6 May

Harold —

I cannot remember whether I sent you this. It comes after the page that begins: However, the same steel surface etc.

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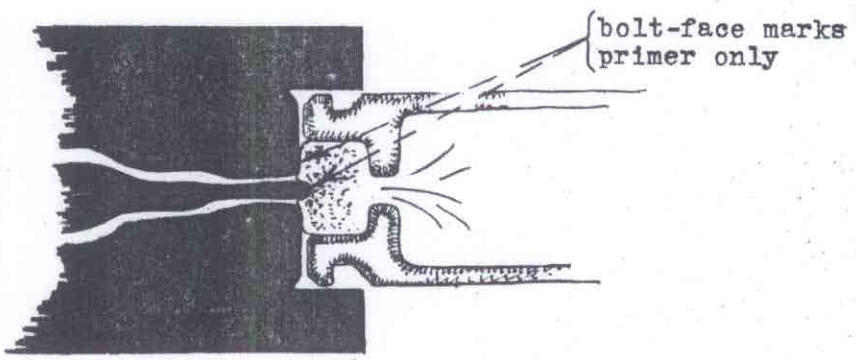
My rancor and my shame thrust me into a digression, and I have not yet explained why it was necessary in the collection of tests to fire the primers of empty cartridge cases, why the microscopic marks explain everthing.

When the primer of an empty cartridge case is detonated in a rifle chamber, the shape of the case is essentially unchanged, but the primer undergoes considerable alteration. Struck by a firing pin, the primer explodes and sends a fiery flash into the body of the case. Responding to the pressure produced by that explosion, the soft primer metal puffs up like a tiny balloon and blows back against the firing pin that tapped it and against the portion of the bolt-face that rests immediately behind it.

The Effect of Firing the Primer of an Empty Cartridge Case



The force of the primer's blow-back causes the primer to be imprinted by the steel bolt-face and firing pin of the rifle in which it is fired. When the pressure falls, the resilient surface of the primer recedes from its tight contact with the steel surface. It now bears a unique set of marks that can have been made by one bolt-face and one firing pin to the exclusion of all others in the world.

However, the same steel surface which produces certain characteristic marks on primers that are fired in empty cases regularly produces different marks on primers that are fired in fully loaded cartridges. Physical tests with 6.5 mm Mannlicher-Carcano rifles and with rifles of other calibers invariably produced no comparable similarities between microscopic marks that were produced on primers during simple primer blow-back and microscopic marks that were produced on primers during the blow-back of a whole cartridge case. When a particular rifle fires a bulleted cartridge, the bolt face and firing pin mark the primer in a particular way; when the same rifle fires an empty cartridge case, the same bolt face and the same firing pin mark the primer in another particular way. The difference is in the amount of pressure exerted; tremendous pressure makes a tremendous difference.

In legitimate tests, firing bulleted cartridges, Frazier could not have reproduced the microscopic marks that appeared on the primers of CEs 543, 544, and 545, for they had all been fired as empty cases. Nevertheless, Frazier did reproduce those marks, and he can have reproduced them only by firing empty test cases, at least two of them. The microscopic correspondences between the three cartridge cases and Frazier's two tests constitutes unequivocal proof that the primers of all five cases were imprinted under virtually the same pressure. There was only one way to reproduce those marks; Frazier's two test cases are tangible evidence that he did it in just that way and in no other way, for there was no other way.

Those tests do not prove Oswald's guilt; they prove Frazier's guilt-- and the guilt of those who control Fraz

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It is not possible to know whether Cunningham consciously participated in the frame-up of Oswald when he spontaneously offered an opinion concerning the microscopic marks depicted in Frazier's photographs. In the published record there is nothing which indicates that Cunningham examined the three rifle cases and Frazier's two test cases, and it is possible that he saw no more than the photographs. As the record stands, all that can be said is that Cunningham's comments were unwarranted.

Joseph D. Nicol, however, did examine the physical objects and furnished testimony corroborating Frazier's analysis of the three rifle cases. Of Nicol's qualifications the Warren Report says (WR 84):

> Joseph D. Nicol, superintendent of the bureau of criminal identification and investigation for the State of Illinois... has had long and substantial experience since 1941 in firearms identification, and estimated that he has made thousands of bullet and cartridge case examinations.

Although Nicol was sought as an independent examiner, in fact he was very much under the influence of evidentiary material that Frazier provided. Whatever the nature of Nicol's involvement in the framing of Oswald, under no circumstances can his examination be regarded as independent.

Nicol did not have access to the suspect rifle (3 H 508,510) and did not fire test cartridges of his own. Instead, for his microscopic comparisons Nicol relied entirely on the two test cases that Frazier had used (3 H 506). Commission Counsel Melvin Eisenberg had received the cases from the FBI and turned them over to Nicol on March 24, 1964, for examination (3 H 505). Perhaps the explanation for this faulted procedure occurs in connection with a discussion of Nicol's examination of a bullet and bullet fragments that came into evidence. Asked why he did not fire tests for his comparisons, Nicol replied (3 H 497f.):

> Well, probably two very basic reasons. One, the matter of time (Nicol testified on April 1, 1964), and secondly the fact that I did not have facilities in the area (Philadelphia; 3 H 498) where I was working for the collection of such tests from a high powered weapon.
>
> There is the other problem, as developed later, it was apparent that the weapon, even in the firing of this small sequence (Nicol refers to the series of shots that were required to produce two test bullets), was undergoing some changes, and it was my understanding that several

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> shots had been fired since these tests were fired and there might be some likelihood of transitory changes which would make these the best specimens rather than those I might now fire after this series.

Since Nicol was testifying under oath as a qualified expert, regardless of the likelihood that the rifle might have been affected by transitory changes, it was his responsibility to determine by direct examination whether in fact the condition of the rifle had changed. Instead, he relied on heresay information which, in spite of its alarming implications, does not rule out the possiblility that the rifle could still produce significant microscopic characteristics as a basis for comparison.

Melvin Eisenberg, who probably is the primary source of Nicol's information, describes the abusive treatment to which the rifle was subjected while it was in the possession of the FBI (viz. Frazier); (3 H 498):

> I had been informed by the FBI that some 50 or more bullets had been fired from the rifle, and that the firing of this many bullets from a high velocity weapon would seriously alter the microscopic characteristics of the barrel.

Undoubtedly that much firing would also alter the bolt face and several other important features of the rifle, so that the rifle may now be able to reveal nothing significant. Its value as evidence may have been completely destroyed, but as long as Nicol did not know the condition of the rifle by personally conducting a test, as an expert he was obliged to find out.

Nicol produced a series of four photographs illustrating the nature of his examination. Although the photographs, CEs 613-616, depict portions of the brass and primer of cartridge case CE 545 and similar portions of one of Frazier's test cases, Nicol testified only with respect to corresponding marks on the primers. If he observed that the brass on the five cases that came into his hands showed no indication that they had suffered the effects of blow-back, he made no mention of it in his testimony. He examined the brass carefully, and found marks at the base of CE 543 that were made by other means than by blow-back, but no marks that were caused by blow-back. I wonder why. I wonder if Nicol wondered why.

Similarly, Nicol was not asked and did not volunteer information about the dents on the five cartridge cases. As the record indicates, Nicol is a competent expert on firearms identification. To such experts, every mark on a cartridge case is a voice that tries

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to say something about what happened (or, in this instance, what failed to happen) to the cartridge case. Did Nicol not hear what those dents said, those five dents, those five voices? Were they speaking in a language that he did not understand? Or did he just hold his ears, close his eyes? It is certain, in any case, that he closed his mouth, for in his testimony no reference whatever is made to marks that appear elsewhere than on the base of the cases. Monkey see, monkey don't.

Can we determine precisely the nature and degree of Nicol's culpability in framing Oswald? We cannot, for the value of issuing half-truths under oath is that it does not involve you in half-lies. Nicol's conscience is clear; like George Washington and Robert Frazier, Joseph Nicol did not tell a lie.