

7/16/93

PLANS TO TEST THE SINGLE BULLET THEORY

I. Introduction

This summer, a few of the critics (Dr. Cyril Wecht, Larry Howard, Wallace Milam, Gary Shaw) have taken steps to test the validity of the single bullet theory. Plans are being made to fire appropriate ammunition at mock-ups of gelatin and bone and to film the tests with video and high-speed cameras. Larry Howard and Wallace Milam met with a member of the biochemistry department at University of Texas Arlington to discuss creation of the gelatin mock-ups and conducting the tests at a firing range on campus. Plans call for testing in late summer, with the press invited to view the tests live. We also plan to invite those who defend the single bullet theory to both have input into the planning of the tests and to observe the tests. [It is expected that they will probably refuse to do either, and to claim that the tests will be invalid.] The purposes of this memorandum are:

- (a) to acquaint you with the test plans
- (b) to gain your input into planning of the experiments
- (c) to ask for your financial support of the testing, if you feel inclined to give it.

II. Overview

Three tests or series of tests would be performed:

- (a) shooting of gelatin blocks and bones to simulate Kennedy and Connally and test the single bullet theory, including damage to the bones and, of course, damage to the bullet(s)
- (b) performing of a paraffin test on the cheek of the shooter after the first three shots
- (c) shooting of appropriate animal skulls anchored to a latter to test for directionality of the head shot

III. Thoughts, Problems, Considerations in Planning

A. THE SITE

- * Factors here included an area of proper size, with both the capacity for privacy and also for access by the press, area to set up cameras, etc.
- * Because of the fact that gelatin can deteriorate rapidly in Texas summer heat, it was suggested that the tests should be conducted as near the refrigerated storage facility as is possible. Texas-Arlington has both an indoor and an outdoor shooting range. Larry Howard used the Texas-Arlington facility to assemble and store the gelatin mock-ups he used for his tests which were shown on national television last year.
- * On the assumption that Texas-Arlington would allow use of its storage facilities and its shooting range, it seems to be an ideal place for the tests.

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B. RIFLE, AMMUNITION

- * We have access to an appropriate Mannlicher and approximately 100 rounds of 6.5 mm WCC ammunition, which is the amount estimated to be needed.
- * We have not made detailed inquiry into obtaining the materials necessary to conduct a paraffin test on the shooter's cheek after he has fired his first three shots.

C. INSURING PROPER BULLET VELOCITIES

- * This is crucial to any valid testing, and is the one area our detractors would be quickest to seize upon if we failed to create conditions in which the bullets would be moving at the critical speeds (a) at the muzzle, (b) after emerging from "Kennedy, (c) after emerging from "Connally's chest" and striking "wrist."
- * It will be necessary to employ a special type of device to measure bullet velocities with accuracy.
- * We will attempt to achieve the same velocities at various stages of the bullet's path that the Edgewood testing range used for the Warren Commission in 1964.

D. MOCK-UPS

- * Larry Howard had excellent success in building frames or molds and then having the gelatin mixture poured into the molds to harden. The length and width of the blocks needs to be roughly the same as for a human male as seen from the waist up. Thickness should be adjusted to accommodate a 172 lb man (Kennedy) and a 225 pound man (Connally).
- * The appropriate bones [SEE BELOW] are imbedded in the gelatin at the beginning of the hardening process.
- * In at least one of his numerous articles on wound ballistics, Martin Fackler has given the formula he uses in making gelatin mock-ups for his tests. We should acquire this formula from him and use it in making our mock-ups, so that there can at least be no complaint about that aspect of our testing.
- * The two gelatin mock-ups should be placed so that "Connally" is 25 inches in front of "Kennedy" in direct line. [THIS IS THE GAP BETWEEN THE TWO MEN ACCORDING TO HSCA'S PHOTOGRAPHIC PANEL.]

D. BONES, SKIN

- * We must have bones for "Connally's" ribs and also for "Connally's" wrist.
- * Larry Howard used the ribs of a calf in his tests last year. It would seem that our efforts should be to secure bones which are as nearly the same size as human ribs as possible, but, if they vary, should be smaller in size, so as to attempt to satisfy those who will find fault with our testing.
- * A real problem is bone appropriate for the wrists. It seems unlikely that we can acquire 10-20 human wrists. We have to find readily-available wrists which come as anatomically close to human wrists as possible. [If they are not the same size as human wrists, they should be smaller.]
- * We are also open to suggestions about simulated skin to cover the gelatin blocks and the "wrists."

E. CAMERAS, FILMING

- * We feel that professional camera crews should be hired to record the tests. We know that many have camcorders we could use without charge, but it is felt that these tests are very important and might only yield one bullet which completely traverses the mock-ups and follows the same trajectory CE 399 is alleged to have done. It would be a shame not to have that recorded properly.
- * Perhaps one camera would be stationed fairly near the targets while another would capture the shots from a longer range.
- * A high-speed camera, which can trace the path of bullets through the gelatin, is a must.
- * We also feel that every step in the preparation of the molds, the assembling of the mock-ups, stills of the ammunition, the guns used, the firing range, etc. should also be recorded as they take place. [This pre-shooting work could be done by amateur camera people.]

F. CATCHING BULLETS, FRAGMENTS, ETC.

- * Obviously, provisions must be made to recover either bone or bullet fragments from the test and to shield the immediate environment from stray bullets. An examination of both bullet fragments and bone fragments is important.
- * Gary Shaw suggests a kind of canopy to surround the "Connally" mock-up, leaving on room for a camera to record from the side. This canopy would be made of molded styrofoam.

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[He thinks he can get styrofoam molded to just about any shape and size.] It would be lined with absorbent material to capture any stray fragments. The trick will be to provide a canopy which encompasses more than 180 degrees around the figure and still permits filming of the impact on the "Connally" mock-up

IV. The Principal Problem

According to Gary Shaw and others who shoot regularly, the major problem will be to get our bullets to maintain a straight line as they move into denser media. For example, when the bullet enters "Kennedy" neck gelatin, it may yaw, tumble and veer from a straight line and not strike the "Connally" rib in front. Even more likely, when the "Connally" rib is struck, the bullet may veer and not strike the "Connally" wrist. Hence the need for several mock-ups. It is quite conceivable that even 20 shots may not produce one which connects with both "Connally" rib and the "Connally" wrist. As a last resort, we can do what other testers (including Fackler) routinely do: download the ammunition until the proper speed is achieved and then shoot the rib and/or wrist separately. This should produce the same result, but does not allow for tumbling and, of course, would not have the dramatic visual effect of a bullet ploughing through the gelatin, etc.

V. The Head Shot Simulation

Possibly, a sheep's head or a pig's head could be used. It would be anchored to a ladder by PVC pipe (vertebral column) and by some sort of elastic bands to simulate tendons linking ladder and head. We would shoot three tests: bullet striking high in back of head, bullet striking low in back of head, bullet striking from right front. Two video cameras plus the high-speed camera would record this.

VI. Your Input

We welcome any and all suggestions. We would particularly appreciate input in these areas:

- * wrists which might be used
- * skin coverings
- * ways of trapping the bullets and fragments
- * suggestions for a draft letter to be sent to people such as Fackler, Artwohl, Lattimer, Lundberg, laying out the project, inviting them to submit input and to attend.
- * suggestions concerning the head shot
- * any other problems which you foresee which may have been overlooked here

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VII. Financing the Project

It has been estimated that \$10,000 will be an abundant amount for this project. It may not cost nearly that. The major expenses will be for camera work, film editing, and for renting apparatus (and expertise) for measuring bullet velocity. Gelatin is cheap. Texas-Arlington may well donate its facilities--or will charge, at best, a nominal fee. Bones should not be expensive, and styrofoam molds can be prepared reasonably.

- * Some of us--Wallace Milam, Dr. Wecht, Gary Aguilar, Randy Robertson among others--have pledged to support the testing. We feel that it will not be difficult to raise \$10,000 for what would clearly be a worthwhile project and a public relations coup for this 30th anniversary.
- * It has been suggested that perhaps Larry Howard could open and manage a special account in Dallas, with all checks to be signed by both Howard and another designated person. Financial records would be kept and any money left over would be proportionally refunded to those who donated.
- * Financial questions to be resolved include:
 - What will become of the remaining money if the project should somehow fall through?
 - What sort of accounting and reporting procedures will be used to insure that everyone is fully satisfied with the financial arrangements?
 - Who will own the final product--the tapes or tapes?

VIII. Closing

Let me hear from you with your input soon. We are ready to move on this.

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