily fragmented on contact within the brain, it was only possible to identify three cannelures. Upon careful microscopic examination, the other experts agreed that there had been four cannelures, but that only three were visible on People's 48 due to the fragmentation.

Cross Examination of the Experts

Aside from the remaining skeptics and critics, most of the other parties and counsel involved in the petitions before the court seemed willing to let the matter rest, and were indifferent, if not actually opposed, to any further court hearings and re-examinations of the ballistics experts. However, as provided in the original court order signed by Judge Wenke, and as constantly stressed by the District Attorney's Office as a mandatory part of any fair and judicious court hearing, cross examination of the experts was necessary. District Attorney Van de Kamp instructed Special Counsel Kranz to petition the court so that the seven experts could be recalled for thorough cross examination. Van de Kamp stated that he could understand why many felt the matter was closed since the experts had agreed in essence that only one gun fired the ballets, and since many of the parties to the case and other concerned people had presumably lost interest in pursuing the issue. Van de Kamp stated that before the matter was closed, "I think it's important that those witnesses are tested in a traditional adversarial setting. The pursuit of the truth is the goal of the court. And it is the goal of the District Attorney's Office also."

The District Attorney's Office became the petitioner before the court and requested that the seven experts be recalled for thorough cross examination. Additionally, the District Attorney's Office requested the postponement of any cross examination of the experts until petitioner Paul Schrade was able to obtain new counsel, namely Allard Lowenstein and Vincent Bugliosi.

"Additional Tests"

During the lengthy and thorough cross examination, the several experts stated that they felt nothing further could be added by any further analysis or sophisticated tests, especially lead and gun powder examination. A neutron activation analysis, as so often requested by some of the critics, would in the opinion of Courtland Cunningham, be of limited value due to the condition of the several bullets. Additionally, several of the experts felt that since there were minute differences in the dimensions among the manufacturers of .22 caliber barrels, any bore diameter and rifling analysis, and any micromeasurements of the bullets, might be conclusive only as to differences in barrels. They argued that since there was always a slight difference in the manufacturing of ammunition, a neutron activation of the lead would not be conclusive as to any identification. This was because neutron activation dealt with the tiniest of fragments.

In the matter of chemical tests, the experts felt that these would be inferior to any neutron activition test. A trace metal analysis of the bullet lead could be of value in certain cases, but in the case at hand, the experts felt that in dealing with the type of hollow point explosive mini-mag ammunition, it would not be useful.

The panel did not positively rule out the possibility of a second gun. But they all felt that they had never been asked to make an examination as to the number of shots fired, the number of bullet holes, or trajectory studies. The experts seemed reluctant to even discuss these issues on cross examinations. Several did state that given particular new evidence and factual situations where such studies could be positively made, they might be inclined to see the need for further tests. But the opinion of most of the experts was that nothing of a conclusive nature could be established by further testing. Essentially, additional tests would not solve the question of which bullets had caused which holes, and would not in any way answer any of the more elaborate trajectory requests to determine if there had been more bullets fired.

Petitioner Schrade's attorneys argued in favor of neutron activation tests to determine the metallic constituencies of bullets since each batch of lead contained a certain alloy. They argued that if the particular lead bullet did not match up, and had a different form of element, there would be a reasonable inference of a second gun. However, the experts felt that even if the metallic constituencies of the several bullets did not match up, there was no real relevancy to this due to the fact that several of the bullets coming from Cascade copper-coated brand might have different metallic constituency in their alloy. Finally, the experts stated there was a limit to a test since it never really would determine whether the Sirhan gun had fired the bullets. It would only be an analysis to determine what type of ammunition had been used. The experts concluded such a test would never actually link the bullet to the Sirhan weapon because the bullets would always have some form of different constituency. A neutron activation test would be helpful only in cases where the actual weapon had been lost or destroyed.

December 1975 Petition by Paul Schrade For an Order to Compel the Testimony of Witnesses, To Examine Public Records and Conduct Further Scientific Tests

After the final cross examination of the seven ballistics experts, petitioner Schrade, through his new attorneys Allard Lowenstein and Vincent Bugliosi, petitioned Judge Wenke for the opportunity to have the testimony of several percipient witnesses, namely L.A.P.D. Officers Robert Rozzi, and Sgt. Charles Wright and witness Angelo DiPierro, given in court as to the possibility that they had seen "apparent bullet holes" in the Ambassador pantry on the night in question. Additionally, Schrade's new petition requested the court for:

(1) an exterior ballistics examination to determine the flisht path of the bullets from the moment they left the muzzle until they reached their ultimate place of rest, and

(2) a spectographic and neutron activation analysis of the recovered bullets to determine their metallic constituency.

Inherent in the new petition filed by Paul Schrade was the argument that percipient witness testimony (the witnesses being the police officers and Angelo DePierro) would establish that there had been "apparent bullet holes" in the kitchen pantry, which would indicate more than eight bullets were fired. Additionally, an Associated Press photograph of the police officers pointing toward a hole, and a photograph of two circled holes on the center wall divider, (two swinging doors) were attached as exhibits in the petition calling for new tests. Petitioner Schrade suggested in his December, 1975, request for further tests that the previous ballistics examinations had only narrowed but not removed the area of doubt. Schrade and his attorneys agreed that the question concerning cannelures had now been settled, and they admitted that the striations and bore impressions on People's 47 did match up, according to five of the experts, with People's 52 and 54. But to Schrade and his attorneys, a central underlying question still remained and this question was whether all of the victim bullets had been fired from the Sirhan gun. They emphasized that not one of the seven ballistics experts had positively and conclusively connected any of the victim bullets with the Sirhan gun. Petitioner Schrade stated that the firearms examination had been "conclusively inconclusive on the issue of a second gun."

The statements of the two officers, and the other percipient witnesses, contained statements that had never been made or even suggested to investigating officers during 1968, and were now offered for the first time in 1975. However, these statements in the filed petitions concerning door holes, that "looked like bullets," were contradicted by written statements taken by Special Counsel Kranz and District Attorney investigators from the L.A.P.D. officers, Angelo DePierro, and the A.P. wire photograph editor in December, 1975.

Arguments against any further examination were made before Judge Wenke by Deputy District Attorneys Bozanich and Kranz and Deputy Attorney General Russell Iungerich. These arguments essentially stated that the original requests, as filed in the August petitions of Paul Schrade and CBS, had been followed, and that the court lacked juridsiction to move into an area of independent investigation. Furthermore, since the court only had jurisdiction over exhibits filed with the trial court and under the jurisdiction of the Los Angeles Superior Court and County Clerk's Office, it was argued that the request in the new petition filed by Schrade and his attorneys concerned matters not under the jurisdiction of the trial court. Moreover, the ballistics panels testimony, both in working papers and on cross examination, revealed that the seven experts had been thoroughly satisfied that they had exhausted every possible ballistics examination and test procedure to answer the original questions requested by petitioners Schrade and CBS. Therefore, any pursuit of the hearings and examination would be frivolous, and contrary to the original purpose of the court order for testing and examination of the exhibits. Additionally, Deputy Attorney General Iungerich charged that petitioner Schrade wanted to use the court as a "roving commission," and Iungerich felt that the objective of the new petition was to create doubt and not eliminate it. Finally, stated Iungerich, "Some individuals have demonstrated an insatiable appetite to pursue a red herring at taxpayers' expense when any rational human being would concede this hearing had gotten to the bottom of it. There is no doubt that Sirhan acted alone."

Deputy District Attorney Bozanich argued that any and all allegations concerning the Sirhan prosecution should always be presented, and decided, within the judicial process. While cautioning petitioner Schrade on the question of jurisdiction, Bozanich argued that judicial authority, as to jurisdiction over the subject matter, was not contingent upon the desires of the prospective litigants to be in or out of court. Bozanich stated that both the court and counsel of record had an obligation to consider the existence of or lack of jurisdiction over the subject matter raised by the particular litigation. And since the original Schrade petition had been an examination of exhibits within the custody of the Superior Court (a request made pursuant to the contention that the exhibits within the custody of the court, in and of themselves, suggested or established that two guns had been used at the scene of the assassination of Senator Kennedy) therefore, the Superior Court had jurisdiction over the Discovery proceeding recently concluded. However, concluded Bozanich, the fact that the District Attorney and other counsel of record agreed to the principle of testing, examination and inspection of exhibits within the jurisdiction of the court, could not in and of itself confer jurisdiction on exhibits not under the custody of the Superior Court. Therefore, to introduce testimony concerning new areas of trajectory and ballistics would go into an area of jurisdiction that neither the District Attorney's Office, nor counsel of record, nor the court itself could confer. "Simply stated," said Bozanich, "the new Schrade petition filed in December completely avoided the question of jurisdiction."

Finally, it was argued that since Schrade had already filed a civil personal injury action against Sirhan and others, this would be the appropriate forum for considering new petitions. Such a request for new discovery procedures of the police officers and other witnesses would fall within the normal and ordinary course of that litigation.

On February 5, 1976, Judge Wenke ruled on the new petition filed by Paul Schrade and ordered that Schrade's petition to compel the testimony of the percipient witnesses, examine public records, and conduct further scientific tests be denied. The judge reasoned that the entire six month proceeding had been most unusual. However, stated Wenke, it was never contemplated that the court would make a decision in the conventional sense, such as a finding of guilt or innocence or an award of damages. Rather, reasoned the judge, it had been a Discovery proceeding wherein the petitioners had sought to elicit certain information. Wenke cautioned that there had been a misconception throughout the entire proceeding about the court's role in the matter. It had been reported that the court was conducting an investigation. Wenke strongly stated that this was and is not the fact.

"This court," stated Wenke, "has taken the position that there is a legitimate public interest in the subject matter of the proceedings. It recognized that the physical evidence is under the control of the court and that any examination of same would have to be conducted under the court's supervision so as to insure the integrity of the exhibits. The panel reports were incident to the examination and, accordingly, it appeared to be appropriate for the court to oversee the oral presentation of same."

But Wenke cautioned that the new petition filed by petitioner Schrade sought something far different. If granted, stated Wenke, the court would then be undertaking an active investigation. "Investigations are conducted by police, District Attorneys, Grand Juries, and other agencies, but not by courts. It is true that where a possible contempt of court is involved, that courts on occasion undertake investigations on their own initiative. However, what petitioner seeks does not fall within that limited exception."

Wenke then concluded that petitioner Schrade has filed a civil action arising out of the events involved. And since California law is liberal respecting a litigant's right to discovery, the petitioner has the opportunity to call witnesses and secure their testimony under oath, and to obtain copies of certain documents, and request neutron activation and spectograph tests of certain exhibits. Concerning the necessity of obtaining a court order for any neutron activation and spectograph tests, Wenke stated that the court was of the opinion that the probability that the results of such tests would be helpful was very slight. Therefore, the court declined to proceed with the petition for neutron activation and spectographic tests. However, concluded Wenke, if the petitioner diligently pursued his right to discovery in his civil action, the court would be willing to reconsider its position as to further testing. The court then denied petitioner Schrade's motion for further tests and his motion to examine witnesses.

S E C O N D S E C T I O N

OPINION

COMMENTARY BY KRANZ ON FIRST SECTION AND CONSPIRACY THEORIES

ANALYSIS

INVESTIGATIONS

RECOMMENDATIONS

CONSPIRACY THEORIES, INTERVIEWS AND INVESTIGATION

In light of the fact that the assassination of Robert Kennedy was one of several tragic political murders and shootings that have occured in this country in the past decade, and in light of continued acts of terrorism and intrigue linking various intelligence agencies with acts of violence throughout the world, it is understandable that every conceivable theory about the murders of President John Kennedy and Senator Robert Kennedy has arisen. Additionally, both men were brothers, committed to a political philosophy and governmental policy that can be described as liberal and progressive. It is also understandable that both men, through their charismatic personalities and emotional following, generated considerable distrust, suspicion, and hostility among many people. Furthermore, the tragic occurance in Dallas, the fact that Lee Harvey Oswald never stood trial, the rather strange deaths of a Dallas police officer, and Jack Ruby, and the subsequent revelations concerning American foreign policy and American intelligence agencies during the Administration of President Kennedy, all have added a cloud of distrust and suspicion concerning death of President Kennedy. It is therefore understandable that a strong degree of suspicion exists that similar unresolved questions concerning the death of the President's brother, Senator Robert Kennedy, remain to be answered.

However, it is the opinion of Special Counsel Kranz that there is no evidence of any nature, either scientific, circumstantial, or inferential to suggest that the defendant, Sirhan Sirhan, did not act alone. He was the one assassin, who carried one gun, with eight bullets fired from his revolver. Sirhan was observed shooting by several eyewitnesses, and stood trial and was found guilty by a jury, with the decision upheld by all the appellate courts of California and the United States Supreme Court. A subsequent ballistics hearing scientifically linked up all bullets to only one weapon, thus underscoring eyewitnesses and other evidence. This is a marked difference from the situation in Dallas where the alleged perpetrator of the assassination, Lee Harvey Oswald, never stood trial and many questions still supposedly remain open.

In an era of media sensationalism, where the merger of myth and reality contributes to an instantaneous feedback of the bizarre to the public consciousness, it should be emphasized that all leads and investigations concerning possible conspiracies involving Sirhan were followed by every intelligence agency and law enforcement agency working on the case. None of these investigations ever, in any way, suggested that Sirhan was involved in a conspiracy, or working with others in the assassination of Senator Kennedy. Despite the fact that the subject matter of conspiracy and political assassinations has become a new form of entertainment, both in the tabloid press and in media talk shows, this so-called assassination fever must be kept in the right perspective.

In the opinion of Special Counsel Kranz, despite the inadequate ballistics evidence in the Sirhan case, the L.A.P.D., and other law enforcement agencies, including the F.B.I. and the District Attorney's Office, did an excellent and thorough investigation of whether Sirhan was part of a conspiracy.

Over 6,000 witnesses were interviewed from the moment of the shooting up until the final date of this report. Additionally, it is the District Attorney's Office policy that, as in all cases under its jurisdiction, any new sufficient, significant and reasonable evidence that will contradict the fact that Sirhan acted alone, will be diligently followed and pursued. It should be stated that there have been separate investigations and reviews of the Sirhan evidence, and interviews with several eyewitnesses and persons with alleged evidence regarding conspiracies, almost every year in succession since the shooting in 1968. Many of the more sensational personalities and aspects of this case will be reviewed at this time. Additionally, Special Counsel Kranz will offer his personal analysis and conclusions concerning the several public agency investigations and court hearings relative to the Sirhan case.

It is Special Counsel Kranz's opinion that law enforcement agencies conducted thorough and excellent investigations and interviews concerning the subject of possible conspiracy, and the personal history and background of defendant Sirhan. It should be emphasized that at the conclusion of the trial and conviction of Sirhan in May 1969, facts in the case, particularly the defendant's own statements and admission of guilt both before and during trial, seemed to indicate defendant Sirhan was the one gunman, acting alone, and was justly convicted of first degree murder. At that time, no question had arisen in either the public media or even the underground press alleging any nature of conspiracy or cover-up, other than a few unrelated charges concerning a lady in a "polka dot dress", and the appearance of rather bizarre characters with "new leads on Sirhan's background and activities during the days prior to the shooting of Senator Kennedy." (These allegations will be discussed in later sections of this report.)

It was not until 1971, when encouraged by the accusations made by attorney Barbara Blehr, the complaint filed by Godfrey Isaac and Ted Charach, and the resulting Civil Service Commission Inquiry into the procedures conducted by criminalist DeWayne Wolfer, that public interest in the Robert Kennedy assassination became more pronounced.

The underground press, particularly the L.A. Free Press, and other periodicals, had seized upon the allegations in Mrs. Blehr's letter, the "findings" of criminalist William Harper, and the apparent mistakes of DeWayne Wolfer, and in a continuing chorus, called for a re-opening of the Sirhan case. Some of the more frequently heard charges were that there had been a plot, either left-wing or right-wing oriented, business or mafia supported, C.I.A. - F.B.I. - Pentagon planned, and related to Zionist, Third World, or occult forces all intent upon the assassination of Robert Kennedy. New charges of conspiracy and cover-up were heard, particularly in light of supposed eyewitnesses and participants who had been present in the pantry on the evening in question.

Thane Eugene Cesar, Don Schulman, Ted Charach

One of the most persistent stories that emerged in 1971, and has been in vogue for several years, was that a witness, never called to testify at trial, had stated minutes after the pantry shooting that he had seen a security guard fire a gun at the time Senator Kennedy was shot. Moreover, this statement by Donald Schulman (KNXT-TV Newsrunner on duty at the Ambassador June 4, 1968) had been taped by a news service, published in several newspapers, and by 1971, was incorporated in a film, "The Second Gun - Who Killed Robert Kennedy", made by investigative reporter Ted Charach. The echoing accusation was made that the security guard, Thane Eugene Cesar, (Ace Guard Service employee hired along with seven other guards by the Ambassador Hotel for security the evening of June 4) had shot his weapon, and that bullets from Cesar's gun, and not Sirhan's, had actually struck and killed Kennedy.

The discovery of the mismarked bullet evidence by Wolfer (the fact that bullets from the Sirhan weapon had not been legally connected to the weapon at trial), and the fact that the bullet that actually killed Kennedy, People's 48, was so damaged and fragmented that it was impossible to ever scientifically link the murder bullet to any weapon, all added fuel to the growing controversy.

During the past eight years, Schulman has been interviewed by the press and by representatives from various law enforcement agencies, concerning contradictory statements he made during the minutes following the shooting of Senator Kennedy. There is some confusion as to Schulman's exact physical location, in or out of the pantry, at the time Sirhan started firing.

In an interview with Special Counsel Kranz in October 1975, Schulman recalled that he had been behind Kennedy at the time of the shooting. Within minutes after Schulman was able to leave the pantry, he was approached by his friend, Continental News Service reporter Jeff Brent. Shoving a tape recorder at Schulman, Brant asked Schulman what had happened. Schulman responded:

"I was standing behind Kennedy as he was taking his assigned route into the kitchen. A caucasian gentleman stepped out and fired. Robert Kennedy was hit all three times. Mr. Kennedy sunk to the floor and the security guard fired back."

Minutes later, Schulman was interviewed by KNXT-TV Newswoman Ruth Ashton Taylor, (the interview was broadcast later on KNXT's coverage of the Ambassador Hotel events, Jerry Dunphy anchorman).

RUTH ASHTON TAYLOR: "Our messenger, Don Schulman, was in the Embassy Room when the accident - the tragedy took place.

"And Don, I think you were quite close to Senator Kennedy. What did you see?"

DON SCHULMAN: "Well, I was standing behind him, directly behind him. I saw a man pull out a gun. It looked like he pulled it out from his pocket and shot three times. I saw all three shots hit the Senator. Then I saw the Senator fall and he was picked up and carried away.

"I saw the - also saw the security men pull out their weapons. After then it was very, very fuzzy.

"Next thing that I knew there were several shots fired and I saw a woman with blood coming from her temple; also a man was shot in the leg. And I saw the security police grab someone. From there it was very fuzzy. The crowd was very panicky and running in all different directions. There were people sobbing all over the place and many people had to be carried out."

Schulman, in subsequent interviews in the next several years, never again stated that he saw a security guard fire. Schulman told Kranz that immediately following the shooting in the pantry, he was tremendously confused, and although he did see Kennedy hit three times, he could never possitively identify the gun which he saw shooting as being held by Sirhan. Schulman told Kranz that his words, in 1968 immediately following the shooting, were confused, but that he was not confused by what he saw. He saw a security guard with a weapon drawn, but never saw the guard fire.

Schulman was interviewed on August 9, 1968, by Sergeant O'Steen of the L.A.P.D. and Schulman stated in that interview that he had been outside the kitchen when he heard noises like fire-crackers, and that he did not see the actual shooting by the suspect Sirhan due to the crowd. No mention was made of the security guard in this interview.

However, in a July 23, 1971, interview conducted by Deputy District Attorney Richard Hecht, Schulman stated he was in the pantry about 12 feet from Senator Kennedy when the shots were fired. His recollection of that evening was poor but he definitely recalled seeing certain things; the Senator hit, a guard with a gun in his hand, and a woman bleeding from the head. Schulman did not recall Paul Schrade being shot and falling. Additionally, Shulman stated he never knew how many actual shots were fired overall. He just knew that Kennedy was shot three times. When asked if he actually saw the hits of the bullets or whether he was using the reference of blood, Schulman replied he was using a "reference to seeing blood," but could not tell where the wounds were located.

In 1971, prior to Baxter Ward's campaign for Supervisor, Ward was working as a news reporter and television personality on KHJ News, on Channel 9. On July 6, 1971, Ward interviewed Don Schulman on the 4:00 p.m. news.

BAXTER WARD: "Yesterday on our news we ran part one of an interview with Don Schulman who three years ago, on the night Kennedy was killed, was working as a film runner for television station KNXT. He was asked by that station to put himself near the pantry doors in case they needed him to suddenly perform some task on their behalf, running film or make some arrangements for the film crew. He said that from that position he was capable of observing Senator Kennedy, and had his eyes on the Senator at all times. And he was prepared to contradict the official theory that no other guns were drawn in the pantry other than that drawn by Sirhan. He said he saw security guards, at least one, perhaps more, draw their weapons as well. And he still maintains that story three years after the assassination. Today we continue this visit with Don Schulman and he explains how his story was received by the L.A.P.D."

MR. SCHULMAN: "I saw the security guards draw their weapons out and I assumed that they were security guards because - well, as I said, it was an assumption, they would be the ones with weapons. I saw their weapons, but I did not see - I saw the Senator hit, but I did not see anyone shoot him. I was interviewed by the L.A.P.D. as was everyone else connected with CBS and I told them my story and what I had seen and they at that time disagreed with me on seeing other weapons. And I told them I was positive I seen other weapons and they then filled out the report, thanking me very much and said they had enough witnesses and I probably would not be called."

Schulman told Kranz that since Ruth Ashton Taylor had asked different questions than had Brent, Schulman had given different responses. However, Schulman emphasized to Kranz that it was his intention to give the same answer. And Schulman states that he told Ruth Ashton Taylor what he had originally meant to tell Jeff Brent during all the chaos and confusion, and that was that "Kennedy had been hit three times, he had seen an arm fire, he had seen the security guards with guns, but he had never seen a security guard fire and hit Robert Kennedy." Schulman did see someone in front of him (Schulman) pull out a gun and shoot Kennedy three times. From the position where Schulman was, and the fact that security guard Cesar was to the right and rear of Kennedy, the only person with an arm extended toward the front of Kennedy, with a gun, that Schulman could possibly have seen, was Sirhan. Schulman admitted in several interviews that everything occured so quickly and that the sounds and flashes occured simultaneously and that all he really positively remembered were the blood splotches on Senator Kennedy, whom he saw fall. He did recall seeing that the security guard had his gun drawn. The gun was drawn, pointing down to the floor, and never in the position aimed or pointed at any person within the pantry. Schulman is positive about this.

Schulman told Kranz that the intent that he wished to convey, both to Brent and to Taylor, as he did in all interviews, was that "the Senator was hit all three times."

Schulman told Kranz that his friend Jeff Brent later gave him a copy of the original tape recording he had made with Brent during the minutes following the shooting. Investigator Ted Charach later borrowed this tape while telling Schulman that he was doing a documentary on the assassination. Schulman stated that Charach held the tape for over two years, this tape having been given to Charach by Schulman three months after the assassination. Schulman states that he had heard the original tape recording which he had made to Brent, and that he had never reacted in any manner to his original statement of a guard firing. Schulman stated in his 1971 interview with Deputy District Attorney Sid Trapp, "I didn't catch it either, and it was only until after I gave the tape to Ted Charach that Charach came back and pointed out the wording to me." Schulman stated that he explained to Charach that all he said was that he had seen a guard pull out a gun and that everything had happened so quickly. Schulman states that he had played the tape several times for his friends and no one had caught the meaning of his original statement to Brent that "the guard shot Kennedy."

The District Attorney's Office did not call Schulman as either a witness before the Grand Jury or before the trial since he could not positively identify defendant Sirhan as having fired a weapon striking either Senator Kennedy or any of the injured victims. Schulman states that he stood in back of Paul Schrade and did see the arm with the gun lunging toward the Senator, coming in the direction of Senator Kennedy, thus accounting for the viewpoint in which he saw the gun approaching Kennedy in the direction of Kennedy, Schrade, and himself. He states that he saw the security guard, presumably Thane Cesar, with his gun out and pointed toward the ground, only after Kennedy was lying on the ground injured. He remembers the security guard as being in back of Robert Kennedy.

Actually, there had been two security guards who displayed guns in the pantry. The first was Thane Eugene Cesar who states he fell to the floor at the time of the shooting and drew his .38 caliber revolver only after regaining his balance. The shooting by this time had ceased. The only other person displaying a gun inside the pantry (besides Sirhan) was Ace Security Guard Jack Merritt. Merritt entered the pantry after the shooting. Merritt states that he was in the hall outside the Embassy Room when informed of the shooting. When he entered the pantry, a group of men were holding Sirhan on a metal table and Senator Kennedy was lying on the floor.

Special Counsel Kranz interviewed Thane Cesar in late November 1975, in the office of Cesar's attorney John McNicholas in Los Angeles. Cesar stated to Kranz that he never fired his .38 weapon on the evening in question. Additionally, Cesar told Kranz that he, Cesar, volunteered to Los Angeles Police Officers to be taken to the Rampart Station for questioning since he had "all but been ignored during the chaos following the shooting of Senator Kennedy." At the Rampart Station, Cesar states his .38 caliber revolver was examined but not test fired by the L.A.P.D., nor was it seized or held as evidence. Cesar elaborated that he had been waiting in the hall passage way separating the pantry from the Embassy Room with Jess Unruh and Milton Berle preceding the entrance of Senator Kennedy into the Embassy Ballroom. Cesar states that since he did not fire his gun in 1968, he was never questioned regarding this action either by L.A.P.D. or F.B.I. officials in the weeks following the shooting of Senator Kennedy. Cesar was in full uniform of the Ace Guard Service which required .38 calibers in holsters, and Cesar had been checked out earlier in the evening by his superiors and determined to be carrying the regulation .38 caliber weapon.

An accusation had been made in the Isaac-Charach complaint that Thane Cesar was associated with right-wing movements and expressed rightwing views and hated the Kennedy family. This was denied by Cesar in his 1971 interview and again in his interview with Kranz. Cesar is a registered Democrat who did not agree with Kennedy's political position and voted for Presidential candidate George Wallace in 1968. However he did not campaign for Wallace, or work for the American Independent Party. He contributed $3.00 to a friend who was active in the Wallace campaign. Additonal investigation of Cesar in the past few years subsequent to the 1971 investigation shows that he has not been engaged in any political activities.

The fact that Thane Cesar drew his gun was well established in the original 1968 investigation (L.A.P.D. investigation June 11, 1968). Cesar's original statement indicates he was escorting Kennedy at the time of the shooting. Cesar was knocked down, scrambled to his feet, and drew his gun, while attempting to regain his balance. Due to the large crowd, Cesar states that he reholstered his gun.

In his documentary film, "The Second Gun," Ted Charach quotes Thane Cesar as stating that he (Cesar) had pulled his gun out, "I got knocked down." Charach contends that Cesar told him, (Charach) that he (Cesar) actually had pulled his weapon out before he was knocked down. Cesar had told all other investigating officers, including his 1968 interviews with the L.A.P.D., the F.B.I., the District Attorney investigators in 1971, and Special Counsel Kranz in 1975, that he was knocked down instantaneously at the time that Sirhan onrushed into Senator Kennedy, and that it was only when he (Cesar) rose from the ground that he was able to pull his gun out.

When asked by Special Counsel Kranz as part of his opening interview question, "Why didn't you fire your gun? You were there to protect Senator Kennedy." Cesar replied simply and quickly, "I was a coward." Cesar elaborated that the moment he heard and saw the weapon fired, his instincts forced him to the ground. It should be emphasized that Cesar was not a welltrained or regular security guard, and was only on a moonlighting assignment for the Ace Security Guard Service. (Cesar's regular job at that time, in 1968, was on the assembly line at Lockheed Aircraft.)

Cesar also stated to Kranz that he could have left the Ambassador as no one seemed interested in interviewing him following the shooting, and that he, Cesar, actually volunteered to L.A.P.D. officers the fact that he had been inside the pantry at the time of the shooting. Cesar was then taken down to the Rampart Division and interviewed by L.A.P.D. officers. Cesar states, and the L.A.P.D. orally verifies, but have no documents to substantiate, the fact that the .38 caliber weapon Cesar had on his person that night as part of his Ace Guard Service assignment was examined by an unnamed L.A.P.D. officer, but was not seized or subsequently test fired. Cesar stated to Kranz that the interviewing by the L.A.P.D. hours after the shooting and in subsequent weeks by investigating officers from the L.A.P.D., and F.B.I., centered around what he (Cesar) had observed in the pantry. No one asked him any questions concerning the possibility that he may have fired his .38 weapon. Additionally, no one asked Cesar about the Shulman statement that a "security guard had fired back." Additionally, even though the Boston Herald American newspaper in its June 5, 1968, edition had stated that a "guard had fired," and the fact that a Paris newspaper France Soir had noted in one of its June 5, 6, 1968, stories, "in turn, one of Kennedy's body guards pulled his gun out and fired from the hip like in a western movie," Cesar was never questioned concerning these statements that ran in two newspapers, either by his friends or by investigating police officers. Cesar told Special Counsel Kranz that the first time he ever heard the accusation that he had fired a .38 caliber revolver was when he read the accusation in the Los Angeles Free Press one year later in 1969.

Cesar then recalled that he had, prior to the 1969 publication in the L. A. Free Press, remembered talking to Ted Charach, who had introduced himself as an investigative reporter. Cesar felt that everything he had told Charach had been exaggerated and bent out of proportion by Charach, including his views that he had once given $3.00 to the American Independent Party. Cesar felt that Charach had unfairly characterized him as a rightwinger who hated the Kennedys and hated blacks. Cesar stated that he did not care for Senator Kennedy's politics but that he (Cesar) had nothing against Senator Kennedy personally. Cesar stated that he had been very candid with Charach because he thought he had nothing to hide. Cesar was amazed that Charach had misstated and misused his statements in the film.

In Charach's film, the original tape made by Don Schulman (the interview given by Schulman immediately following the shooting in the pantry to Continental News reporter Jeff Brent) is featured in the film. Additonally, in the film, Charach interviews Schulman to complement and support Schulman's earlier tape given on the night of the assassination. In the Charach movie, Schulman is quoted as saying, "I did a tape recording with Jeff Brent, and several people. In fact, I also told him that the guard pulled out a gun and everyone told me that in the confusion I - I didn't see what I saw. Well, I didn't see everything that happened that night because of the blinding lights and the people screaming, but the things I did see I'm sure about, and that is Kennedy being shot three times. The guard definitely pulled out his gun and fired." Charach then asked Schulman as part of Charach's interview in his film "The Second Gun", "Now when you saw Jeff Brent, he is with the Continental News Service, when did he interview you?" Schulman replied, "Well, right after the assassination attempt and all was confusion, I fought my way out of the pantry, and I was heading toward the telephone to call CBS News. Before I picked up the phone, Jeff Brent grabbed me and asked me right on the spot exactly what I had seen then, fresh in my mind."

At this point in the film, Charach interjects the actual tape recording that Schulman had given Charach prior to Charach's making of the film, the tape recording that Schulman had made with Brent. In this particular tape, Schulman is quoted as saying, "I was about six people behind the Senator. I heard about six or seven shots in succession, a man stepped out and fired three times at Kennedy, hit him all three times, and the security guard then fired back."

Schulman relates that this interview was given to Brent approximately 10 to 15 minutes after the shooting in the pantry. Again, as part of the interview of Schulman by Charach for Charach's film, Schulman again states that he saw the guard fire and he was standing behind Kennedy. What Charach omitted from his film, "The Second Gun," is the tape that Schulman gave to Ruth Ashton Taylor on KNXT several minutes following the first tape report he gave to Jeff Brent. In the tape given to Taylor, Schulman rephrases the words that he had seen a security guard fire, and states that he had seen the Senator hit three times, and saw a security guard with his gun. In subsequent interviews of Schulman by L.A.P.D. officers, F.B.I. agents, and District Attorney investigators, throughout the ensuing years, and in an interview conducted by Special Counsel Kranz with Schulman in 1975, Schulman

re-inforces the same story that he had been in the pantry area when Kennedy was shot. He is not positive that he saw a security guard fire, but he did remember seeing the Senator hit three times. He did remember an association of gunshots and seeing flashes, although he never could positively link the flashes and the arm doing the shooting with Sirhan because of the blinding lights.

In hindsight it seems obvious that the L.A.P.D. should have seized the .38 weapon that Cesar was carrying on the night in question. Additionally, the very fact that he had been inside the pantry, and had held a weapon in his hand during some of the confusion, and the fact that at least five victims in addition to the mortally wounded Senator Kennedy were involved in the mass shooting, should have given notice to the L.A.P.D. to seize the weapon if only for precaution's sake. Additionally, it was proved by the very determined and thorough investigative research conducted by Ted Charach that Cesar owned a .22 caliber revolver at the time of the shooting. Cesar was somewhat vague as to when he had sold the weapon, at first telling investigating officers that he remembered selling the weapon in the spring of 1968, but when pressed by Charach and other investigators, admitted that he had sold the weapon in September, 1968, to a friend in Arkansas. This weapon, however, was a 9 shot cadet model .22 revolver. Nevertheless, such inconsistencies in the statements of the security guard, and the fact that he had been carrying a weapon in the pantry, suggested that good judgment required the L.A.P.D. to at least inspect and test the weapon beyond a cursory search at the Rampart Division.

Doubts and suspicions generated by the failure to seize and inspect a .38 revolver are the very foundation for lingering suspicions that not all the questions have been answered. Despite the ballistics report of the experts, Grand Jury and trial testimony regarding the positioning of the victims, Senator Kennedy, and the eyewitnesses, the mathematical improbability of two guns being fired having the same muzzle defects, and the match-up of the victim bullets all indicating one line of fire from the Sirhan weapon, it can be expected that continued accusations will be made by conspiracy buffs, and the misinformed, concerning Thane Eugene Cesar and his .38 caliber revolver. To this date, it can be accurately stated that Ted Charach is still convinced that Cesar fired his .22 caliber revolver, having brought the .22 caliber to the Ambassador either by design or mistake, and that Cesar's reflex action, either intentionally or in panic, was such that Cesar has blotted it from his mind, and that the L.A.P.D. and other investigative agencies have instigated a massive cover-up of the true story concerning the second gun. It should be mentioned that the Los Angeles Police Department reports the same Ted Charach offered his services to the L.A.P.D. in July, 1968, in order to obtain employment and to infiltrate "The Jim Garrison Organization" in behalf of the L.A.P.D.

Theodore Charach - Background

Theodore Charach is a free lance news reporter who has described himself as an investigative documentarian. He was present at the Ambassador Hotel outside the pantry door when Robert Kennedy was shot. Interviewed by L.A.P.D. on July 12, 1968, Charach said he was the agent for a news cameraman who had shot some film on June 2, 1968, at a Kennedy campaign function at the Coconut Grove Room at the Ambassador Hotel. Charach had said that the film showed an Arab present during Kennedy's speech. Charach refused to disclose the name of the cameraman and said the film was to be used in a documentary. After being told that he could be the subject of a court order to produce the film, Charach arranged for the film to be brought to the Los Angeles Police Department, July 22, 1968. The Police Department reported that the film turned out to be of poor quality and of no value. Charach reportedly attempted to sell the film to a representative of Jim Garrison. After realizing that his film was of little value, Charach offered to work for Special Unit Senator of the L.A.P.D, saying he already had much time and money invested in his effort. Charach offered to get himself into the Garrison Organization and to keep the L.A.P.D. informed. Charach was advised that the L.A.P.D. would pay only for good, solid, useable information, and only after the information was received and evaluated.

Charach enlisted the support of William Harper, the criminalist, long before the Blehr letter was published. Harper's affidavit, prepared for Charach, concluded that two .22 caliber guns were involved in the assassination, and that Senator Kennedy was killed by one of the shots fired by a second gunman.

1971 Affidavit of William Harper

In his 1971 affidavit, filed in conjunction with the Barbara Blehr accusations against Wolfer, and incorporated in the Isaac-Charach complaint for disclosure of information, Harper made reference to his 1970 examination of the bullets and his photographs of the same. Harper suggested that there had been two different firing positions in the pantry. He drew inferences from the physical evidence to support his theory that two guns had been fired in the pantry.

Harper's basic premise was that "the position of Sirhan was located directly in front of the Senator, with Sirhan face to face with the Senator." However, the 1971 investigation, as well as trial testimony, showed that this premise was an error. The testimony at the Grand Jury and trial places Senator Kennedy looking slightly to his left which accounts for the first bullet striking the Senator behind the right ear and the bullet traveling from right to left. The upward angle of the bullet is logical from the height of the Senator contrasted with the height and position of Sirhan.

An examination of the coat worn by Senator Kennedy at the time of the shooting showed that a shot went through the right shoulder pad of the Senator's coat from back to front. Harper felt this showed a second firing position.

The findings of Mr. Harper, that two guns were being fired in the pantry, are based on his statements that the rifling angle of one bullet was 23 minutes greater than that of a second bullet. But the meaning of "23 minutes of difference" is questionable. Two factors should be taken into consideration to put this conclusion of Harper's in proper perspective. The first is an understanding that a circle is divided into 360°. A degree is comprised of 60 minutes; consequently, the difference as noted by Harper amounts to approximately 1/3 of a degree. The second factor deals with the ability of the person making the comparison to place the two bullets in the same identical position. Harper's comparison was made after taking a separate 360° photograph of each bullet, and then comparing the photographs of the several bullets. When the difficulty of exactly aligning the two bullets for photographs is realized, a tiny difference of 23 minutes loses its importance. Harper admitted during the 1971 investigation that due to the size and weight of comparison microscopic camera equipment, he was unable to use such traditional equipment in his photographing of the bullets and exhibits. Furthermore, Harper's conclusion of "23 minutes of difference" between two bullets (the Kennedy, 47, and Weisel, 54) was a poor argument when no comparison of "minute difference" among the other bullets was referred to by Harper. Singling out only two bullets, and not including the Goldstein bullet, 52, or the Wolfer test bullets, for any rifling angle comparison produced a hollow foundation on which to argue two guns.

It is also significant that Harper's affidavit does not quote one eyewitness as describing Kennedy's position as faceto-face with Sirhan. Additionally, Harper assumed that shot #4 (which the L.A.P.D. concluded went through Kennedy's shoulder pad back to front) could not have been the shot which struck victim Paul Schrade in the forehead since Schrade was behind the Senator and walking in the same direction as Kennedy. But this conclusion by Harper again assumes that Kennedy was face-to-face with Sirhan or facing in an easterly direction. Paul Schrade testified at trial as follows:

Schrade Testimony

Question: "As you were walking towards the Senator were you able to see him?"

Answer: "Yes."

Question: "Were you able to see what he was doing at the time where he was?"

Answer: "Yes, he was heading toward the area greeting some people who were in the pantry."

Schrade continued to testify that these people were standing close to the serving table, and that although Schrade did not know exactly what the Senator was doing with these people, he, Schrade, nodded to Senator Kennedy and that Kennedy was greeting these people in some way. In answer to the question "had he turned in this direction?" Schrade answered, "Yes."

Schrade then testified that he again started to walk and then all hell broke loose. "I heard a cracking like electricity and I saw some flashes and then all I remember I was shaking quite violently as though we were all being elecrocuted." And in response to the question of how far was he, Schrade, behind Senator Kennedy, Schrade replied "all I remember I know I was behind him maybe a few feet, and that I was conscious of the flashes coming from the direction I was facing. I was facing toward the Senator." Grant Cooper, Sirhan defense counsel, stipulated at that time that the witness, Schrade, indicated the flashes were coming from the east. (Reporter's transcript page 3710.)

In this testimony by Schrade, he indicated that Kennedy turned when he was greeting some people and that he, Schrade, nodded to Kennedy about this time. This indicates that Kennedy was facing somewhat back toward Schrade who was initially walking west to east about four feet behind Kennedy. Schrade indicated that he was facing east, toward Kennedy when the flashes came. And the flashes came from the east. All of Schrade's testimony appears consistent with that of the other eyewitnesses who put Kennedy in a position facing northwest at the time of the shooting.

DeWayne Wolfer had concluded in his diagram of bullet trajectory that the bullet which hit Schrade's forehead first passed through the right shoulder pad of Kennedy's coat. At this time, according to Dr. Noguchi's autopsy, Kennedy's arm was upraised. This upraising lifted the shoulder padding up. And by this time (Shot #4) Kennedy was turning counterclockwise. This would account for the line of fire to Schrade's forehead, through the back to front of Kennedy's shoulder pad.

Other eyewitness testimony offered at trial reveals that of the several witnesses who observed Sirhan shooting, none carefully observed the sequence of events from the beginning of the firing by Sirhan to the actual finish.

Nevertheless, all of the witnesses were consistent with Schrade's observation concerning Kennedy's position vis-a-vis Sirhan.

Eyewitness Testimony

Consider the most percipient eyewitnesses' trial testimony:

FRANK BURNS: "seeing Kennedy shaking hands with busboys, turning to his left,";

VALERIE SCHULTE: "Kennedy turned to the left and back to shake hands with the kitchen help, turned more than 90° angle,";

BORIS YARO: "heard two explosions that sounded like firecrackers and saw Kennedy backing up and putting both of his hands and arms in from of him, while Sirhan appeared to be lunging at the Senator,";

KARL UECKER: "I felt something moving between the steam table and my stomach . . . . I heard something like a shot and Kennedy was falling out of my hand, and I put my hand on Sirhan's wrist and he fired four to six more shots.";

BORIS YARO: "Sirhan lunged at Kennedy, he was stabbing at Kennedy and pulling the trigger, Kennedy was backing up, he turned and he twisted and he put his hands up over his face,";

MINASIAN: "I saw an arm extended with a revolver and he had reached around Uecker."

All of these eyewitnesses were within eight feet of Kennedy, and all described at trial his position as being west of north, walking in an easterly direction, but turning to face the busboys and kitchen help and shaking their hands. All of these witnesses put Sirhan's firing position to the right and slightly in front of Senator Kennedy.

These statements by the several eyewitnesses were consistent with the autopsy report of Thomas Noguchi and the trajectory study of DeWayne Wolfer in that Noguchi concluded that Kennedy's arm had been raised about 90° when gunshot #2 was inflicted. At that time Kennedy's arm was moving between the second and third shot fired by Sirhan. Noguchi stated in his autopsy report that the "pattern of the wounds were the same, right to left, upward direction, and this pattern is consistent with the wounds inflicted by shooting in rapid succession." Noguchi placed the Sirhan weapon one or two inches from the skin behind the right ear when the first shot was fired. It must be remembered that Kennedy, according to the several eyewitnesses, was turning his head and upper part of his body to shake hands, with the kitchen help, Juan Perez and Jesus Romero. Additionally, Noguchi and Wolfer both estimated that Kennedy's arm had been upraised, thus lifting the padding up of his shoulder coat and accounting for the line of a bullet fire through the shoulder coat which did not graze the skin of the Senator, but continued on into Paul Schrade's head. All of these eyewitnesses seem to make William Harper's contention of two firing positions not only irrelevant, but impossible. This is particularly true when it is remembered that Harper himself admitted that he did not use a comparison microscope to conduct a formal examination, and admitted that his 1970 study was a "limited examination." It must be remembered that not all trial witnesses were asked about muzzle distance because they were not all in a position to observe all the details. Each particular witness at trial was asked to describe what he or she had observed, and when taken in unison, the several trial witnesses all established that the Senator had turned to face the busboys at the time Sirhan started firing.

However, it was not until William Harper's December 28, 1970, affidavit that anyone had every questioned Wolfer's identification of the ballistics evidence. Harper, a consulting criminalist for 35 years, had photographed the Kennedy (47) and Weisel (54) bullets with the assistance of an engineer for a company that developed the Hycon Balliscan camera. The camera produces photographs of the entire circumferences of bullets by rotating them in phases in front of the lens. The photos can then be placed side by side for comparison. In this 1970 affidavit, Harper declared that his examination had failed to disclose any individual characteristics establishing that the Kennedy and Weisel bullets had been fired from the same gun.

On June 10, 1971, William Harper was questioned by Deputy District Attorney Richard Hecht. Harper admitted at this time that he had conducted a "limited examination" (in 1970), and that he had only compared the photographs of Exhibit 55, Bullet 47, and Bullet 54. He did not conduct a formal examination in which he would have used a comparison microscope. Harper stated that he wanted to further continue and use the comparison microscope because the Balliscan pictures taken by Harper were interesting but "were not conclusive yet." Additionally, Harper stated to Hecht that he was unable to bring the comparison microscope to the clerk's office because it was too bulky and he was not able to carry it.

The affidavit, in which Harper drew the conclusion that two guns were being fired concurrently in the pantry, had been executed on December 28, 1970. But five months later, Harper, months after swearing to his conclusion in the affidavit, described his photographs as not conclusive. And he expressed the desire to conduct further examination with the comparison microscope.

During further 1970 inquiries into Harper's charges, criminalists Ray Pinker and Walter Jack Cadman both urged caution in forming a judgement or opinion on someone's photograph of an exhibit. Both stressed that they would prefer to see the original rather than photographic evidence. Pinker specifically stated, "I would have to examine the original physical evidence, the bullets themselves, under a comparison microscope, or a wide view stereo binocular microscope, before making any firm conclusion."

1974 Hearings Analyzed

The rather harsh words of District Attorney Joe Busch concerning hearings conducted by Supervisor Ward might seem at first glace to be the result of an old fashioned political feud between Joe Busch and Baxter Ward. But when the testimony of various Ward hearing witnesses, particularly Dr. Noguchi, is analyzed, it is possible to see a different perspective. Specifically, Dr. Noguchi's testimony before Baxter Ward's hearing as to his autopsy findings and opinions represented a twice previously expressed position and added no new information. Of the sixteen pages of transcript representing Dr. Noguchi's testimony in May 1974, a little less than half was devoted to such previously given testimony before the Grand Jury in 1968, and the trial jury in 1969. The balance of Noguchi's testimony before Ward was devoted to three areas not covered during the People v. Sirhan trial.

These three areas dealt with;

(a) Noguchi's present identification of the bullet extracted from Senator Kennedy's neck and submitted as People's 47 at trial,

(b) Noguchi's present and past position regarding the utilization of neutron activation analysis to compare the various bullets introduced into evidence during the Sirhan trial, and

(c) Whether or not Noguchi had any knowledge that the District Attorney was aware of any evidentary conflict regarding muzzle distance between eyewitnesses and the physical evidence provided by Noguchi.

More importantly, a 1974 District Attorney's Office memorandum analysis of the testimony elicited by Ward at the hearing suggested that the testimony was designed to project the following conclusions:

1. That a significant conflict had always existed between eyewitness accounts and irrefutable physical evidence regarding muzzle distance, which in itself, suggested the possibility of a second gun.

2. Prior investigation by law enforcement had failed to fully utilize the physical evidence in determing the number of guns involved because exclusive reliance was placed upon the method of microscopic bullet comparisons even though other methods were known to be available, such as neutron activation analysis, a process where the most subtle differences in the chemistry makeup of material could be found under examination. Dr. Vincent Guinn testified at the Baxter Ward hearings that he had offered his services to Dr. Noguchi for neutron activation immediately following the assassination of Senator Kennedy, and Dr. Noguchi replied at the Ward hearings that DeWayne Wolfer had told Noguchi in 1968 it was not necessary to pursue such an examination.

3. Although the method of microscopic comparison of bullets was valid in the abstract, the expert used in the investigation (Wolfer) may have erred because other experts (Harper, Bradford, and MacDonell) did not confirm his conclusion.

4. The physical evidence could presently be utilized for various investigative procedures, including refiring of Sirhan's gun and/or neutron activation analysis, with the same degree of reliability in assessing the number of guns involved if such procedures had been employed during the investigation subsequent to Kennedy's assassination.

The District Attorney's Office memorandum cautioned that the predetermined conclusion of Ward's hearing was that the District Attorney and/or the Los Angeles Police Department failed to fully investigate obvious discrepancies in the theory of the lone assassin, as manifested by the prosecution's failure to initially subject the firearms evidence to extensive scrutiny. Furthermore, the impact of the Ward hearings was that any resistance by authorities against reexamination of the ballistics evidence would also be suspicious, even though there would be no guarantee of obtaining a reliable conclusion in a new examination.

Additionally, the Ward hearings reviewed three previously suggested two-gun theories (subject of the 1971 investigations) and focused on a new two-gun theory.

Three so-called two-gun theories had been developed prior to the Ward hearing.

1. An alleged conflict between eyewitnesses and the physical evidence as to whether Sirhan was facing Kennedy or off to his side at the time of the shooting.

2. The allegation that Wolfer had actually excluded Sirhan's gun as being the only gun at the crime scene by using another gun rather than Sirhan's gun for firing test bullets, and then concluding that the bullet taken from Kennedy's neck had been fired from the same gun which yielded the test bullets.

3. The allegations that the firearm evidence alone established the possibility of two guns because differences in various bullets indicated they were not fired from the same gun.

The 1974 hearing conducted by Baxter Ward highlighted the original three theories of two guns, and also added a fourth theory of a second gun.

4. An alleged conflict between eyewitnesses and the physical evidence as to muzzle distance.

However, it should be emphasized that the alleged conflicts between eyewitnesses and physical evidence are actually immaterial to the number of guns if it is conclusively proved from the firearms evidence that one gun fired all of the recovered bullets. In this circumstance, the only material issue would be the identity of the gunman.

Harper's Two-Gun Theory, Bullets Exhibit 47 and 54

Harper stated that Sirhan's gun fired People's 54 and in so stating this fact, suggested that Sirhan's gun could not have fired People's 47. At the same time, Harper suggested by virtue of the clerical error made by DeWayne Wolfer at trial, that the actual evidence introduced at trial showed that the Sirhan weapon did not fire any of the bullets, including People's 54 and 47. However, the concession made by Harper, that Sirhan did fire some of the bullets (People's 54 to differentiate from People's 47), was an attempt by Harper to prove that People's 47 and 54 were fired from different guns. Therefore, his ultimate conclusion of two guns was far more important to Harper than the suggestion that a clerical error accounted for the second gun serial number H18602 being introduced as the evidence gun that fired all the bullets. If Harper had actually contended that Wolfer at trial correctly excluded Sirhan's gun from having fired any of the recovered bullets, in addition to his (Harper's) postulation of two guns firing People's 47 and 54, this would have led to a conclusion of three gunmen, Sirhan and two other gunmen. Harper never alleged three guns. Harper's allegation that Wolfer excluded Sirhan's gun at trial was Harper's way of alleging that Wolfer improperly concluded that Sirhan's gun fired all of the bullets recovered, but in so alleging, Harper actually stated a contradiction in that Harper stated conclusively that Sirhan's gun fired the Weisel bullet, People's 54. Harper never actually conducted a comparison microscopic exmamination of People's 47 and 54. Due to the size and weight of such apparatus, Harper was unable to bring a microscopic camera into the County Clerk's Office. He was only able to take Balliscan photographs of People's 47 and 54. Additonally, no twogun advocate or critic had ever come forth after conducting a microscopic examination of the bullet. Furthermore, Harper, MacDonell and Bradford all relied on photographs of only two bullets, rather than utilizing photographs of all of the various evidence and test bullets, to form their conclusions.

Lack of Unity Among Wolfer's Critics

Wolfer's three critics, Harper, Bradford and MacDonell, have not unanimously expressed the same conclusion nor underlying reasons, in support their mutual position critical of Wolfer's findings. There is only one common denominator among Wolfer's critics. All three have publicly rendered an opinion, after considering certain material, which had the minimum effect of raising a question regarding the accuracy of Wolfer's conclusion.

At Baxter Ward's hearing, Bradford expressed the opinion that the photographs he considered disclosed insufficient evidence of any specific identification characteristics requisite to a conclusion that only one gun was involved. Therefore, in stating "no positive conclusion," Bradford in effect was saying nothing more than what any legitimate ballistics expert would have said after reviewing only photographs, even if those photographs depicted a number of bullets which had actually been fired from the same gun.

Harper and MacDonell, however, concluded that two guns fired the bullets under consideration after alleging that photographs of such bullets (47 and 54) disclosed differences in certain identification characteristics. These opinions are obviously critical of Wolfer's conclusion and differ from the position expressed by Bradford. But both opinions of Harper and MacDonell were based upon photographs and not upon recognized and accepted identification principles of microscopic examination.

Criteria Espoused, Including Rifling Angles and Cannelures

Only two criteria had been advanced by any "twogun" advocates intending to prove that People's 47 and 54 were not fired from the same gun. These two criteria consist of rifling angles and cannelures.

The only criteria ever advanced by Harper was that Balliscan photographs of People's 47 and 54 disclosed a difference in the rifling angles of those bullets, and that this difference showed they could not have been fired by the same gun. The only support Harper ever obtained for this allegation regarding rifling angles came from MacDonell. This support was expressed in MacDonell's affidavit, which was prepared and presented at Baxter Ward's hearing in 1974.

However, at Ward's hearing, unlike Harper, both Bradford and MacDonell, personally testified, with Bradford being first to so testify. During his testimony, Bradford expressly stated that he could not discern any differences between rifling angles in photographs of People's 47 and 54. Then, when MacDonell testified, he stated he had noted a difference. But MacDonell equivocated as to whether or not any significance should be attached to this alleged difference in rifling angles. This was obviously a retreat by MacDonell from the emphasis he had placed on rifling angles in his prior affidavit, even though that affidavit, when read carefully, equivocates, because it establishes that MacDonell made numerous assumptions regarding the photographs he considered.

One of the initial witnesses called by Ward, and presumably heard by MacDonell during the oneday hearing, described the Balliscan process, including the inherent "tilt factor" of the camera photography process, which is adjusted only visually rather than scientifically. Thus, by the time MacDonell testified, he may have realized that his affidavit, although filled with many articulated assumptions, had made no provisions for this "tilt factor." Most firearms experts reject reliance upon rifling angles, and the alleged differences in rifling angle between People's 47 and 54, even if assumed to be true as to the original Sirhan firearms evidence, is not an accepted criteria for identification purposes. (Modern Firearms by Calvin Goddard.)

The only other factor which had been suggested as establishing two guns was based upon the claimed difference in the number of cannelures depicted by photographs of People's 47 and 54. Only Herbert MacDonell had expressed that position. Throughout his investigation in 1970, his interviews in 1971, and his affidavit filed at the Ward hearing in 1974, Harper had never mentioned cannelures. And although Bradford was asked general questions by Ward regarding cannelures, Ward failed to ask Bradford any questions regarding the significance, if any, to be attached to cannelures as a criteria to consider in firearms identification.

Additionally, cannelures apparently have absolutely no significance in the identification of fired bullets. Firearm identification research shows that cannelures may or may not be utilized in coming to conclusions regarding identification of fired bullets. Wolfer has unequivocally stated in an interview with Kranz that cannelures are totally irrelevant because two consecutive shots fired from the same gun of the same identical type of bullet, including cannelures, may lead to significant differences as to cannelures by the time the bullet leaves the barrel, aside from further significant changes which may acrue upon impact.

Photographs

Another additional difference among the three critics of Wolfer concerned photographs. Any expert opinion must be dependent upon the materials considered. There is significance in the fact that only Bradford indicated consideration of any photographs beside photographs of People's 47 and 54. This occured at Ward's hearing when Bradford stated that he had looked at Balliscan photographs, taken at Ward's request, of some of the test bullets fired by Wolfer.

It is difficult to understand why Harper and MacDonell concentrated their findings solely on photographs of People's 47 and 54. Photographs of other bullets would undoubtedly have contributed to their examination, but neither man ever requested photographs of other bullets. Significantly, of the three experts, only Bradford was never actually critical of Wolfer's conclusion, and it was Bradford who did not expressly restrict himself to merely photographs of People's 47 and 54.

Refiring of Sirhan Gun

Another factor consistently urged by the two-gun advocates was the refiring of Sirhan's gun. Interestingly, the critics had usually asked for a refiring of the gun without the intermediary step of microscopic examination of the bullets in the Clerk's custody. Examination of these bullets might have resulted in a conclusion regarding the number of guns and thus eliminated the need to refire the gun. Such additional steps as refiring the gun would not have been necessary unless one of two situations existed after such a microscopic comparison. First, it it was indicated that all bullets were not fired by the same gun, the refiring of Sirhan's gun would then be relevant in determining which bullets, if any, Sirhan had fired. And second, even if microscopic comparison of bullets indicated only one gun, a refiring of Sirhan's gun would be relevant only if there was an issue regarding whether or not Sirhan's gun was the gun which fired those bullets.

However, few of the critics ever advocated microscopic comparison after their photographic comparison. This underscores the question as to what advantage, if any, was to be obtained by twogun advocates who asserted that refiring of the Sirhan gun was an integral aspect of any bullet examination.

The District Attorney's Office cautioned in its 1974 memorandum analysis that any refiring of Sirhan's gun would probably result in inconclusive findings as to whether the Sirhan bullet exhibits had been fired from the Sirhan gun. This was because the firing of the gun would not necessarily produce bullets with the same individual characteristics as those actually used by Wolfer during the Sirhan investigation. This was partially because of the existing problem of whether the County Clerk had effectively preserved the actual bullets compared by Wolfer. Additionally, the likelihood of inconclusive results was substantial, in that there was a strong possibility that a refiring of the gun would produce sufficient differences in striations among the bullets to conclude that the Sirhan bullet exhibits were not fired by the Sirhan gun. The District Attorney's Office was concerned that the Ward hearings, in proposing the re-firing of the Sirhan gun, would not clarify the issue, but might possibly create perpetual controversy regarding the number of guns.

Integrity of the Physical Evidence

The preservation of the integrity of the physical evidence was considered important. The very nature of ballistics evidence is such that certain precautions are absolutely necessary. It is well known in law enforcement circles that the identifying features of softlead bullets can be virtually erased by rubbing them with fingers or by dropping them on a hard surface. Merely running a cleaning brush through the bore of a gun can destroy the features of the bore, which, in turn, will have a direct affect on any test firing.

It was for this reason that the Grand Jury conducted its investigation, and a court order was obtained directing the County Clerk to preserve the evidence and not to allow persons other than the attorneys, or their representatives, to view evidence. At trial, the evidence was secured in a locked cabinet controlled by the Court Clerk assigned to the case. At the termination of the case, a conference was held in the chambers of the Presiding Judge where security procedures were outlined.

A court order from Judge Walker was obtained which directed the clerk to show the exhibits to attorneys of record only, and only when notice had been given to the other side. This was to insure both that a representative of the other side would be present at any viewing of the evidence, and to insure that the integrity of the exhibits would be preserved. However, no member of the District Attorney's staff was ever given notice by the County Clerk's Office until May 1971, that exhibits in the Sirhan case had been examined by unauthorized persons for almost a year. Many of the people examining the exhibits during 1970 and 1971 did not have proper authority under previous court orders for access to the Sirhan exhibits.

1975 - Proposed Tests

By 1975, new criticism of the Sirhan case involved several law enforcement agencies. Previous two-gun advocates and critics had been noticeably critical of L.A.P.D. criminalist DeWayne Wolfer, and the possibility of serious ballistics evidence discrepancy. But in light of the cloud of suspicion concerning government after the Watergate scandal, the term "official version" was received with much skepticism by the public. Additionally, the charge was repeatedly heard that not only the L.A.P.D., but the Los Angeles District Attorney's Office in general, and, District Attorney Joseph Busch in particular, were "stonewalling," covering up, and preventing the full facts from being released. Yet all the critics had one demand that was central to their theme: demand that the Sirhan weapon be test fired. Despite the fact that at the Ward hearing both criminalist Lowell Bradford and Herbert MacDonell testified that a classical microscopic comparison of the evidence bullets with the test fired bullets would be a necessary preliminary step before any determination could be made as to the need to test fire the gun (since if the evidence bullets matched up with the Wolfer test fired bullets, the need to determine a second gun would be moot), a growing demand was made that the Sirhan weapon be refired.

Sirhan's new attorney, Godfrey Isaac, had filed a writ of Habeas Corpus and a writ of Error Coram Nobis in the State Supreme Court in January, 1975, alleging every previously cited theory of two guns (including the affidavits of William Harper, Herbert MacDonell, Vincent Guinn, the autopsy report, and transcripts of the 1974 Baxter Ward hearings), but the State Supreme Court turned down the writ in February 1975. This did not seem to dissuade the critics that there should be a new complete reinvestigation of the Robert Kennedy murder.

Possibility of Inconclusive Results from Retesting

Events in the years prior to the 1975 ballistics tests and examination suggested the possibility that such ballistics reexamination would be inconclusive. The 1971 Grand Jury investigation regarding the integrity and utility of the exhibits at least demonstrated that there had been serious violations of the court orders, and that there had been sloppy handling by the County Clerk's office regarding unauthorized access to visit and inspect the exhibits. Inherent in this problem was the very nature of ballistics evidence. Absolute precautions are necessary to protect ballistics and firearms evidence. The fact that the District Attorney's position asking Judge Wenke to first have a preliminary inquiry into the clerk's preservation of the exhibits was not ordered by Judge Wenke gave fears to the District Attorney's Office that the potential test firing and examination would be inconclusive or subject to improper or misguided intrepretations. Deputy Attorney General Russ Iungerich also expressed his concern that the 1975 test results would only establish whether the bullets themselves had come from the same gun, and that the actual test would really not establish anything conclusionary or positive. Iungerich was afraid that some of the two-gun advocates were in hopes of receiving a blind opinion from the ballistics experts which would leave open the question of whether the bullets could actually be linked to the Sirhan weapon.

Kranz Interview of Wolfer

In his role as an investigator as well as Special Counsel, Kranz interviewed DeWayne Wolfer in September 1975. At this meeting Wolfer described many of the procedures that he had used for his examination of the exhibits, and his trajectory studies. Wolfer stated that he had determined the entry and exit of bullets into Senator Kennedy's coat by studies of the autopsy reports, and the Walker H-acid test conducted on the coat which illustrated the nitrate pattern. From this nitrate pattern, and from the residue of powder itself, the distance of the muzzle of the gun from the cloth of the coat was determined. Additionally, in his interview with Kranz, Wolfer expressed grave concern about the possibility of a test firing of the Sirhan weapon in the forthcoming ballistics examination.

It was Wolfer's opinion that there was grave danger in light of the possible tampering of the exhibits and the weapon, and the possibility that the Grand Jury Report in 1971 may not have completely authenticated severe mishandling of the exhibits. Wolfer was afraid that successive bullets fired through the same weapon would not always be identical in all respects. Wolfer reasoned that due to the mechanism of the fired gun, a rapid successive firing of bullets, after a period of oxidation for several years, might affect the striations of the barrel, particularly the manner in which the lands within the barrel projected downward and the grooves within the barrel projected upward spinning the bullet in flight to produce gyrostration. Wolfer felt that these lands and grooves (striations) could possibly have been modified by any tampering with the barrel, such as the possibility of a bullet or lead pencil being jammed down the barrel of the weapon.

In his 1969 trial testimony, Wolfer had stated that no two barrels would ever impart the same impression or striation on the projectiles as they, the bullets, passed through them. This was because of the different rifling specifications within the barrel. Wolfer told Kranz any potential tampering or mishandling of the gun barrel could result in an inconclusive finding after additional test bullets had been fired from the weapon. It was Wolfer's opinion that the projected ballistics re-examination and test firing was a sham orchestrated only to create and to confuse the issue that the bullets did not match. Wolfer's concern, and that shared by several persons within the District Attorney's Office, was that the purpose of petitioners' claim for potential test firing (always the demand of the critics had been for a test firing of the weapon) was for the test firing to obtain inconclusive results due to the lack of striations and identification marks on the newly fired test bullets. This would also make it impossible to match the newly test fired bullets with the original evidence bullets due to the passage of time. Additionally, Wolfer expressed his reservations about any cleaning of the barrel prior to firing because of the possibility that a cleaning might also affect the particular striations, or lack of striations, in the gun barrel. Special Counsel Kranz was of the opinion that the criminalist had legitimate concern about the proposed test firing of the weapon, but due to the several mistakes and inconsistencies in the past, and the recently admitted destruction of ceiling panels and x-ray analysis documents, any attempt to halt the test firing, particularly in light of the District Attorney joining in the motion at the August 14, 1975, Hearing, would have resulted in a justifiable accusation of "cover-up."

Cross Examination of Wolfer

The cross examination of DeWayne Wolfer by all counsel prior to ballistic tests and examination by the panel experts was lengthy. But several questions remained unanswered. Who else besides criminalist Wolfer had looked at the ceiling panel holes and examined the ceiling panels themselves? Furthermore, who had participated in the x-rays and analysis of the ceiling panels and wood samplings?

Additionally, Wolfer could not recall if he had made the tests and measurements concerning micromeasurements, spectrographic, and cannelure examinations. Moreover, Wolfer could not recall whether he had weighed the particular bullets. There were no records to indicate that this process had been done.

Wolfer's log was not complete in specifying the time sequence when he received all of the particular evidence bullets, particularly the Weisel and Goldstein bullets which Wolfer felt were, along with the Kennedy neck bullet, People's 47, the only well defined bullets. On cross examination, Attorney Godfrey Isaac pointed out that Wolfer could not properly identify in his log sheet the items to which he referred on June 13, 1968. Wolfer felt that there was a possibility that due to different L.A.P.D. property identification number systems in the various divisions,

one at Rampart Division and one at Central Division, that this could account for the difference in numbering identification procedures. Essentially, there could be different booking numbers for different properties coming from Rampart and Central divisions, and therefore, this would account for different numbering systems on Wolfer's log sheets.

During the court examination, Wolfer repeatedly stated that he could not recall or could not remember whether he had performed certain examinations or had prepared written documents due to the fact that seven years had elapsed. Wolfer repeatedly qualified his answers with the statement, "he could not remember." But it was obvious that Wolfer could not produce in 1975 any hand written notes or written documents, which he understandably would have wanted to use to refresh his own recollection at the 1969 trial from his prior examination and tests conducted in 1968. Therefore, there is a strong assumption that Wolfer did not have any written documents or notes, either to be of help for his own recollection at trial in 1969, or to document the examinations and tests that he conducted in 1968. Conversely, it is apparent that the prosecution team, of Lynn Compton, Dave Fitts, and John Howard, all deputy district attorneys, never instructed Wolfer as to what particular documents or records to bring to trial for any necessary testimony regarding examinations and tests conducted by Wolfer. It appears that the only progress report in the SUS ten-volume summary is the page and a half submitted by Officers Sartuchi and McDevitt in response to the subpoena of documents relating to the tests performed by Wolfer.

In light of the inability of Wolfer or other L.A.P.D. officials to produce substantial written documents, analyzed evidence reports or pertinent information regarding Wolfer's 1968 ballistics tests, his log report and laboratory work, it must be concluded that Wolfer is responsible for the sketchy and insufficient analysis, or if extensive reports and documents were prepared, Wolfer was negligent in permitting such reports and documents to be destroyed.

During the examination hearing of Wolfer, the Los Angeles City Attorney's Special Counsel, Dion Morrow (representing the City of Los Angeles and its Police Department during the examination of Wolfer) was taken by surprise, as was Deputy District Attorney Bozanich, that there had been x-rays made of the ceiling panel, and one spectrographic photograph taken by Wolfer. It appears that even in discussion between the L.A.P.D. Crime Laboratory and the District Attorney's Office prior to the trial, the reports of these x-rays and photographs were not given to the prosecution team. The explanation by the L.A.P.D. that these photographs and analysis "proved nothing", reflects on the lack of judgement by the L.A.P.D. in fully co-operating with prosecuting office. Even though it was anticipated that defense counsels' argument would center on diminished capacity at trial, the fact that the actual murder bullet, People's 48, had been so badly damaged and fragmented and could not be linked with the murder weapon necessitated a much more thorough, definitive, and complete documentation of ballistics, firearms and trajectory studies. The failure to do so reflects on the entire prosecution.

Additionally, the fact that the ceiling panels and x-ray analysis of the tiles were never introduced as evidence at trial, is no justification for their destruction. These items had been marked for identification at trial but were never used. This fact alone, aside from the fact that the Sirhan appeal had not even been initiated, should have prevented their destruction.

Wolfer's testimony at trial and at the Grand Jury, that a bullet taken from the base of Kennedy's neck (47) and bullets taken from victims Weisel and Goldstein (54 and 52) were fired from Sirhan's gun and "no other gun in the world," should have forced Wolfer and the entire prosecution team to have a complete record and documentation of this evidence.

Analysis of Panel Experts' Joint and Individual Reports

Although some of the experts wrote in their working papers and testified that they were close to a positive identification of the bullets with the Sirhan weapon, none of the experts were as emphatic as DeWayne Wolfer at trial who stated the evidence bullets had come from the Sirhan weapon and no other gun in the world. However, in subsequent court examination of the experts, it was revealed that all criminalists and firearms experts have different thresholds of identification when conducting tests of ballistics exhibits. (It was for this reason that Deputy District Attorney Bozanich had advocated a more comprehensive test procedure to determine the threshold as objectively as possible. Other counsel had argued against this test procedure, and the court was also opposed to it.) Additionally, several of the experts stated that the term "inconclusive", when applied to firearms examination of fired bullets or expended cartridge cases, indicated that the particular examiner is not able to arrive at a definite opinion (by his own standard) as to whether or not two bullets or cartridge cases were fired from the same gun. As Ralph Turner stated, "inconclusive is not to be interpreted as inferring that a particular bullet or cartridge case was or was not fired from a particular gun." It should be emphasized, that in the petition of CBS filed before the court in August, prior to the examination by the experts, Lowell Bradford, one of the experts subsequently selected by the attorneys, admitted that identification of consecutively fired .22 caliber bullets occurs on the average less than 20% of the time. It was apparent, during cross examination, that all the seven experts had different levels of identification, and although none of the experts would give their specific scale of reference or spectrum of identification standards used, many, if not all, made the statement frequently that they were 99% sure, or "only a step away", or that additional time to conclude microscopic examination "may have given them the opportunity to actually and unequivocally link the particular three evidence bullets with the Sirhan weapon."

Interestingly, one of the most persistent advocates of a thorough re-examination of the exhibits and subsequent test firing of the weapon, Lowell Bradford, was most positive in his conclusion that there was no evidence of a second gun. Although he stated in his working papers that the question of a second gun was still open, due to the inability of the experts to positively and unequivocally link the bullets with the Sirhan weapon, "the weight of findings reached by the examiners was against any evidence of a second gun." This was because the similarities of gross and individual characteristics on the bullets 47, 52, and 54, and the uniformity of class characteristics found in all other bullets, ruled against the possibility of a second gun. Additionally, Lowell Bradford appeared on the Walter Cronkite National CBS News on the day the experts' findings were released, October 6, 1975, and stated "the reason there was no substantive or demonstrable evidence to indicate more than one gun was used was because there was 'no significant differences in the general characteristic of all the bullets that were found on the scene.'" In addition to that, stated Bradford, "specific characteristics on the victim bullets enabled an identification of all of the victim bullets as being fired from the same gun."

When asked by CBS news reporter Terry Drinkwater to be more specific, Bradford illustrated his findings with several of the photographs used by the experts during their examination procedure. Bradford stated that, "The photographs show first of all, one of the victim bullets showing some general rifling characteristics with distortion. The second picture shows the bullet from the Kennedy neck, which shows clearly the rifling marks of the gun and the marks of the cannelures . . . one can see that there are indeed remains of two cannelures, which controverts the original statements that there was only one, and this resolves one of the main questions that was first raised about a second gun." (The pictures referred to by Bradford were pictures identifying bullets 47, 52, and 54, the comparison photographs taken by Morton.) Bradford also on the Cronkite show made reference to the fact that similarities between the several bullets in question, 47, 52, and 54, together with eyewitness observations, (several witnesses that observed Sirhan shooting in the direction of Senator Kennedy) indicated there was no second gun.

Sirhan Gun Muzzle Defect

One of the key factors in helping the experts reach the conclusion regarding no indication or evidence of a second gun was that all the experts had discovered through various tests, later described upon cross examination, and outlined in their individual working papers, that the Sirhan revolver had possibly been damaged to such a degree (either upon manufacture, or during the subsequent ownership by several people during the ensuing years), and that this damage resulted in a particular indentation and muzzle defect in the bore of the revolver and left certain indentations and imperfections on bullets fired through the bore of the revolver.

Specifically, the experts stated in their papers and upon examination that the muzzle defects of questionable origin caused "impressions, indentations, gouge marks, specific characterizations," on bullets fired through the revolver. These markings occured on specific land impressions of all of the bullets.

Muzzle Defect: Lands and Grooves

The several photographs taken by Morton of the various bullets, as well as many of the photographs previously taken by Harper in, expert Albert Biasotti drew on the blackboard in the courtroom an illustrative diagram of a particular bullet. Essentially, it was an illustration of the several examiners' arbitrary designation of comparable land engravings on the surface of all the bullets studied. The land engravings were numbered consecutively and clockwise around the bullet base, beginning with land #1 at 12 o'clock high or 0^{o}. Land #2 was approximately 60^{o} clockwise to the right, Land #3 approximately 120^{o} to the right, Land #4 180^{o} and exactly opposite Land #1 at 0^{o}, Land #5 240^{o} clockwise around the bullet base, and Land #6 approximately 300^{o} clockwise around the bullet base. It should be remembered that in prior Grand Jury and trial testimony, DeWayne Wolfer stated that a particular bullet picked up lands and grooves as it was fired along the barrel when projected. The bullet is then scratched by the imperfection in the barrel, since all barrels have unique imperfections, unique to that barrel and to no other barrel. The premise agreed upon by all ballistics and firearms experts is that no two barrels of any two guns will have and impart the same impressions and scratches on projectiles that pass through that particular barrel. Specifically, land impressions or imperfections on each barrel will project down on the bullet as the bullet is fired, and grooves (impressions and imperfections) will project upward as the bullet spins out of the barrel, keeping the bullet gyroscopically in flight through the barrel and on through the pattern of flight of the bullet. Additionally, the individual characteristics implanted on the particular bullet fired through a specific barrel will be the result of manufacturing defects imparted in the barrel of the gun (or presumably by additional scratches on the barrel of the gun) that distinguish one gun from another.

Furthermore, each bullet will also have in its miniscule yet microscopically signicant way individual characteristics that will distinguish each bullet from another bullet. It is most important to emphasize that all of the experts distinguished the difference between class characteristics of bullets and gross characteristics of bullets. Class characteristics dealt with the type of caliber, the number of lands and grooves in each bullet, the twist direction, the particular width of the land and grooves, the weight and cannelures of the bullets. All experts found that the class characteristics of all the bullets examined, the evidence bullets, the Wolfer fired test bullets, and the 1975 testfired bullets, were the same. Additionally, a "gross imperfection" was found on all of these bullets. Specifically, a particularly strong identifying double furrow gouge was found on every bullet, the 1968 fired bullets, and the 1975 fired bullets, thus further suggesting to all the experts that there was no evidence of a second gun.

Individual Characteristics

However, in the area of individual characteristics on bullets, (the results of barrel defects imparted on the bullets as they are spun out of the barrel) the experts were unable to reach a positive conclusion that the bullets were positively linked to the Sirhan weapon. The experts concluded that there was a lack of sufficient "individual characteristics" (tiny marks and scratches called striations) on the bullets to permit a positive identification. Specifically, the experts stated that markings in the 6th and 1st land area of the bullets fired, approximately between 300° and 360° of the bullet base, reflected indentations and defects in the Sirhan barrel. These defects caused a marked repeatability of individual characteristic marks on all the bullets fired from the Sirhan weapon. However, due to the fragmented nature of several of the bullets, and the inability by all of the experts to make positive identification of enough sufficient individual characteristic marks on the several bullets, including the key bullets 47, 52, and 54, a positive identification of these bullets with the Sirhan weapon was not possible. Conversely, there was absolutely no indication from the class of bullets, the gross characteristics studied, or the individual characteristics on all the bullets examined, to indicate any evidence of a second gun.

The experts stated in their working papers that the defects at the 300° to 360° area of the bullet base on the lands area emphasized that particular indentations and impressions occured due to the muzzle of the barrel affecting the bullet as it left and lifted up from the gun. This characteristic was found on all the bullets.

The experts suggested on cross examination that had criminalist Wolfer conducted a process known as phase marking, (tiny marks implanted on the bullet base upon examination) and had additional photomicrographs been taken by Wolfer, and if more complete written documents relative to Wolfer's examination had been available, they would have been able to perhaps make a positive identification of the bullets with the Sirhan weapon. Many of the experts, Garland, Cunningham, Biasotti, and Berg were of the conclusion that they were within one step away from linking the individual characteristics of the bullets to the Sirhan gun. Such a phase mark process would have defined the individual characteristics of the bullets when they were in a better condition to be examined in 1968.

Leaded Barrel

The experts also stated in their working papers and on examination that the severe leaded condition of the barrel of the Sirhan weapon was a factor in possibly lessening the chances of identifying individual characteristic marks on the 1975 testfired bullets.

The leaded condition made it very difficult to determine whether a particular bullet could be matched up with the revolver on a subsequent test fire. Even though the gross imperfections (double furrow gouge) were found repeated on all the 1975 test-fired bullets, reproduced in a shot for shot basis, the severe leaded condition of the barrel made it difficult to match up individual characteristics of the 1975 testfired bullets with any of the 1968 evidence bullets and Wolfer fired bullets. The experts conceded that the dirty and leaded barrel could possibly change striations and characteristics on fired bullets. None of the experts could give any explanation for the leaded barrel, and one, Patrick Garland, even surmised the possibility that the barrel had been fired during the time elapsing since 1968 and prior to the 1975 examination and testing. The nature of the leaded barrel was such that it severely reduced the chances of identifying the individual characteristics, or striations, that were formed on fired bullets as a result of the manufacturing process of the weapon barrel. These individual characteristics are a basis for the identification of the individual marks.

Search for Individual Specific Characteristics

Even though the Sirhan weapon had identifiable muzzle defects at the 300^{o} to 360^{o} end of the muzzle (in the Land #6 and Land #1 area), there were definite repeating gross individual characteristics that were far more identifiable than specific individual characteristics and gave the experts the feeling that there was no evidence of any nature to suggest another gun had fired any of the bullets. Even though all the examiners stated that they had different thresholds of identification before they could make a positive identification, they felt that the individual lines and striations of each bullet fired meant a very high percentage in favor of the fact that all the bullets had been fired from the same weapon. Inherent in this was the concept of consecutiveness, the fact that individual characteristics were associated with each other in a relation to the driving edge of the barrel as the bullets spun out of the barrel.

In the area of particular gross characteristics, again due to barrel damage effect, even the 1968 Wolfer test fired bullets showed indications of particular gross characteristics, which gave further indication that no second gun had been fired. As an additional attempt to try to further identify individual characteristics, as well as the gross imperfections, the experts attempted to reproduce these defects. Casts were made of the forward end of the barrel, the casts being prepared using duplicast silicone solution. But the experts concluded that the casts were not suitable for microscopic examination of the imperfections in the barrel. Next, a new attempt was made with a mixture of sulphur and lamp black melted and poured into the muzzle of the Sirhan revolver to cast the front 1/4 to 1/2 inch of the barrel. These casts were examined microscopically, and the experts found that although some defects of the muzzle were reproduced, cast shrinkage during cooling detracted from the quality of the cast. The experts concluded that orientation of the imperfections from the barrel to bullets was not possible.

Evidence Bullets Matched With Same Gun

In their individual working papers, and upon cross examination, three of the experts, Garland, Cunningham and Biasotti, positively found that the three crucial evidence bullets, Kennedy (47), Goldstein (52), and Weisel (54), had sufficient individual characteristic marks (as well as the heretofore mentioned gross characteristic marks found on all the bullets) to make the positive matchup of these three bullets having been fired by the same gun. This was on the basis of a microscopic comparison of the individual characteristic marks present on the three bullets. The three experts were positive that repetitive and sufficient matching individual characteristics were noted on all three bullets, and stated that these three bullets had been fired through the same weapon. However, all three experts stated that there were insufficient matching individual characteristics for a positive identification to be made with the Sirhan weapon itself. This was because of several factors, including the severe leaded condition which was observed in the bore of the Sirhan revolver. The experts stated, both in their working papers and upon cross examination, that such leaded condition could cause the wiping of bullets fired through the revolver, preventing the repetition of markings necessary in the identification process. Biasotti felt that the several gross individual characteristics were in a constant relationship to each other, showing that not only the three particular evidence bullets in question, but that all other bullets examined were "very probably fired by the same gun." Again, Biasotti stated that the source of the repetitive gross individual characteristics was attributed to gross imperfections on the front edge of the lands and grooves at the muzzle crown of the Sirhan weapon. The microscopic examination and casting of these imperfections showed that they were irregular ridges of metal which projected above the surfaces of the lands and grooves in some part of the muzzle. Biasotti stated that these imperfections were accidental in origin and were produced after the lands and grooves were formed in the bore by the swage rifling process and therefore were true individual characteristics, unique to the gun. However, Biasotti concluded that the very limited number of individual characteristics reproduced by the metal coated bullets were possibly due to the leaded condition of the bore at the time of firing, both in 1968 and at the time of the test firing conducted by the panel in 1975.

Patrick Garland echoed the same findings of Biasotti concerning the leaded condition stating that the lack of sufficient matching individual characteristics prevented a positive identification of bullets with the Sirhan weapon, but it was his conclusion that there were sufficient characteristics on Exhibits 47, 52, and 54 to conclude that the three bullets had been fired from the same weapon.

Finally, Cortland Cunningham also stated that the leaded barrel caused significant differences in the individual characteristic marks imparted on the test bullets fired from the weapon.

To Cunningham, this even precluded the possibility of determining whether the test bullets, fired in 1975, were fired from the Sirhan weapon. But Cunningham felt that as a result of microscopic examination and comparison of the 1975 test bullets, it could be determined that the previously mentioned gross imperfections on the other bullets were being reproduced by the barrel of Sirhan's revolver from shot to shot. This gave credence to the position of the experts that all bullets examined had the same gross imperfections and characteristics, showing no indication of a second gun. Although the presence of the gross imperfections was not sufficient to positively identify the bullets with the Sirhan weapon itself, they showed that the test bullets fired in 1968 and 1975 were fired from the same weapon. Finally, Cunningham reasoned that although there were not sufficient characteristics and imperfections to make a positive identification of bullets 47, 52, and 54 with the Sirhan weapon, the microscopic comparison of the individual characteristics present on these bullets indicated that they had been fired from the same weapon.

Two other panel experts, Lowell Bradford and Stanton Berg, inferentially found that the three evidence bullets, 47, 52, and 54, had been fired from the same gun.

Stanton Berg found that there was a matching of visible class characteristics (the number of lands and grooves, the direction of twist, the widths of lands, etc.) between all the test-fired bullets (1968 and 1975) and the evidence bullets. But Berg found that there were not sufficient well defined and distinctive individual characteristics on both the test bullets and the evidence bullets to permit a positive determination or conclusion that all the bullets had been fired from the Sirhan weapon. Additionally, Berg also commented that changes in the barrel condition prevented an identification of the Sirhan weapon with the 1975 test-fired bullets. He was referring to the fact that the test panel was able to match the 1975 test-fired bullets with each other and yet had great difficulty in matching any of the 1968 test-fired bullets. But Berg did conclude that there were sufficient well defined and distinctive individual characteristics in a bullet taken from Exhibit 55 (one of the bullets in the mismarked envelope introduced at trial in 1969) to conclude that this particular bullet, the third bullet of the three introduced at trial by DeWayne Wolfer, had been fired by the Sirhan weapon. Berg felt that the other two bullets in People's Exhibit 55 at trial could not be identified because of the lack of sufficient such markings. Again, Berg felt that this was due to changes in the barrel condition. Berg also commented that the gross individual characteristics were found to be the probable result of existing damage at the barrel and bore muzzle. This was determined by microscopic examination of the bore directly, and from an examination of the bore casts.