

# INVESTIGATION OF THE ASSASSINATION OF PRESIDENT JOHN F. KENNEDY

MONDAY, SEPTEMBER 11, 1978

HOUSE OF REPRESENTATIVES,  
SELECT COMMITTEE ON ASSASSINATIONS,  
*Washington, D.C.*

The select committee met, pursuant to adjournment, at 9:10 a.m., in room 345, Cannon House Office Building, Hon. Louis Stokes (chairman of the select committee) presiding.

Present: Representatives Stokes, Devine, Preyer, McKinney, Sawyer, Dodd, Ford, Fithian, and Edgar.

Staff present: G. Robert Blakey, chief counsel and staff director; Elizabeth L. Berning, chief clerk; Leodis Matthews, staff counsel; and Gary Cornwell, deputy chief counsel.

Chairman STOKES. A quorum being present, the committee will come to order.

At the outset of this morning's hearings I would like to make some brief remarks.

This morning, the Select Committee on Assassinations begins its second week of public hearings into the death of President John F. Kennedy. The evidence to be heard today will be directed toward the number, direction and timing of the shots fired at President Kennedy in Dealey Plaza on November 22, 1963.

Much of the evidence heard last week by the committee tended to support the basic conclusions of the Warren Commission, which concluded that Lee Harvey Oswald was the lone assassin of the President.

The evidence to be heard today will be troubling to some persons. I would caution against those who would too quickly draw sensational conclusions from this evidence.

Mr. Justice Holmes used to say that the first requirement of a good theory was that it fit the facts.

Since all of the evidence in the Kennedy investigation is not in, it is not yet possible to fit any theory to the facts. A final resolution of the questions that may be raised by today's evidence must, therefore, await the conclusion of our hearings and the submission of our final report in December.

Mrs. BENSON. Mr. Chairman, my name is Mildred Benson. I am from Pittsburgh.

The Kennedy assassinations——

Chairman STOKES. Madam, you are disturbing a congressional hearing and that will not be tolerated.

Madam, I will have to ask you to leave the hearings.

Mrs. BENSON. These were political conspiracies. My family and I have been subjected to a savage program—

Chairman STOKES. Will the Capitol Police see that this lady is removed from the hearings?

Mrs. BENSON. John Kennedy and Robert Kennedy were killed by political conspiracy.

Chairman STOKES. The Chair recognizes Professor Blakey.

#### NARRATION BY G. ROBERT BLAKEY, CHIEF COUNSEL

Mr. BLAKEY. Thank you, Mr. Chairman.

Three days of testimony before the committee—both firsthand and expert in character—have indicated that a number of crucial issues in the Kennedy assassination turn on questions relating to the shots fired by the assassin or assassins.

How many were fired?

What was the time span between them?

From what direction were they fired?

Put succinctly: resolving the question of the number of those who participated in the assassination itself—a lone assassin or more than one gunman, that is, a conspiracy—may well hinge on the number of shots fired, the time interval between them, and the direction from which they were fired.

As we have seen, the Warren Commission was persuaded that there were at least two shots—more probably three—and they all came from the Texas School Book Depository, which was to the right rear of the Presidential limousine. The Commission found the discovery of three spent cartridge cases on the floor of the sixth story of the book depository, its most persuasive evidence on the question of the number of shots, even though the medical and ballistics evidence could account for only two shots.

Based on expert FBI testimony that the minimum time required to fire the rifle ranged from 2.25 to 2.3 seconds and an analysis of the Zapruder film, it also concluded that the time from the first to the last shot most probably ranged from 7.1 to 7.9 seconds.

The best way, of course, to determine the number of shots is to listen to them—either when they occur or subsequently—on a sound recording, if one were to exist. The Warren Commission was alerted to the possibility of such a recording, one that was made by Dallas radio station KBOX and later used as part of a phonograph record produced by Colpix, Inc., "Four Days that Shocked the World." A private citizen who had bought the record informed the commission on January 8, 1964 about the program and suggested that sounds of shots could be detected in an on-the-scene account of the assassination by Dallas reporter Sam Pate.

The Commission obtained the recording from KBOX, and on June 29 Assistant Counsel Arlen Specter wrote a memo to General Counsel J. Lee Rankin in which he noted, "Several members of the staff listened to the tape and heard two noises which sound like gunshots . . ."

On June 30, the Commission sent the tape to Dr. Lawrence Kersta of Bell Telephone Laboratories, Murray Hill, N.J. Dr. Kersta's analyses of the tape, however, were apparently inconclusive. I say "apparently," because attempts by this committee to find reports of Dr. Kersta's work have been to date unsuccessful.

Another way to try and pin down the number, time sequence and direction of the shots is to take testimony from on-the-scene witnesses. The Warren Commission conducted—or had conducted for it—exhaustive interviews of this character.

The recollections of the witnesses, however, were far from consistent. On the number of shots, the range was two to six, although three was seemingly the consensus. The time sequence ranged from 5 to 6 seconds.

On their origin, reactions were also mixed. Many witnesses thought they came from the general direction of the book depository, but a significant number of others put the firing point at a piece of elevated landscape to the front and right of the limousine that has come to be known as the “grassy knoll.”

Many witnesses frankly confessed confusion. For example, Abraham Zapruder, who stood on a concrete abutment in front of the grassy knoll and took his widely viewed movie of the assassination, said that he thought it came “from back of me,” but that there was “too much reverberation” to tell for sure.

In any event, it seems clear that any serious effort to explain or understand what happened in Dealey Plaza must take into account all of the firsthand evidence on number, time and direction—even when it is apparently in conflict.

On the other hand, some of the testimony relating to the direction of the shots was based on more than a reaction to the bark of a rifle. Howard L. Brennan, for example, said he actually “saw a man fire one shot” from the depository. James Jarman, who was on the fifth floor of the depository, also said he heard the sound of a bolt action of a rifle and the cartridge cases dropping to the floor above him.

Nevertheless, many critics have alleged that the Commission, in the ultimate analysis, forced the evidence on the question of number and direction into a mold consistent with the discovery of the three cartridge cases on the sixth floor of the book depository.

Mark Lane, for example, argues that this was how the single bullet theory came into being. In his “Rush to Judgment,” Lane writes the Commission “. . . salvaged its basic working hypothesis (the lone assassin theory) by concluding that the bullet that struck Governor Connally first struck the President.”

Josiah Thompson, in his “Six Seconds in Dallas,” did a statistical analysis of the statements of the witnesses to the shots. His findings support the commission on the number of shots but dispute it on the direction from which they came: 84.4 percent of them heard three shots, Thompson found, but of those who had an opinion as to direction, 52 percent thought they came from the grassy knoll, 39 percent from the direction of the depository.

Inevitably, of course, the select committee has had to attempt to unravel these conflicting views. Fortunately, it has had the aid of modern technology. New scientific methods have been applied to old evidence in some cases; in other cases, it has analyzed important pieces of new evidence that had previously been overlooked. For one example, the committee devised new tests for the Zapruder film, an original piece of evidence. For another, the committee asked a consultant to perform advanced computer studies with new

evidence, a sound recording of the assassination itself that has been only recently turned up.

The photographic experiments were conducted by the committee's photographic panel of experts. They involved attempts to analyze camera "jiggle" in an effort to record what may well have been the startled reactions to gunshot.

The thought was that Zapruder may have reflexively moved his camera when he heard each shot. By measuring the intensities of blurs on a given frame, it was hoped that the timing of the shots could be indirectly pinpointed.

Dr. William Hartmann was in charge of what has come to be known on the staff as the jiggle analysis. Dr. Hartmann received a B.S. degree in physics from Pennsylvania University in 1961, an M.S. degree in geology from the University of Arizona in 1965 and Ph. D. degree in astronomy from the University of Arizona in 1966. He has been assistant professor at the University of Arizona Lunar and Planetary Laboratory, associate and senior scientist at the IIT Research Institute and currently is the senior scientist at the Planetary Science Institute of Scientific Applications, Inc.

Dr. Hartmann is a member of the American Astronomical Society and is the cowinner of the 1965-66 Ninniger Meteorite Award. He has written numerous professional articles and has served as an associate editor of the Journal of Geophysical Research. He has authored a planetary textbook and coauthored a book on the planet Mars.

Dr. Hartmann served as a photo analyst for the U.S. Air Force/University of Colorado study of UFO's and served as photo analyst and coinvestigator on the Mariner 9 mission to photograph Mars.

It would be appropriate at this time, Mr. Chairman, to call Dr. Hartmann.

Chairman STOKES. The committee calls Dr. Hartmann.

Sir, will you raise your right hand to be sworn?

Do you solemnly swear that the testimony you will give before this committee is the truth, the whole truth, and nothing but the truth, so help you God?

Dr. HARTMANN. I do.

Chairman STOKES. Thank you.

You may be seated.

The Chair recognizes counsel Gary Cornwell.

Mr. CORNWELL. Thank you, Mr. Chairman.

Dr. Hartmann, as a member of the photo panel, did you conduct photographic analysis in order to determine if there was any measurable reaction on the part of photographers who were taking pictures in Dealey Plaza at the time of the assassination which might be associated with the sound of gunfire?

#### TESTIMONY OF WILLIAM HARTMANN

Dr. HARTMANN. Yes.

Mr. CORNWELL. What theoretical reason or justification would there be for conducting that type of analysis?

Dr. HARTMANN. I think there are several possible justifications for it that add together.

First, psychological experiments have shown that there is a rather universal startle reaction, and interestingly enough, the