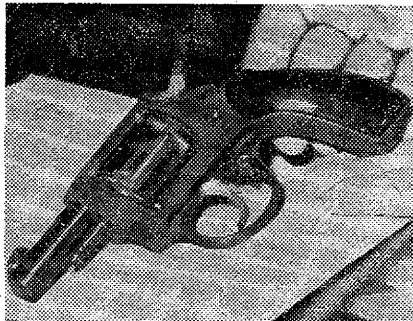


NEW QUESTIONS

THE DEATH OF RFK



Ballistics man Harper
A matter of 'minutes'



The .22 caliber revolver
recovered from Sirhan.

ARTICLE III: *Bullets and Guns.*

By RALPH BLUMENFELD

THE TWO-GUN theory of the assassination of Robert F. Kennedy first took root in what the Los Angeles Police Department insists was "a clerical error."

It was an error that resulted in a mixup of two very real revolvers, identical .22-caliber eight-shot Iver Johnson Cadet models with short barrels—identical in all but serial number.

One was H53725, the weapon torn from Sirhan Sirhan's grip in those chaotic moments after he fired it at RFK on June 5, 1968, in the kitchen pantry of the Ambassador Hotel in Los Angeles.

The other was H18602, which had come off the Iver Johnson assembly line some 35,000 guns earlier than H53725. The H18602 revolver had been picked up by the LAPD from a holdup suspect a year before the assassination.

Officially, H53725 was the weapon that killed Kennedy. This was based on the sworn testimony of DeWayne A. Wolfer, chief of the LAPD Crime Lab, at Sirhan's trial in 1969.

Wolfer testified that he had test-fired Sirhan's H53725 the day after the murder and had retrieved three test bullets, which

he introduced into evidence as Exhibit 55, in a small manila envelope.

He said he had used the test bullets "for comparison purposes" with a nearly intact bullet removed from Kennedy's sixth cervical vertebra, and placed them side by side under a comparison microscope to "observe the striations or the scratches" and to see if they matched.

They did match, Wolfer said—and so did two other bullets taken from wounded victims William Weisel and Ira Goldstein, all "fired from the same weapon." Trial Judge Herbert V. Walker helpfully added, "from this gun and no other gun"—the ancient legalism for a classic positive identification of a murder weapon . . . in this case, H53725.

But in a blunder that may never be fully explained, the gun number inscribed by Wolfer on Exhibit 55—the manila envelope containing the test bullets, was not H53725. It was H18602.



Nobody noticed it for almost 21 months, long after Sirhan was convicted of murder. It was William W. Harper, the Pasadena criminalist who undertook to study the physical evidence for a new team of Sirhan lawyers, who on Nov. 16, 1970 discovered the mislabeling of Exhibit 55.

When Wolfer and the LAPD argued that the mislabeling was merely a "clerical error"—of little consequence—Harper began a slow burn that has lasted to this day.

"Let us ponder a simple analogy," Harper, 72, said recently. "Let's say that one day you become ill and your doctor sends you to a hospital for a biopsy test for cancer. The biopsy specimen is numbered H53725. The test is reported negative for cancer, and you go home. Then you get your bill—and you find out you're paying for a test with a different number, H18602.

"Hell's fire, you'd want to get tested again, wouldn't you?"

Since Wolfer had made no photomicrographs of his bullet examination, nor any written record, a refiring of the test gun H18602 would have been advisable in order to substantiate Exhibit 55 findings.

That would prove impossible, it turned out. Because H18602, originally drawn by Wolfer from the LAPD Property Division on June 10 (again with no written record) for muzzle-distance and sound tests, had been routinely destroyed by the LAPD in 1969, one year after the tests.

Harper, who had spent 35 years as a consultant to both prosecution and defense teams in murder trials, felt a commitment to the integrity of forensic science and, simultaneously, a considerable doubt about Wolfer's commitment. He believed Wolfer had made a wrong bullet comparison in the 1967 murder trial of Jack Kirschke—an error subsequently confirmed by a California judge who, however, absolved Wolfer of perjury charges.

With these errors in mind, Harper addressed himself to Wolfer's bullet comparisons in the RFK case—and discovered several more major problems, of which we will address ourselves to three. Rifling angles, cannellures and "independent characteristics" of bullet identification.



RIFLING ANGLES: The rifling of a gun barrel provides the "spin" that stabilizes a bullet's direction when it emerges from the barrel. It is an indented spiral groove that is "filled" by the lead bullet passing through, creating a *raised* groove on the bullet. The angle of steepness of the raised groove is the bullet's rifling angle.

The angle of the rifling impressions on the Kennedy and Weisel bullets—both presumably fired from either H53725 or H18602—differed by 23 "minutes," or almost a half-degree, according to measurements Harper made with a microscopic Balliscan camera.

The difference in minutes amounted to 14 per cent in a basic class characteristic of the two bullets, and nowhere had Wolfer indicated that he had made a direct comparison of the Kennedy and Weisel bullets. The importance of this in Harper's view was that the two bullets could not have come from the same gun with *any* difference in rifling angles, and on Dec. 28, 1970, he signed an affidavit declaring that they had *not* both come from Sirhan's gun.

CANNELURES: Harper noticed for the first time that the Weisel bullet had two knurled concentric rings, known as cannellures, while the Kennedy bullet had only

one. This suggested that the two bullets had come from different manufacturers, although both were of the "long rifle" bullet-type with similar weights (37 grains) and identical lengths.

The eight shell casings in Sirhan's .22 each bore the insignia of the Cascade Cartridge Co. of Lewiston, Idaho, also known as Omark Industries. Harper was unable to find out whether Cascade's .22 long-rifle bullets had two cannellures or one.

The cannellure discrepancy persisted, however, and in 1973 it came to the attention of Prof. Herbert L. MacDonell, one of the nation's most prominent firearms analysts and director of the Laboratory of Forensic Science in Corning, N. Y.

After more than a year of investigation, MacDonell was advised on Oct. 7, 1974, in a letter from Omark Industries, that Cascade had *never* manufactured a .22 long-rifle bullet with fewer than two cannellures. Since the Weisel bullet showed two cannellures, it could have come from Sirhan's gun, MacDonell concluded. But since there was "a very clear single cannellure present on the Kennedy bullet," he says, it could not have been fired by Sirhan's gun.

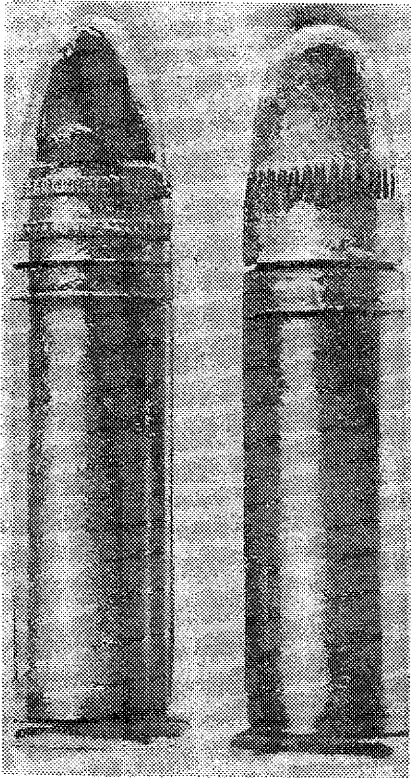
Last January 20, MacDonell signed an affidavit declaring that a second gun must have fired the Kennedy bullet.

The official position of Los Angeles DA Joseph P. Busch Jr. and the LAPD, before and after MacDonell's affidavit, is that the number of cannellures rings does not represent scientific evidence in the minds of all forensic scientists. Their contention is that a second cannellure on the RFK bullet might have been "erased" either on impact or during its passage through the barrel of Sirhan's gun.

MacDonell told The Post on May 11: "The issue is whether you can wipe off one cannellure and leave a good clear cannellure behind it. My opinion is that you cannot. It [any obstruction] would simply take them both off. They run in *tandem*, one behind the other, and they are removed in tandem."

INDIVIDUAL CHARACTERISTICS: Wolfer's bullet comparisons, unsupported in court by either photographs or written reports, were very limited. He testified only to having "matched" an unspecified test bullet against the Kennedy, Weisel and Goldstein evidence bullets, and to having found "matching" striations or markings classified as individual characteristics. These

Post Daily Magazine



Bullet on the left is the same type as that taken from wounded bystander William Weisel. The one on the right is of the type taken from RFK's body. Cannelures (knurled rings) near the tops do not match.

linear markings are roughly comparable to fingerprints.

Harper went somewhat further with his microscopic Balliscan camera.

First he compared the Kennedy and Weisel bullets and found no matching striations. (The Goldstein bullet had been too distorted by a ricochet for any analysis, Harper concluded.) He then compared the three test bullets to each other, he said, to find comparison points impressed on them by what was either Sirhan's H53725 or the test gun, H18602. These points constituted a "signature" area, necessary to interpret the striations on the Kennedy and Weisel bullets.

Harper then compared each of the three test bullets to both the Kennedy and Weisel bullets. And he concluded that there were no similar striations in any of the six comparisons. This confirmed Harper's personal suspicion that Wolfer's classically positive bullet identifications might have been faulty.

Harper was only one opinionated man,

however, as LAPD defenders have pointed out. His support in the forensic science community was limited until MacDonell entered the picture, confirming Harper's photographic analysis and then underscoring the cannelure issue. Both men began insisting on a re-firing of Sirhan's gun.

"There is so much evidence that these [Kennedy and Weisel bullets] were in fact not fired by the same weapon as to be overwhelming," MacDonnell says, "but I say run the damn tests the way it should have been done. This is the way we prove something was fired in the same barrel."

Two men, both highly respected in their fields. And now there is a third.

He is Lowell W. Bradford, 56, former director of the Santa Clara County Laboratory of Criminalistics in San Jose, Cal., and now a private consultant to government agencies.

Bradford examined photographs of the RFK and Weisel bullets—both Harper's 1970 set and another Balliscan photographic study in 1974—and concurred that Wolfer's striation comparison was absent. He concluded that a re-examination of Wolfer's bullet comparisons is needed.

"There was an identification of the perpetrator by witnesses who saw him shooting," Bradford told The Post on May 12, "but the real link between the Kennedy bullet and Sirhan was Wolfer's testimony about a bullet comparison. Now, if you don't find any matching striations, what it means is that Wolfer was wrong. It means that there is now a disconnection in the problem of proof—that there is no proof to identify Sirhan's gun with the bullet in Kennedy."

DA Busch and the LAPD contend that "air oxidation" and "excessive unauthorized handling" over the years may have "changed" the bullets' identifying characteristics.

"I don't believe that from seeing the Balliscan photos," Bradford said. The bullets showed "beautiful identification marks with no apparent change" between 1970 and 1974, he said. The marks just didn't match.



Bradford describes himself as a long-term friend of Wolfer as well as of Harper. "I've known them both for years," Bradford said. But Bradford observes that the failure of Sirhan's trial lawyers to challenge Wolfer's unsupported bullet comparisons served to compound the current doubts.

"What you've got in the Sirhan case now, Bradford said, "is unsupported evidence followed by no cross-examination. And now the value of the cannelure work that's been done and the rifling-angle work is something to show there's a reasonable cause to go into the question of whether the bullet comparison is accurate. If it isn't, then all of this other stuff has some meaning.

"Yes, I'm a friend of Wolfer's, but if he deserves it, take him apart. My theory is, let the chips fall where they will."

TOMORROW: The Lines of Fire.