

5/4/69

Dear Dick,

This morning I read the enclosure with your 4/29. I have a few suggestions, but the one I would emphasize is that you let any further finished writing wait a while, that you draft roughs and let them cool. You are too close to it.

You make out a good case, but in doing it you assume knowledge on the part of the reader even "buffs" may not have. Rectifying these will be simple. A minor example is on page 2, where many readers will not know what the "shoulder" of the case really is. At the same point, you assume the reader will know that the casings allegedly used in the murder also were dented and you do not adequately explain what CEs 544 and 545 are. This is occupational; I suffer it all the time.

After reading this I find the belief I earlier expressed more persuasive. I work two things together here. I said you should handle the dents and the targets-trajectories together. This should begin with a dramatic statement, unless it is designed to follow something else, like "Lee Harvey Oswald was framed, no less by the FBI than by those who made it appear he murdered the President when he did not." The case of the dents is strengthened by the case of the targets-trajectories and vice versa.

On page 2, is it safe to assume that there could not have been a special characteristic of this rifle that we have found in no other? Could something of this sort have caused the dents? Also on this page, at this point, you should explain how the tremendous pressure of the discharge removes existing dents and use John's pictures or make and use your own (can be done here).

Page three, "the accomplice". This refers to no one for you have not said there was any kind of accomplice.

Page 4: illustrations excellent. My one question is should you use "hardened" in connection with steel?

Page 6, bottom, add, past per, "much less" of "weaker" to comparison.

Bottom page 7 or top 8, even though you later say it, emphasize something of this sort: And Frazier testified to none - his pictures show none - he actually testified there were none." Or, say it here.

Page 10: did not JFK also weep because his own murder was unsolved and this is one of the reasons - perhaps because this framing hid the meaning of, the reasons for his murder - and thus the people did not understand why he was murdered?

Even if this is to be part of other writing, with something before and something after, I think it should open with a premise rather than a qualification of Frazier as a genuine expert. It is the kind of thing that warrants the dramatic. Were it designed for a semi-technical journal, I would still believe this.

I wrote John after getting the carbon of his undated letter to you. A copy is enclosed.

What are your plans? When do you expect to come? I should lay the groundwork with the Archives and make tentative dates with the local people.

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Harold:

With the enclosed, you now have all that I have written so far. There is more to come.

I made some revisions in stuff that I sent you earlier, one is major (bottom of p.8) but none disrupt the major conclusions. The dent on the case mouth was caused when the case mouth rammed the upper wall of the chamber, just as the bullet nose rammed it (as illustrated on p.8).

The only thing that remains unproved is the cause of the shoulder dents (p8). Once we get that, we have everything-- everything.

Is it too long? I hate to cut it down, for I feel like I'm cutting my soul. I'll continue to do a full thing, and trim later, if I must. This at least will give you complete information.

hbk

Bernabei

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Two C.S. 1

And two cartridge cases

Robert A. Frazier is a distinguished expert. The Warren Report summarizes his qualifications (WR 84):  
...Robert A. Frazier, a special agent of the FBI assigned to the FBI Laboratory in Washington, D.C. Frazier has worked generally in the field of firearms identification for 23 years, examining firearms of various types for the purpose of identifying the caliber and other characteristics of weapons and making comparisons of bullets and cartridge cases for the purpose of determining whether or not they were fired in a particular weapon. He estimated that he has made "in the neighborhood of 50,000 to 60,000" firearms comparisons and has testified in court on about 400 occasions.

*is competent  
and qualified*

That was in 1964, when the Warren Report was written. Presently, in 1969, he is chief of the Firearms Identification Unit of the FBI Laboratory. He does his work well.

The examination of the cartridge cases was chiefly the responsibility of Frazier, although he summoned other experts to corroborate his analysis.

*fired /*

In the course of his testimony before the Commission, Frazier introduced into evidence two cartridge cases that he had collected as tests for comparison with the three cases that were found near the window of the Depository building. Here is his testimony regarding the collection of the two test cases (3 H 415):

Question: I now hand you two cartridge cases, and ask whether you can identify these cartridge cases?  
Frazier: Yes, sir; these are the two cartridge cases we (sic) fired for test purposes in (the Mannlicher-Carcano rifle).

The two test cases were introduced into evidence as CE 557; both cases bear the same exhibit number. The interview continues:

Question: These were the only two cartridge cases fired as tests in (the Mannlicher-Carcano rifle)-- as tests for the purpose of identification of the cartridge cases which you examined before, 543, 544, and 545?

Frazier: Yes, sir; these two were used in those tests. There were many other cartridge cases fired, but not for that purpose.

Frazier explains in subsequent testimony that "those tests" are not the firing tests that he undertook on 27 November 1963 to ascertain the speed with which the rifle could be

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fired accurately. At 3 H 426 he says:

Those we used in this comparison were two tests which we fired on November 23d and used them in our tests-- made our examination, our identification. Later on we fired accuracy and speed tests and retained some of those cartridge cases, but they were not necessarily retained for test purposes, for identification of the weapon, but merely as a result of the other tests that were made.

In fact, the two test cases that came into evidence were not derived from the speed and accuracy tests (3 H 426): Those we fired were in time-fire tests and we retained some of those for possible use in comparing, but it was not necessary to use them, actually.

Actually, it was necessary, but Frazier yielded to a more compelling necessity.

The two test cases in CE 557, then, were fired on November 23d and not in the course of the speed and accuracy tests, which were fired on November 27th.

One of the two cartridge cases in CE 557 bears a dent on the shoulder of the cartridge case. The small, roughly triangular dent on the shoulder of this test case corresponds in every essential respect with the dents on the shoulders of CEs 544 and 545.

photo  
CE 557 A  
with  
CE 544 / 545

Like CEs 544 and 545, this test case was dented when it was thrust as a fully loaded cartridge from the clip in the rifle that Oswald ordered. Like CEs 544 and 545, the bullet was pulled and the powder was drained from this test case. Like CEs 544 and 545, the primer of the empty test case was fired in the rifle that Oswald ordered. If it had ever fired a bullet, it would not be dented.

The other of the two cases in CE 557 bears a mark in the same place, on the case shoulder. The mark on the shoulder of this test case is not as pronounced as the dents on the shoulders of the other cartridge cases, but it corresponds in every essential respect with the mark that occurs on the shoulder of CE 141, the unfired and fully loaded cartridge that was found chambered in the Mannlicher-Carcano rifle when it was found in the Depository building. The marks that appear on the shoulders of these two cases are not as conspicuous as the dents on other cases, but they are dents.

photo  
CE 557 B  
with  
CE 141

Like CE 141, this test case was dented when it was thrust as a fully loaded cartridge from the clip in the rifle that Oswald ordered. Like CE 141, this test case never fired a bullet. The bullet was pulled from it, its powder was drained, and the primer of the empty test case was fired in the rifle that Oswald ordered.

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If the reader has not yet thought carefully about what has been said up to this point, let him think now, for otherwise he will not believe what he must know.

Frazier deliberately framed Oswald. He did it on November 23d, while Oswald was still alive!

I urge the reader to test any contrary explanation, any way of dealing with this problem that casts it in an innocent light. I beg him to search for an alternative that explains the evidence that we have at hand. With grim sincerity I tell you that I did not believe it myself.

Search, then, for another meaning, but do not argue merely that such a thing cannot have happened in the United States of America. That specious argument has sustained the Warren Report long enough--too long, really. It is no good any more; it never was. It has been a useful plea for sycophants who dare not confront the facts; it has been that useful, but it has never been good. It has been the salutary refuge of scoundrels who see no virtue in truth when truth denies them comfort, when truth disrupts their pompous calm.

Well, there is no comfort in truth; there is only grief and strength.

Why did Frazier do exactly the work of an assassin? Why did he not fire a fully loaded cartridge in the collection of his tests? Can he have been as unknowing as the accomplice who, out of ignorance, prepared grossly faulted evidence? Didn't Frazier know better?

Frazier is not stupid. He did not act out of ignorance. What the accomplice did by accident, Frazier did with deliberation, with intent. He did know better. He knew best.

But what he did was necessary; there was nothing else that he could have done. In order to make a comparison, you have to have something that compares. The character itself of the inculpatory objects forced Frazier to make the same mistake, for he had to reproduce microscopic details of those objects. He could accomplish that only by doing precisely what the accomplice had done. There was no other way.

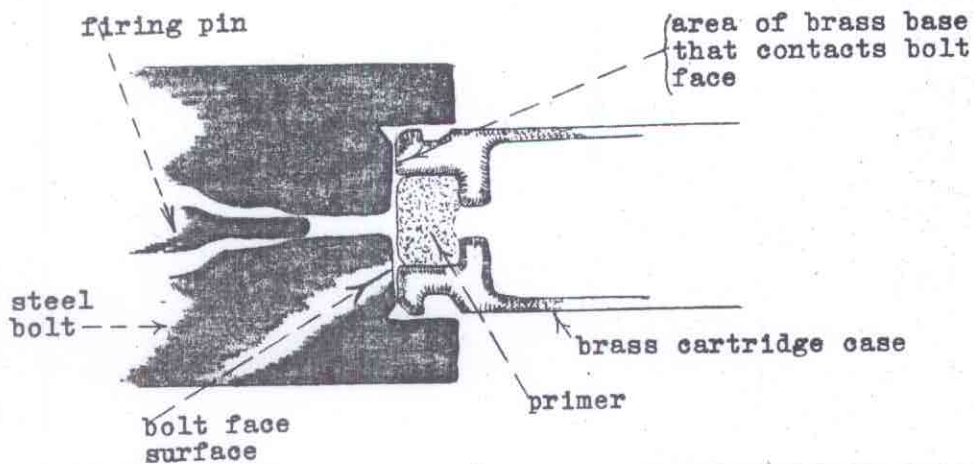
The act of firing the primers of empty test cases is in itself a denial of Frazier's innocence; it is stark testimony of his accumen, ponderous evidence that he knew what he was doing. "Pop" goes the Oswald.

The microscopic marks explain everything.

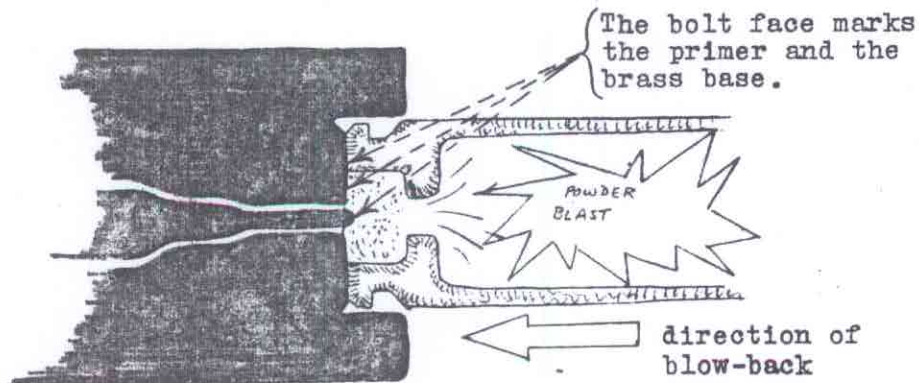
The microscopic marks

During the micro-second of time that it takes for a bullet to speed from the mouth of a fired cartridge case, events take place with cataclysmic violence inside the rifle chamber. It is entirely the effect of that violence which causes the pounding recoil of high powered rifles. All of the recoil derives from the massive force that is brought to bear on the base of the cartridge case. The force of the blast drives the case backward a short distance in the rifle chamber, and causes the base of the cartridge case to thump the steel surface of the bolt face with the impact of a battering ram. The phenomenon is called "blow-back". Its impulse is swift and immense.

Base of Cartridge Case Seated in Recessed Bolt Face (firing position)



The Effect of Firing a Bulleted Cartridge (Blow-back)



The effect of blow-back makes cartridge case identification possible and positive, for the steel firing pin and bolt face (with microscopically small ridges, gaps, and scratches-- a host of tiny imperfections) imprint sets of uniquely characteristic marks on the metals at the base of the cartridge case: on the relatively soft metal of the primer, and on the more rigid brass. The examiner who can reproduce any set of those marks in tests can ascertain with absolute certainty that suspect cases were fired in a certain firearm to the exclusion of all other firearms.

The most illustrative example of the effect of blow-back on cartridge cases occurs in the testimony of FBI expert Cortland Cunningham (3 H 467-473). I cite Cunningham's analysis both because it exemplifies the typical examination of cartridge cases, and because it offers a lucid contrast with Frazier's non-typical analysis of CEs 543, 544, and 545.

Cunningham examined the four cartridge cases that were left at the scene where Dallas policeman J.D. Tippit was shot and killed in Dallas after the President was assassinated.\* All four cases were fired in the .38 Special revolver which Oswald allegedly was carrying when he was arrested.

Cunningham introduced into evidence eight photographs, five of which were taken to illustrate precisely the basis upon which he rests his conclusion that all four cases were fired in the suspect revolver: CE 594 depicts the four cases in question; CE 595 shows two test cases that Cunningham fired for comparison with the four suspect cases to determine whether all had been fired in the same suspect revolver; CEs 596-600 compare microscopic markings on the four suspect cases with markings on the two test cases; and CE 601 shows the markings on the breech face of the suspect revolver, that portion of the revolver which stamps its microscopic markings on the base of the cartridge case during blow-back.

photo  
CE 601

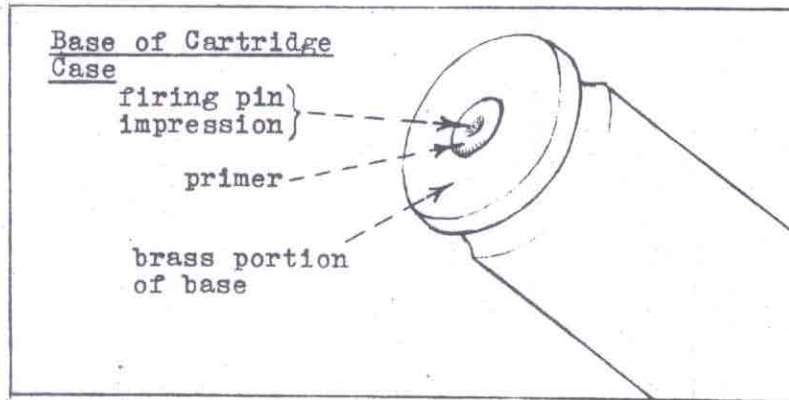
CEs 596-600 are five composite photographs. The left side of each composite depicts microscopic marks that were imprinted by the breech face of a revolver onto the base of a suspect cartridge; the right side shows closely corresponding marks on a test case that was known to have been fired in the suspect revolver. Observation of marks such as these enabled Cunningham to determine beyond doubt that the four suspect cases had been fired in the suspect revolver to the exclusion of all other weapons in the world (WR 171).

sketches  
CEs  
596  
597  
598  
599  
600

\* Oswald was accused of this crime, too. Although it is outside the scope of this article, I wish to assert that Oswald is also innocent of murdering Tippit.

One of Cunningham's composite photographs, CE 600, shows corresponding microscopic marks that were made by the firing pin of the revolver on the primer of a suspect case and of a test case respectively. These marks result both from the blow of the firing pin that dented the primer, and from the blow-back of the primer against the firing pin.

Four of Cunningham's five composite photographs, CEs 596-599, show microscopic marks on the brass portion at the base of each cartridge case respectively. The marks correspond exactly to marks on the brass of the test case. The steel breech-face imprinted these marks (and many others of the same type) on the comparatively soft brass when blow-back forced the two surfaces into tight contact.



Robert Frazier did not compare microscopic marks on the brass portions of the three rifle cases with marks on the brass of his two test cases. He could not compare the brass, for the three rifle cases had not suffered the effects of blow-back. The brass of the rifle cases received not a mark from the tons of pressure that would have been exerted if bullets had been fired from them-- not a single mark.

The pressure that causes blow-back of a 6.5 mm Mannlicher-Carcano cartridge case is about 37,000 pounds per square inch. The pressure that causes blow-back of a .38 Special cartridge case like the ones that Cunningham examined is about                      pounds per square inch.



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Commenting on the marks that occur on the brass of the revolver cases that he examined, Cunningham described them as "excellent" (3 H 470f.). He was asked about the occurrence of microscopic marks on the brass base of cartridge cases (3 H 470):

Question: Is that unusual, to be able to pick up such strong marks in the brass as opposed to the primer of the cartridge case?

Cunningham: It is not really unusual; no. It depends on the particular weapon.

In fact, it depends chiefly on the amount of pressure that is exerted in blow-back in the particular weapon; the greater the pressure, the better the marks. To a lesser degree, it depends on the roughness of the breech-face; the rougher the steel surface, the more clearly defined are the marks on the brass. The least important variable is the hardness of the brass, for all brass is relatively soft in comparison with steel. The whole surface of a cartridge base may not be marked, but some of the brass surface must be marked by the bolt-face during blow-back.\*

To his eternal disgrace, with no prompting whatever Cunningham volunteered to defend the integrity of the rifle cases that Frazier had examined. He makes an enigmatic but interesting distinction between his revolver cases and Frazier's rifle cases: the marks on the rifle cases are "distinctive", while those on the revolver cases are "demonstrative" (3 H 471):

Demonstrative, yes. I don't know if you saw the photographs of the cartridge cases in the rifle, the assassination rifle (sic). Those are just as distinctive as the more demonstrative marks on this particular breech-face. But to the trained examiner, they stand out. They are harder to see than those on these particular photographs. And even in these photographs, the photograph you are asking me (sic)\*\* they were not as vivid as they are on this photograph.

But there, again, it goes back to what I told you-- each cartridge case will strike the breech-face in a slightly different way, and you don't get a complete similarity.

\* Referring specifically to a photograph (CE 597) which shows some microscopic marks on the brass of a revolver case, Cunningham says (3 H 471): "Now, this is not the only point of similarity. These strictly demonstrate the type of marks. There are many more marks on these cartridge cases, all over the base of the cartridge cases, as well as in the firing pin impressions."

\*\* There is no reference to this (or these) in Cunningham's previous testimony.

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Nobody asked for "complete similarity", just some similarity-- any similarity-- on the brass. Cunningham neglects to point out that you always get some similarity, at least when there is blow-back. Cunningham's testimony continues (3 H 472):

Question: To illustrate your point, Mr. Cunningham, I hand you Commission Exhibit 565, which is a photograph which was explained yesterday, of the cartridge case fired in the rifle, and a test cartridge (sic).

Cunningham: Yes, this demonstrates it very well. This is the very rough surface on the bolt of the assassination rifle (sic).

Question: The bolt-face?

Cunningham: Yes; the bolt-face, and it is just as distinctive as these striae.

Perhaps it is unimportant, but the reader should know that CE 565 does not show bolt-face markings; it shows firing pin markings at the inside of the firing pin impression on the primer of cartridge case CE 545. Frazier had introduced it previously. Here Cunningham is comparing the type of marks produced by the firing pin on the primer of CE 543 with the type of marks that appear on the brass of the revolver cases. As Cunningham indicates, there is no comparison. Striae are striations, relatively large marks that occur in a series of parallel lines on the brass of Cunningham's revolver cases; the marks in the firing pin impression on the primer are minuscule lumps. Oh, well.

Frazier took several photographs in connection with his examination of the three rifle cases. Among them is CE 558 (depicted in WR p.556), which shows the markings on the bolt-face of the Mannlicher-Carcano rifle, the portion of the rifle which stamps its microscopic marks on the base of a cartridge case during blow-back. The bolt-face is at least as coarsely tooled, as rough, as the breech-face of the revolver.\* Both are cheap, old guns, manufactured by inexpensive processes that allowed little care to finishing touches.

photo  
CE 558

In the course of his detailed testimony regarding the cartridge cases (3 H 414-428), Frazier introduced into evidence six photographs illustrating the basis upon which he rests his conclusion that all three cases were fired in the suspect rifle. CEs 559 and 561-565 are composite photographs. The right side of each depicts microscopic markings that were imprinted by the bolt-face or firing pin of the rifle onto the primer at the base of a suspect

\* At 3 H 472, Cunningham calls this bolt-face "the very rough surface on the bolt" of the Mannlicher-Carcano rifle.

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cartridge case; the left side shows closely corresponding marks on a test case that was known to have been fired in the suspect rifle. Observation of marks such as these enabled Frazier to determine beyond doubt that the three suspect cases had been fired in the suspect rifle to the exclusion of all other rifles in the world.

Frazier's exhibits should be regarded as pairs: CEs 559 and 561 depict some microscopic marks on the primer of cartridge case CE 543 and corresponding marks on the primer of a test case; CEs 562 and 563 refer similarly to cartridge case CE 544 and a test case; CEs 564 and 565 refer to cartridge case CE 545 and a test case.

The first of each pair of composite photographs shows the microscopic marks that appear on the flat portion of the primers respectively of a suspect cases and a test case. These marks were made by a tiny area of the bolt-face very close to the firing pin hole of the Mannlicher-Carcano rifle.

The second of each pair shows microscopic marks that appear inside the firing pin impressions. These marks were made when the firing pin of the Mannlicher-Carcano rifle struck and indented the primers.

Frazier photographed only the marks that occur in the primer metal at the base of each cartridge case. Except in the light of knowledge that the rifle cases had never fired bullets, and that Frazier knew it, Frazier's excuse for this procedure seems reasonable, for it is based at least on half of the truth, albeit the less meaningful half (3 H 416):

The primer in a cartridge case normally takes marks more readily than the surrounding brass portion of the cartridge case, which is considerably harder metal and is not impressed with these (bolt-face) marks as readily.

Frazier neglects to mention that although the brass normally takes marks less readily than the primer metal, nevertheless the brass normally does take marks readily.

In these three cases, all the identifiable bolt-face marks occur on the primers and nowhere else-- nowhere on the brass. Referring to CE 543, the first cartridge case that came under discussion in Frazier's testimony, Commission Counsel Melvin Eisenberg for the one and only time raises a question concerning bolt-face marks on the brass of a suspect case (3 H 423):

Question: Were you able to find identifying marks on the brass as well as the primer on this cartridge case?

Frazier: No; I did not notice any marks on the brass portions outside the primer.

Question: Is that typical of cartridge case identification?

photos  
CE 559  
561

photos  
CE 562  
563

photos  
CE 564  
565

Frazier: Generally that is true, unless there is great pressure, unless the brass of the cartridge case is soft, or unless the marks are very sharp on the breech face; then they will be impressed into the brass.

The truth is tap-tap-tapping, but nobody answers the door. What remarkable exceptions! Are we supposed to believe that eighteen and a half tons per square inch is not great pressure? That thin brass is not soft in comparison with thick steel? That the marks on the bolt-face of the Mannlicher-Carcano rifle are not sharp?

"Then they will be impressed into the brass." Why, then, were they not impressed into soft brass by a rough bolt-face under 37,000 pounds pressure? The marks of the bolt-face were not pressed into the brass because, as Frazier knew, CE 543 was never pressed by the bolt-face, because it had never suffered the effects of blow-back, because it had never fired a bullet.

Frazier knew. He knew first and he knew best.

Knowing what Frazier knew and what Frazier did, can we be filled with splendid admiration for the amazingly subtle finesse of his obfuscation? Is he not a magician who makes truth disappear before your very eyes? Ought we not to applaud him for his brilliant performance?

Such incidents as this cause me to disbelieve in ghosts, for if there were ghosts, surely Frazier would be haunted by two innocent souls: Lee Harvey Oswald whom Frazier condemned to immortal infamy, and John F. Kennedy who would have wept both for the undignified scorn with which Oswald was laid finally to rest, and for the thoughtless and unfair contempt with which his fellow Americans even now cite Oswald's memory. Even now he has no rest, no respite from the injustice that we have heaped on his barren grave-- all because we trusted the likes of Robert Frazier.

That poor man, Oswald! He was never allowed to utter more than the simple truth: "I didn't kill anybody; I'm just a patsy", the last words that we the people heard him say before an assailant burst forth and opened his belly with a slug, painfully tore up the guts inside, silenced his plea for help, and made the world safe for Robert Frazier-- and for those who control Frazier.

Frazier prospers and enjoys his daily bread. He sleeps the sleep of the innocent; guilty, but secure and content to endure his thoughts.

There are no such things as ghosts, then-- not those two troubled souls, anyway, unless they are busy haunting others whose crimes are worse than Frazier's, men who cannot issue the plea that might assuage Frazier's conscience: Ich war gezwungen, I was only following orders.

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