## JFK Shots: 'nuts' may be right

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Of The Bulletin Staff

Since the Warren Commission report was issued in September 1964, the official verdict on the death of John F. Kennedy has been that the President was slain by a single assassin — Lee Harvey Oswald — acting alone and without help.

It was a verdict accepted by the Kennedy family, supported by the FBI, defended by the members and staff of the Warren Commission, and generally endorsed by the news media. But it was disputed by a sizeable body of critics — who were often dismissed as "conspiracy nuts" — and disbelieved by a majority of Americans.

Now, for the first time, an arm of the government has concluded that the "nuts" are right and the official verdict is wrong. There was a second gunman in Dallas on Nov. 22, 1963, according to the House Assassinations Committee, and Kennedy was the victim of a conspiracy.

This conclusion rests almost entirely on an acoustical analysis of sounds transmitted from a police motorcycle radio in Dealey Plaza, scene of the murder, to a dictaphone belt at Dalias police headquarters.

After taping the cracked margins of the 15-yearold, static-filled belt to prevent further deterioration, experts discovered what they said were the sounds of four gunshots — three coming from Oswaid's nest in the Texas School Book Depository behind the presidential limousine and one originating from a grassy knoll in front of the motorcade.

The committee, which received this evidence after it already had concluded there was no conspiracy, reversed itself and ruled there "probably" was a conspiracy, thereby irretrievably altering the historical record of the Kennedy assassination.

The speed with which the committee accepted this little-understood scientific evidence never before used in a criminal proceeding has triggered the sort of wrangling the two-year investigation was designed to end

"The committee has done a real disservice to history," said former Philadelphia District Attorney Arlen Specter, a Warren Commission staff lawyer and author of the "single-bullet" theory that conspiracy supporters reject as untrue

That theory has Kennedy and then-Texas Gov. John B. Connaily being wounded by the same builet, thereby explaining away the impossibility of Oswald's being able to fire two shots within 1.3 seconds, the time in which both men were struck.

"These conspiracy stories have been kicking around for 15 years, but now there'll be no end to them," Specter said. "Once they get on the front pages of the newspapers you can never catch up to them. The committee had an obligation to do more work before announcing such a conclusion."

U.S. Rep. Robert W. Edgar (D-Pa), one of two committee members to vote against reporting a probable conspiracy (five others voted for such a report), said more testing should have been done before the panel committed itself to a conspiracy.

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The other no vote came from Rep. Christopher Dodd (D-Conn), who maintains that at least three gunmen had to be present in Dealey Plaza if the acoustical data is correct.

"Two weeks before (the Dec. 30 proconspiracy report), we had a 600-page document that said in big, black letters that Lee Harvey Oswald acted alone," said Edgar. "Then we received this scientific testimony and that's when we scrambled to have the last possible day of public hearings."

The public hearing was held Dec. 29, five days before the committee was to go out of existence. At that hearing, Mark Weiss and Ernest Aschkenasy, acoustics analysts at Queens College in New York, said there was a "probability of 95 percent or better" that a shot was fired from the grassy knoll at the same time that Oswald was believed to be firing three shots at Kennedy.

Weiss and Aschkenasy had been retained by the committee to review and refine earlier studies done by Dr. James Barger, a Harvard-trained puysicist and acoustics expert. Barger, using filtering techniques not available to the Warren Commission. reported last Sept. 11 that he had discerned four impulses on the Dictabelt, compared them to test shots fired in Dealey Plaza, and believed there was a 50-50 chance that one of them represented a shot coming from the grassy knoll. The other three, he said, were shots from the Texas School Book Depository,

The Queens College experts, using Barger's background work, zeroed in on the third of the four impulses, which was believed to be the shot from the grassy knoll. With the aid of sophisticated signal devices, they were able to isolate the sounds on a portion of the recording lasting only three-tenths of a second into the noise

of a muzzle biast and separate reports of echos glancing off buildings.

In an interview, Weiss said that since sound travels at a given rate of speed (about 1,000 feet per second), the origin of the shot could be determined by measuring the time consumed before each echo reached the motorcycle microphone and translating that into the distance the sound had traveled.

Once the distance was known, he said, lengths of string were cut to scale and the ends of the string were thumbtacked in positions representing the locations of the motorcycle and the shooter on a map of Dealey Plaza.

The string was then pulled taut and moved elliptically around Dealey Plaza. When the string coincided exactly with a building—or echo surface—it suggested the positioning of the mo-

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torcycle and the shooter was correct.

Tracking an individual echo would not have established the presence of a second gunman on the grassy knoll, Weiss said, because such an occurrence could happen randomly.

In their tests, he said, 12 "impulses" from the Dictabelt were tracked and 10 of them matched exactly with echo surfaces in Dealey Plaza, a percentage far beyond mere statistical chance.

"I came into this thinking we were going to hear a lot of acoustical garbage," Weiss said. "But after we got into it, it was clear that something was happening. Aschkenasy said to me, 'These numbers just won't go away.' And they wouldn't."

Although evidence of this nature has not been used before in criminal cases, Weiss said it would hold up under scientific scrutiny.

"The laws of physics apply in Dealey Plaza just as they do anywhere else," he said.

Critics of the Warren Commission were cautiously pleased by the

committee's finding of a probable conspiracy, but still expressed dissatisfaction with the panel's overall investigation.

"I'm a little nervous about putting all the conspiracy eggs in this one basket," said Paul Hoch, a Berkeley, Calif., computer scientist and well-known assassination analyst. "My intuition tells me these tests are good, but theories of probability are tricky. I'd feel more comfortable if they ran tests all over Dealey Plaza and if they would examine the shots that supposedly came from the Book Depository more closely. I'd also like to be sure that the motorcycle was really in Dealey Plaza."

Hoch said he was disappointed that committee seemed to "assume" that Oswald was guilty and "never really" looked into the possibility that he was framed.

"The science seems to stand up," said Jeff Goldberg, of the Washington-based Assassination Information Bureau. "But we would like to see other scientists run tests. A lot more has to be done. There could have been more than four shots. The single-bullet theory is still a problem."

Goldberg said a newly-discovered film of the assassination scene taken by Charles A. Bronson of Ada, Okla., shows what could be more than one person at the sixth-floor window of the Book Depository from which Oswald is believed to have fired. That film should be scientifically enhanced to determine just how many persons are in the window, he said.

"I think there's just not a thing to it," said Specter. "There are a lot of assumptions. Nobody saw anybody with a rifle on the grassy knoli. No shells were recovered. Nothing was hit. The car wasn't hit and that was a big target."

The committee has recommended that the Justice Department reopen the probe into the murders of Kennedy and The Rev. Dr. Martin Luther King Jr. The initial reaction from the Justice Department and the FBI has been to make no commitments until the committee's full report is available in late March.

Unofficially, the department and the FBI indicate there is little chance of coming up with anything new more than 15 years after the Kennedy assassination.

The believers in conspiracy, while wanting the investigation reopened, do not want the FBI running it. The FBI, they say, was responsible for what they feel was a cover-up of the circumstances of the assassination.

"What we need is a special prosecutor, independent of the FBI," said Goldberg.

So far, there has been little enthusiasm exhibited in Congress for creating such a special prosecutor.

Despite the apparent reluctance of the Justice Department and the Congress to authorize massive new probes, the key remaining question is:

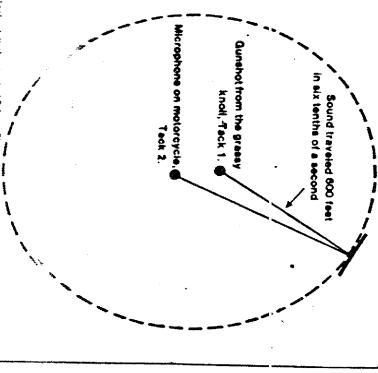
Can the United States government permit the last official word on the murder of a President to be, "The committee believes, on the basis of the evidence available to it, that President John F. Kennedy was probably assassinated as the result of a conspiracy?"



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## How experts verified a shot

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Scale: I inch equals 10 feet. This illustration represents sound traveling 600 feet from the gun muzzle to the echo surface and back to the microphone in six-tenths of a second.

Grassy knoll

Acoustic analysis of Dallas police tape showing time and origin of shots on Nov. 22, 1963.

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