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## Once More Unto the Breach: The Firearms Evidence in the Sacco and Vanzetti Case Revisited: Part I

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**ABSTRACT:** The Sacco and Vanzetti case has a timeless appeal. It raises trenchant issues of the fairness of a criminal trial in the face of the public's hue and cry. It is a sorry reminder that physical evidence must be closeted with care and punctiliously marked for later courtroom uses. Claims of unfairness at the trial of Sacco and Vanzetti have evoked doubts of their guilt. On this issue, a Select Committee of firearms experts in 1983 reevaluated the existing firearms evidence from the Sacco and Vanzetti trial. Its conclusions, a number of which point unerringly to the guilt of Sacco and none of which add a scintilla to the case against Vanzetti, are analyzed in this paper, which is in two parts. Part I sets the stage by focussing on the facts of the crime in South Braintree, MA and the prosecutorial strategies in the use of the firearms evidence at the trial in Dedham, MA. The firearms evidence against Vanzetti is analyzed separately from that marshalled against Sacco. Part II will address the rampant charges of governmental misconduct in the handling of the firearms evidence. A concluding section of Part II reveals startling new evidence relevant to the guilt of Nicola Sacco.

**KEYWORDS:** jurisprudence, Sacco and Vanzetti case, physical evidence, ballistics

Once more unto the breach, dear friends, once more; Shakespeare, King Henry V, Act III, Sc. 1, L. 1.

For "a conventional case of payroll robbery resulting in murder" [1], the Sacco and Vanzetti case has had unique staying power. Although more than 60 years have passed since Frederick Parmenter, a shoe factory paymaster, and his guard, Alessandro Berardelli, were cold-bloodedly gunned down on Pearl Street in South Braintree, MA, and even though Bartolomeo Vanzetti and Nicola Sacco were convicted and executed for those murders, still the Sacco and Vanzetti case will apparently never perish from inanition, nor will it ever be devoid of contemporaneity.

The magnitude of the literature on the case is staggering and the printer's ink continues to flow at a torrential pace [2]. To those familiar with the wide reach of the Sacco and Vanzetti case, it came as no surprise in 1984 to learn of the publication of *The Penny Ferry* [3], a murder mystery story wrapped entirely around that famed case. Indeed, the solution to Rick Boyer's fictional mystery is the occasion for another effort to mine new facts to exonerate Sacco. The mystery in the tale would be no mystery if more were told on this occasion.

The author tenders no apology for his refusal throughout this paper to depersonalize the Sacco and Vanzetti case to Sacco-Vanzetti, as has been much the fashion. Received for publication 8 June 1985; accepted for publication 10 July 1985.

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For forensic scientists and others interested in the physical evidence in the case, the latest study of the case which has particular interest in light of its new findings is that, of a committee of three firearms experts who, in 1983, reanalyzed the firearms evidence still extant after all these years since that dread day of 15 April 1920 when Parmenter and Berardelli were killed in South Braintree. The need for a full-scale reanalysis of the firearms evidence in this celebrated case has been compelling for some time. Many commentators have assigned "decisive importance" [4] to the firearms evidence. Even one of the jurors, upon being queried years after the trial, recalled the firearms evidence as "the deciding factor" [5] in the case. Both the "rough-and-ready" [6] state of the art of firearms identification in 1921 and the existence of modern instrumentation and skilled experts combined to promise new and exciting revelations from a reassessment of the firearms evidence. And the Select Committee has not disappointed those who cheered or inspired its efforts.

Although the Select Committee included three firearms experts, a fourth member, Dr. Henry C. Lee, although not a specialist in firearms identification matters, provided administrative support to the Committee and, through his recognized abilities in cognate sciences, gave it a wider scope of possible review of the evidence.

This Committee, self-styled as the Select Committee on Sacco and Vanzetti, was created through the initiative of Westinghouse Broadcasting and Cable, Inc. which operated a television station in Boston, MA. Through the interposition of the American Academy of Forensic Sciences and the Massachusetts Department of Public Safety, Henry C. Lee, Ph.D., Director of the Connecticut State Police Forensic Laboratory, was asked to chair the Select Committee. In his turn, Dr. Lee appointed three highly regarded firearms experts who are members of the Association of Firearms and Toolmarks Examiners. They are Anthony L. Paul, Marshall K. Robinson, and George R. Wilson.

The Select Committee conducted its examinations of the firearms evidence at the Massachusetts State Police Firearms Laboratory. It was afforded complete access to all of the facilities of that laboratory on 12, 24 to 27 March and 15 to 17 June 1983 for the purposes of conducting the necessary tests and experiments. All of the existing firearms evidence from the Sacco and Vanzetti case was released to the Committee for its inspection.

At the outset, it must be understood that the 1983 reevaluation was hampered by the lack of certain evidence which might just possibly have added illumination to certain puzzling features of the case. Sacco's cap, that most trumpeted article of evidence [7], which was said to have been discovered at the crime scene, is among the missing items. This cap, in the hands of even a lesser Sherlock Holmes, might have revealed hairs [8], sweat, or other physical evidence to connect it, or not to connect it, to Sacco as its owner. The victims' clothing is also unaccounted for and thus the bullet holes in the fabric and the powder residues on the clothing cannot be examined to yield range of fire indications or the traces of the metallic elements of the bullets that pierced them [9].

Further, in view of the barrage and even the prodigality of the charges of governmental misconduct in the aftermath of the Sacco and Vanzetti trial, the Select Committee's report will inevitably be challenged because the committee's members were all full-time employees of police agencies—Henry C. Lee, Director of the Connecticut State Police's Crime Laboratory; Marshall K. Robinson, Senior Firearms Examiner with the Connecticut State Police; George R. Wilson, Senior Firearms Examiner with the District of Columbia's Metropolitan Police Department; and Anthony L. Paul, Senior Firearms Examiner with the Philadelphia Police Department. In the clear light of hindsight, it would have been well if the membership of the committee had included firearms experts with no present affiliation with law enforcement agencies to fend off anticipated claims of cronyism or partisanship in the fashioning of the report. Mindful of these general and somewhat amorphous impediments, the Select Committee's report of 11 Oct. 1983, containing 29 pages and an additional 22 pages of worksheets and 66 photographic exhibits will be examined and evaluated.

## Background

The Sacco and Vanzetti case was viewed in the 1920s in most impassioned terms. Illustrators for magazines and newspapers derided the outcome in scathing pictorial depictions [10]. Poets of the stature of Edna St. Vincent Millay [11] penned lines of highly politicized verse. In the streets, both at home and abroad, the populace staged marches and deluged the authorities with petitions for clemency for Sacco and Vanzetti. And, with the passing of time, the appeal of the case has not dimmed.

Is there then an explanation for the apparently timeless fascination and even the cosmic quality of this case? Certainly there is no simple one to which all can swear allegiance. But, from my perspective, the case is all important to the criminal justice system for it reminds us that justice cannot prevail, even though the truth may fortuitously will out, in the face of prejudicial irrelevancies such as the accused's nationality, his economic state, or his political convictions. As Professor Morgan said [12], the case teaches "nothing more than may happen in any criminal case." Others have viewed "the great and continuing influence" [13] of this case as a combination of two tenaciously held convictions, namely that Sacco and Vanzetti were innocent and that they were executed for their anarchistic beliefs.

Regardless, however, of the guilt or innocence of Sacco and Vanzetti, the American system of criminal justice accorded them a constitutional right to a fair trial. A person must be convicted for what he has done, not for his revolutionary or despised beliefs or for being a social misfit. We cannot violate the law to suit our needs when radicals and undesirables are the focus of our wrath without rejecting that fairness which is a bedrock of our institutions. In probably the most quietly impassioned and inspired consideration of fairness before the law against the backdrop of the Sacco and Vanzetti case, Karl Llewellyn, in an unpublished manuscript [14], has said that the Sacco and Vanzetti case teaches that "We need to keep faith with ourselves that the law we have made for ourselves and all who live among us shall be applied alike to all who live among us and to ourselves." For otherwise, it is not men, but institutions, that are in gravest peril.

That Sacco and Vanzetti were anarchists and Italian immigrants who were tried for murder cannot be gainsaid. But whether their murder convictions were unsullied by the pile-driving efforts of the prosecution to show they were members of an alien minority with a fixed predilection for the violent overthrow of the established governmental order is not so certain. Were they guilty of murder or of being outcasts? That was the question in the 1920s as it is today.

Paradoxically and lamentably, Vanzetti saw that his agony would be his triumph in keeping the balance of criminal justice true. As he put it to a journalist from his postsentencing cell at Dedham [15]:

If it had not been for these things, I might have lived out my life talking at street corners to scolding men. I might have died, unmarked, unknown, a failure. Now we are not a failure. This is our career and our triumph. Never in our full life could we hope to do such work, for tolerance, for justice, for man's understanding of man, as now we do by accident. Our words—our lives—our pains—nothing! The taking of our lives—lives of a good shoemaker and a poor fishpeddler—all! That last moment belongs to us—that agony is our triumph.

## The Facts

In reexamining the firearms evidence in this troubled and troubling case, it is imperative to recall the facts of the crime and the scene of its occurrence. Pearl Street in South Braintree is no longer a place alive with the industrial activity of shoe factories as it was in 1920. All that remains of the Rice and Hutchins plant, in front of which the murders occurred, is a towering smoke stack. South Braintree as it was in 1920 can be remembered only according to artists' sketches of it.

Even though the murders were committed in full daylight on a well-trafficked street in the presence of numerous eyewitnesses, Sacco and Vanzetti were not identified as the malefactors

until after their arrest on 5 May 1920 in Brockton, MA on a charge of being “suspicious persons.” Although the trolley on which they were then travelling from West Bridgewater is no more, the fire station, in which a police substation was then located, is. It was from this substation on the night of 5 May 1920 that officers Connolly and Spear exited to execute the arrest of Sacco and Vanzetti.

Not until the following September were Sacco and Vanzetti charged by separate indictments for the intentional murders of Parmenter and Berardelli. It is a curious feature of these indictments that in both of them Vanzetti was charged with having participated actively in the assaulting and shooting of the two victims, whereas at the trials no proof was adduced against Vanzetti except that he was present at the scene, aiding and abetting the commission of the crimes. Indeed, the prosecutor disclaimed [16] any intention of proving that Vanzetti was one of the gunmen, as the indictments asserted he indisputably was. This variance between the indictments and the proof was never addressed during the trial or in its long appellate aftermath, even though the indictments were claimed to be insufficient in law in a demurrer filed to them on 31 May 1921. Trial Judge Thayer instructed the jury on the issue of Vanzetti’s guilt as a co-conspirator [17], not on whether he was a principal in the first degree (a perpetrator) or a principal in the second degree (an aider and an abettor).

### *The Participants*

*The Plymouth Trial*—A number of the dramatis personae in the Sacco and Vanzetti case should be singled out for brief mention. Among these were Judge Webster Thayer and District Attorney Frederick J. Katzmann. Captain William H. Proctor, a most important, indeed a pivotal, figure in this entire trial episode deserves special attention. Thayer, Katzmann, and Proctor were all arrayed in a first mini-trial at Plymouth in 1921 when Vanzetti, even though awaiting trial for the South Braintree murders, was tried for an earlier attempted holdup in Bridgewater, MA. This trial was something of a warm-up or a dry run for the forthcoming Dedham trial for the Parmenter and Berardelli murders. Both trials saw Judge Thayer presiding, District Attorney Katzmann prosecuting, and Captain Proctor testifying as the chief expert witness for the state on “ballistics” matters.

The Plymouth trial resulted in the return, on 1 July 1920, of a jury verdict of guilty against Vanzetti on the charges of assault with intent to rob and assault with intent to murder. On 16 Aug. 1920, Vanzetti was sentenced by Judge Thayer to 12 to 15 years in the State Prison. No appeal was lodged on Vanzetti’s behalf.

*The Dedham Trial*—Even though murder indictments were returned against Sacco and Vanzetti on 11 Sept. 1920, they did not stand trial at the Dedham courthouse until 31 May 1921. A month and a half later, on 13 July 1921, the jury returned its verdict convicting them of the crimes charged.

Not until Tuesday, 21 June 1921, the 18th day of the trial, did the prosecution begin the presentation of the testimony of its ballistics experts. Captain William H. Proctor, a Captain of 16 years standing in the Massachusetts State Police, was the first to take the stand. Proctor was quick to credit himself with having testified for the prosecution in the *Best* trial in Salem, MA 20 years earlier. The *Best* trial has been trumpeted as “(t)he first semblance of firearms identification evidence as we know it today” [18]. This accolade may have been affixed to this case because Proctor’s ballistics experiments and testimony were upheld on appeal to the Massachusetts high court in an opinion by Chief Justice Oliver Wendell Holmes [19], later a luminary on the United States Supreme Court. The Gunthers [20], evidencing a vast store of ballistics savoir faire, evaluated Proctor’s evidence in the *Best* case, and characterized it as having “emanated from an over-zealous witness” who founded his opinion on an unreliable standard of comparison.

Captain Charles Van Amburgh, called Captain because of his former military rank, also appeared for the prosecution. Van Amburgh was qualified as an expert in firearms matters by

dint of his past association with the Springfield Armory and the Frankford Arsenal [21], as well as his ten years employment as "an assistant in the ballistic department, Remington U.M.C. Company" [22].

Of all the experts, it was only Captain Proctor who admitted performing firearms identifications for over 20 years by the now discredited means of manually pushing test bullets through the barrel of a suspected weapon [23]. It has been confidently said that "it is evident that a lead slug which has been forced through the bore of a firearm by mechanical means has but little probative value in identifying the signature on bullets fired from the firearm" [24].

Would that this knowledge had been generally recognized in 1920 when Captain Proctor appeared as an expert witness for the prosecution in the Michigan murder trial of Lloyd Prevost. Then, if wishes were reality, Lloyd Prevost might not have been wrongfully convicted and imprisoned for ten years before Michigan's Governor Green granted him a pardon on 29 Dec. 1930 [25]. In large part, this proved injustice can be attributed to the testimony of Proctor that test bullets he forced through a .38-caliber revolver matched a revolver which was known to be within the control of Prevost at the office where he was employed at the time of the murder.

But Proctor not only connected the four murder bullets that had been fired into the skull of Stanley Brown to Lloyd Prevost's gun, he also added further strength to the state's case. By some unexplained thaumaturgy, Proctor expressed the opinion that the .38-caliber revolver found covered with dust in a cash drawer at Prevost's place of employment when last fired had discharged four rounds, not three or five, but the exact number that were certified to have been shot into the victim's head at close range. With testimony of this caliber, Prevost's conviction was assured, never mind the fact that he was innocent and Proctor's ballistics methods bordered on scientific claptrap.

Proctor did not try to conceal the limitations of his firearms expertise, regardless of how unskilled in firearms matters his admissions of ignorance made him appear to be. Under direct examination by Harold P. Williams, an Assistant District Attorney, Proctor was asked [26]

Q. And what is that part of the gun through which the firing pin protrudes?

Proctor responded forthrightly. "I do not know as I can tell you all the scientific parts of the gun." Prosecutor Williams, however, being unsatisfied, attempted to give Proctor a nudge through the aid of a leading question. "Well, is there a part of the gun called breech-lock?" To which question Proctor refused to take the bait. "I do not know as I could go into that," he replied.

On cross-examination, Proctor's performance further diminished his credibility as a knowledgeable firearms expert. At one point, Defense Attorney McAnarney asked him to take apart the .32-caliber Colt semi-automatic confiscated from Sacco upon his arrest. Proctor bumbled and stumbled, apparently all fingers and toes, and failing to disassemble it with reasonable alacrity, he admitted that he did not take such weapons apart very often, even though he carried one "all the time in my pocket" [27].

For the defense, the hard-of-hearing James E. Burns was the first firearms expert to testify. He was called on Tuesday, 28 June 1921, the 24th day of the trial. Burns' credentials included a 30-year stint as a ballistic engineer with the United States Cartridge Company [28]. Whether on account of his hearing impairment or for other reasons, Burns' testimony was replete with vaudeville-like antics more conducive to hilarity than to lucidity [29].

J. Henry Fitzgerald, who had been connected with the gun business for 28 years, followed Burns as a witness on 29 June 1921. Fitzgerald, who based his testimony on the landmarks impressed on the bullets [30], was at the time of the trial in "charge of the testing room at Colt Patent Firearms Company" of Hartford, CT [31]. His five-page transcribed direct testimony was but a toss of the head in the five-volume transcript of the trial. It deserved no more attention since land and groove markings are of no value in pinpointing the particular weapon which had fired the bullets in question [32]. It is the accidental toolmark characteristics, known as striations, which mark one weapon as distinct from every other weapon.

Another alleged firearms expert, Albert H. Hamilton, did not make his entry into the case until he submitted an affidavit, dated 15 Oct. 1923, in support of the defense's supplement to the Fifth Supplementary Motion for a new trial [33]. Hamilton, a self-anointed analytical chemist [34], was formerly a pharmacist in Auburn, NY who advertised himself as a factotum among expert witnesses, one who would testify on anything from handwriting analysis to firearms identifications, and any and all regions beyond as well [35]. Hamilton had been discredited in the earlier murder trial of Charles Stielow when his testimony as a so-called firearms expert very nearly sent an innocent man to his death. Calvin Goddard has reported that the dissimilarities in the projectiles identified by Hamilton as having been fired from Stielow's rifle were "patent to any layman, no matter how unacquainted with firearms" [36].

Hamilton touted himself as the inventor of a cosmetic called Cleopatra's Secret, which was reputed to impede the onset of aging in a woman's skin [37]. Hamilton was regularly addressed as Dr. Hamilton even though he had received no formal doctorate [38]. He explained the appellation "Dr." as having "been tacked on to me by a great many lawyers and I cannot suppress it" [39]. He alluded to himself as a matriculator [39], while others might have described him as a prevaricator, in light of his testimony.

Hamilton, like all the other firearms experts, knew nothing of the individualization of bullets through the striations imprinted on a bullet by the markings from the bore of a weapon. Hamilton was nothing, if not consistently positive, in his affirmations as an expert. He asserted that "the scoring or scraping of the metal jacket on a bullet possesses no mark of individuality that enables one to determine, at all, from what pistol a given bullet was fired, or even to determine from what manufacture of pistol the given bullet was fired" [40]. Such a statement, no matter the gusto or bombast with which it is declared, is just scientific balderdash, as the science of firearms identification has proved under the impetus of the comparison microscope.

But Hamilton was more than a charlatan. He was also "obviously an expert advocate and none too scrupulous" [41]. Hamilton's integrity came into question when he was implicated in an attempt to switch the barrel of the Sacco Colt .32 with one of two new Colt .32s he brought into court for a demonstration of the working parts of this weapon [42].

Even though the "most complicated part of the Sacco-Vanzetti case" [43] was that involving the evidence of the firearms experts, it is regrettable that the experts' testimony was "carelessly assembled, incompletely and confusedly presented, and perhaps—most important of all—beyond the comprehension or judgment of the ordinary intelligent layman" [44].

It is a balm of sorts to note that firearms identification in 1921 was in an embryonic stage with the fear of present failures and the promise of future successes through the arrival of the Goddard comparison microscope. However, no justification exists for the lack of adversarial celibacy on the part of the experts in the Sacco and Vanzetti case. Impartiality may not be the crowning glory of the expert witness, but partisanship is certainly his ceaseless undoing.

### The Firearms Evidence

The firearms evidence at the trial of Sacco and Vanzetti included four .32-caliber bullets taken on autopsy from the body of Berardelli, which had been marked on the base by pathologist Dr. George Burgess Magrath with one through four strikes to indicate the order in which he recovered them.

Two .32-caliber jacketed bullets were said to have struck the deceased paymaster, Frederick Parmenter. One of these was discovered by Dr. Nathaniel S. Hunting, a surgeon, when he operated on Parmenter at the Quincy Hospital in a vain effort to save his life. This bullet Dr. Hunting marked with "a cross on the base of the bullet" [45] and delivered to the Massachusetts State Police after he had "kept it for a while" [45].

The other .32-caliber bullet, which was connected to Parmenter, was found by some unidentified nurse on the floor in the operating room of the Quincy Hospital on the morning after the South Braintree robbery. Dr. Frederick Ellis Jones testified to the details of the discovery of

this bullet and to his conservatorship of it. Dr. Jones signified that he had scribed this bullet with a "S" in its base. There was nothing untoward about that act, until it became known that he had not marked this bullet until 5 June 1921, during the throes of the trial. To compromise his identification even further, and possibly his veracity as well, Dr. Jones admitted on cross-examination that he had had custody of Bullet "5" for "weeks or months" [46] until it was requested of him. Dr. Jones claimed to be able to identify Bullet 5 as the one the nurse had recovered on the operating room floor, certainly not by the mark on its base, but by "two minute lines on the outer side of the casing about one third away from the top back to the end" [47]. Happily, Bullet 5 was not central to the state's case, otherwise its chain of custody would raise more than eyebrows. Ruefully, the carelessly cavalier marking and handling of Bullet 5 was symptomatic of the deficient stewardship the prosecutor and the police exerted over the bulk of the firearms exhibits in this case.

At the crime scene on Pearl Street, four spent .32-caliber cartridge cases were discovered by James Bostock which he turned over to Thomas Fraher, a factory superintendent at Slater & Morrill. Of these four shells, two were of Peters manufacture, one originated with Winchester, and the other was of Remington design.

In addition, a veritable arsenal of .32-caliber ammunition was found on Sacco's person at his arrest which included 23 loose rounds of various manufacture and 9 rounds in the Colt .32 found inside his trouser waistband, including one which was chambered.

Throughout the trial and in its wake, the participants played fast and loose with the precise number of cartridges found in Sacco's pocket. In his opening statement at the trial, prosecutor Williams spoke of "twenty-two additional bullets for that pistol in his pants' pocket" [48]. Officer Connolly, who witnessed Officer Spear search Sacco's pockets, remembered that 22 cartridges had been found [49]. On the other hand, Governor Alvan T. Fuller, in his message accompanying his denial of clemency to Sacco and Vanzetti, referred to "20 loose cartridges" "sic" [50]. Unfortunately, Officer Spear, who first discovered these rounds, in an unprofessionally carefree manner mixed the loose rounds from Sacco's pocket and those in the Colt .32's magazine and chamber. He, therefore, testified that the total numbered 32, of which 16 were of Peters manufacture, 7 were from the United States Cartridge Company, 6 were of Winchester origin, and 3 were manufactured by Rem-U.M.C. Company. Subtracting the 19 rounds from Sacco's Colt, Officer Spear must have recovered 23 loose rounds.

Of one thing we can be certain, Sacco was primed for action when arrested on the Bridgewater-Brockton trolley. Vanzetti too was capable of instant force since his revolver was brimful as well, what with all of the chambers in its cylinders loaded. Vanzetti also was found in possession of four shotgun shells, even though he did not have the shotgun to go with them.

Two weapons were put into evidence at the trial, even though their serial numbers were not documented before or at the trial. One was a Colt .32 automatic taken from the person of Sacco on 5 May 1920 at the Brockton Police Station, to which he and Vanzetti had been taken after their arrest on the Bridgewater-Brockton trolley. Officer Merle A. Spear [51] testified to his having discovered this weapon in Sacco's "right hip pocket" which weapon he consistently and erroneously identified as a revolver because, even though it was conceded to be a semi-automatic, "I call it a revolver" [52].

The Colt .32, which Officer Spear seized from Sacco, that has been a much bruited and critical item of evidence against Sacco, was a popular handgun model invented by the prodigiously creative John M. Browning [53]. Even though the Colt Company accepted Browning's design in 1901, the patent on the firearm was not issued until 22 Dec. 1903 [54]. This 1903 model, sometimes called the pocket model, hammerless (concealed hammer) type, contained several improvements over Browning's earlier, similar models. For one, the barrel could be detached from the frame without tools and with a slight turn of the barrel with the slide positioned to the rear. The 1903 model was the first occasion for Browning to employ his grip safety and his manual thumb safety. The popularity of this weapon was so immediate and so overwhelming that it became the all-time best seller in Colt pocket automatics [55]. Colt did not discontinue its production until 1946 [54].

A second handgun, a .38-caliber Harrington & Richardson revolver, had been confiscated from Vanzetti when he and Sacco had been frisked by Officer Earl J. Vaughn at the time of their arrest on the Bridgewater-Brockton trolley [56]. Officer Vaughn gave the weapon to officer Michael J. Connolly, who was assisting Vaughn in apprehending Sacco and Vanzetti. Officer Connolly, noting the weapon was fully loaded, trained it on Sacco and Vanzetti during their transport by police car to the Brockton Police Station [57].

Further, a number of bullets and cartridge cases that had resulted from a test firing at Lowell, MA of Sacco's Colt .32 were also put into evidence. Regretfully, only the rounds test fired by the prosecution have been preserved for reexamination. All the rounds fired through the Colt .32 on behalf of the defense both during and after the trial are no longer in the custody of the Massachusetts State Police.

The measures taken to insure the chain of custody of the evidence in this case were deficient and deplorable. None of the crime scene cartridge cases were marked; none of the rounds taken from Sacco and Vanzetti or their weapons were marked for later identification. Only the six bullets from the victims were marked, and then only in the most perfunctory and incomplete fashion. The weapons were marked—by Officer Spear with his initials “M.S.” [58] and by Officer Connolly by notching the grip of Sacco's Colt with his knife [59]. Although mentioned at the trial, little note of these marks has been taken in subsequent years.

### **The Firearms Case Against Vanzetti**

#### *Berardelli's .38 Cal. Harrington & Richardson?*

The prosecution structured its case against Vanzetti in an effort to show that the .38-caliber Harrington & Richardson revolver seized from Vanzetti was the same .38-caliber Harrington & Richardson revolver which the victim Berardelli was known to have possessed some time before his death on 15 April 1920, and which was not on his person after he was shot down on Pearl Street [60]. Yet no one could say with certainty that Berardelli was carrying his .38 Harrington & Richardson on that fateful day, nor did anyone see Vanzetti steal it from the dying Berardelli, an act which a hit-and-run robber might not be expected to tarry to accomplish, especially after giving the coup de grace at point-blank range to the already mortally wounded Berardelli.

The prosecution sought to make the Harrington & Richardson connection by showing that the Vanzetti Harrington & Richardson had a new hammer as did Berardelli's Harrington & Richardson. The jury was then asked to infer that the two weapons were indeed the same.

Mrs. Berardelli testified that she and her husband had taken his .38 Harrington & Richardson to the Iver Johnson Sporting Goods store in Boston for repairs three weeks before his death [61]. As she recalled the situation, the gun was in need of repairs because “it was a spring broke” [61]. But the records of this repair were inadequate to identify the weapon by serial number or even as to whether it had been picked up by Berardelli after being repaired.

Lincoln Wadsworth, who was in charge of firearms repairs for the Iver Johnson store, could only testify that the Vanzetti Harrington & Richardson revolver was the same make and caliber as the weapon he logged in as received from Berardelli for repairs. On this evidence the jury could only speculate whether they were one and the same.

Wadsworth also testified before Governor Fuller's Advisory Committee, known as the Lowell Committee after its chairman, Abbott Lawrence Lowell, the President of Harvard University. In his 20 July 1927 testimony before the Lowell Committee, Wadsworth was positively verbose in stating his inability to declare with assurance that the Vanzetti Harrington & Richardson revolver was the revolver he had received for repairs on behalf of the Iver Johnson store.

He began by indicating that, subsequent to his testimony at the trial, his conscience was troubled by reports that he “had testified or had given the impression that this pistol in court was the pistol that came into our shop” [62]. In fact, it was only a “possibility” [62], not a certainty that they were identical since the Iver Johnson records contained “no distinguishing

number so that you could tell that that was the pistol" [62]. All of which led Wadsworth to conclude that there was "just a very slim chance that that is the one" [62].

Much testimony was received from the experts at the trial on whether the hammer of the Vanzetti .38 was new or used. The possibility that "dry firing" (cocking and firing an unloaded weapon) had given it a used appearance was explored at length. In all, the testimony on this matter was, at best, inconclusive in connecting the Vanzetti Harrington & Richardson to Berardelli.

Defense expert Albert Hamilton entered the lists on this controversy by asserting at various occasions in the posttrial proceedings that the hammer screw on the Vanzetti Harrington & Richardson did not evidence by marring or scratch marks that it had ever been removed [63]. Before the Lowell Committee, President Lowell took the wind out of Hamilton's sails by observing, rhetorically, that "A good screwdriver may have taken it out 50 times and not leave a mark" [63]. To which possibility, Hamilton replied, sheepishly one might imagine, "They could do it, if they wanted to take care" [63]. Of course, a skilled gunsmith, noticing a damaged slot in a screw head, might characteristically have replaced it with a new one.

The 1983 Select Committee attempted to trace the sale of Vanzetti's Harrington & Richardson by its serial number. In correspondence from the Harrington & Richardson Company [64], it was learned that this weapon was manufactured in September 1905. But the more critical records of its sale on the open market were "unavailable."

Since the Select Committee was not charged with a sweeping investigative mandate, nothing was done by it to determine whether the Harrington & Richardson firm had any records of a sale of a .38-caliber handgun to paymaster Frederick Parmenter, from whom Berardelli ostensibly received the weapon on loan for his duties as a payroll guard. Such records might have been of assistance, through serial number identifications, in resolving the enigma of whether there was one or whether there were two .38-caliber Harrington & Richardson revolvers.

In sum, the Select Committee was unable to arrive at any conclusions relevant to whether the Vanzetti .38 Harrington & Richardson was indeed the same handgun which Berardelli had been reputed to carry.

### *The Shotgun Shells Gambit*

In the welter of significant and insignificant details in the circumstantial evidence which the prosecution produced against Vanzetti, none was so paltry nor as befuddling as the shot shells caper. The skein of events involving these shells commenced with the testimony of Officer Michael Connolly at the Dedham trial on 17 June 1921 that he had searched Vanzetti upon his arrest and discovered four 12-gauge shotgun shells, three Peters, and one Winchester in his right-hand coat pocket [65]. Upon objection by Defense Attorney Moore to the relevance of these disclosures, Judge Thayer was reminded by Assistant District Attorney Williams that prior testimony had indicated a shotgun was used in the robbery since the barrel of either a shotgun or a rifle had been seen "protruding from the rear window" [65] of the getaway car as it made its escape.

Judge Thayer was persuaded that the witnessing of a shotgun in action during the holdup would be sound justification for the admission of testimony that Vanzetti had shotgun shells on his person at the time of his arrest [66]. But the judge struck Connolly's testimony to this effect anyway, at least until a review of the stenographer's notes would clarify whether any prior evidence had been submitted of the sighting of a shotgun in the bandit's car [67].

Not until five days later, on the 22nd of June, when the prosecution was winding up its case against Sacco and Vanzetti, did the issue of the shotgun shells reemerge. In a colloquy between counsel for the parties and Judge Thayer concerning various matters of unfinished business, it was recalled that a stipulation concerning the shotgun shells had been reached between the prosecution and the defense [68]. This stipulation was then read by the stenographer to the jury. It provided:

It is agreed on behalf of the defendants Vanzetti and Sacco that of the four shotgun shells found on the defendant Vanzetti at the time of his arrest, two have not been introduced in evidence because they are not in the same condition as when found on him, and this through no fault of either the Government or the defendants and that the two shotgun shells that are hereby admitted are subject to the same general exception as were the other cartridges claimed to have been taken from the defendant Sacco at the same time [68].

Immediately after the recital of this stipulation, Katzmann offered “these two shells which I submitted to counsel and ask(ed) that they be marked as exhibits.” Upon the court’s consent, and without objection, the transcript reveals that “(Two shells admitted in evidence and marked ‘Exhibit 37’)” [68]. Now this procedure was most extraordinary because even though the shells were marked as exhibits, which would normally have been but an initial step in securing their admission into evidence, they were admitted sans dissent from the defense and sans foundational testimony affirming their authenticity from the prosecution. Since Officer Connolly had not marked the shotgun shells to insure their later identification, it was a gross oversight for the defense at this time to have let the shells into evidence without as much as a squawk. We find that in their letter of 15 June 1927 requesting clemency from Governor Alvan T. Fuller, then Defense Attorneys William G. Thompson and Herbert B. Ehrmann did protest the admission of these shells for lack of a proper chain of custody tracing them and none other back to Vanzetti [69].

Curiously, the record is devoid of any evidence identifying the two shotgun shells admitted into evidence. Connolly said he found three Peters and one Winchester in Vanzetti’s pocket. Which two of these were admitted into evidence? We know from Thompson and Ehrmann’s letter [69] that the two were marked “Buckshot.” We can surmise, from the background underlying the stipulation read to the Dedham jury, that the manufacturer of these two shells was the Peters Company.

The underpinning for this stipulation takes us back to Vanzetti’s earlier trial at Plymouth for the Bridgewater attempted holdup. The shot shells were deemed of particular import at that trial since a Dr. John Murphy, a witness to the crime, had retrieved a discharged Winchester twelve-gauge shell from the street in close proximity to the crime scene [70]. In addition, various witnesses attested to a robber’s display of a shotgun during the attempted crime.

Subsequent to the Plymouth trial, Judge Thayer was apprised by juror Simon Sullivan [71] that jury foreman Henry S. Burgess had opened two of the four shotgun shells which had been submitted to the jury for their review during their deliberations. Burgess, apparently having an uncontrollable urge to play Sherlock Holmes, decided to verify the contents of the shells. Having found they did contain buckshot, “at least some of the jurors took shot as souvenirs” [72].

Upon being informed of the Plymouth jury’s transgression, Defense Counsel Moore spearheaded an investigation which Ehrmann has documented by its every jot and tittle [73]. The upshot of this querying and affidaviting of the Plymouth jurors was to make muck and mire of any attempt to identify the two shells admitted at the Dedham trial as genuinely traceable to Vanzetti. Indeed, foreman Burgess recollected his opening two shells of Winchester manufacture [74], whereas Connolly had maintained both at the Plymouth and Dedham trials that only one Winchester shell was among those he confiscated from Vanzetti.

Out of this farrago of charge and countercharge, Ehrmann has concluded [73] that some governmental hanky panky underlies it all. To him, there were only three shells at the outset, as originally asserted by Vanzetti [75] on his direct examination. The fourth shell must have been a Winchester, speculates Ehrmann [76], and since only the government had anything to gain by its presence, it goes without saying, in his view, that the government planted it in the package of evidence [73].

This arcane miasma of undecipherable fiction and fact concerning the shotgun shells has one additional sticking point. Even though Officer Connolly’s testimony on this matter had originally been stricken for lack of relevance, there was no showing, either given or required by the trial judge, when Katzmann introduced these items into evidence that their relevance had

then been confirmed. A review of the Dedham trial transcript reveals that a Hans Behrsin, the chauffeur for Mr. Slater of the victimized Slater & Morrill Company, did testify that he saw someone in the back of the getaway car "with a gun or shotgun, whatever it was" [77]. This equivocal testimony was a slim reed upon which to rest a relevance determination.

The Select Committee could shed no light on the authenticity of the shotgun shells or any of the other issues in which they have been enveloped. The Committee was presented with three envelopes which contained two twelve-gauge shot shells of Peters manufacture. One of the packets was marked Exhibit 37. In the Committee's Worksheet GGG, it is noted that these shells bore the signature "00 Buck" and "Buckshot" and that they were headstamped "Peters No. 12 Target." The paper wrapper was described as having a red finish. Of necessity, the Committee had no authority to inspect the contents of these shells to verify the outer wrapper's "00 Buck" and "Buckshot" designations.

In this state of affairs, the prosecution's firearms evidence against Vanzetti, that "gentle, sad-eyed dreamer," in Upton Sinclair's phrasing [78], is today what it was at his trial in 1921, woefully weak and patently insufficient to support a verdict of guilty against him.

A verdict of guilty, to meet the constitutional standard of proof beyond a reasonable doubt now prevailing [79] must be constructed of something more impermeable than wattle and daub.

### **The Firearms Case Against Sacco**

The firearms evidence introduced against Sacco was not merely an appendage to the eyewitness testimony against him, nor was it a prosecutorial afterthought. In view of the confused and conflicting state of the eyewitnesses' recollections, "the expert testimony on firearms identification . . . was the natural determinant of the guilt or innocence of Sacco" [80]. This expert testimony could not conclusively prove that Sacco was in South Braintree on 15 April 1920. But it could establish that the Colt seized from him on his arrest was the weapon used by someone in the killings. That finding, together with inferences drawn from Sacco's possession of six Winchester rounds which were like the Winchester mortal Bullet III and the correspondence between the manufacturers of the 32 cartridges found on his person at his arrest with those represented among the cartridge cases found at the crime scene would have painted a Breughel-like canvas of Sacco as a murderer.

### *Three Prosecutorial Strategies*

Three techniques were employed by Prosecutor Katzmann to tie the firearms evidence to Sacco. The first was by demonstrating that the bullet marked III which killed Berardelli, known as mortal Bullet III, was fired from Sacco's Colt .32. The second was by showing that the only Winchester cartridge case discovered at the crime scene was discharged from the same Sacco Colt .32 as was Bullet III. Finally, and most tenuously of all, the jury was asked to surmise that since Sacco possessed six Winchester .32-caliber rounds when arrested, and since one spent Winchester shell was found at the crime scene, Sacco fired the cartridge from which the spent shell originated.

### *The Mortal Bullet*

Of the six .32-caliber bullets which struck the two victims, only Bullet III was assuredly of Winchester manufacture, a "w" being inscribed by the manufacture above its knurled cannelure to identify its source. Captain Proctor, however, testified that two of the other five bullets were also manufactured by Winchester [81]. He supplemented that finding by declaring that bullets numbered II and X were from the Union Metallic Cartridge Company and that Bullet 5 originated with the Peters Company [81]. Defense expert Burns, as might be ex-

pected, disagreed. In his estimation, only Bullet III was of Winchester manufacture. The other five were from the Union Metallic Cartridge Company [82]. Francis Russell, who, like Burns and Proctor, did not disclose the source of his information, declared that the only bullet of Winchester manufacture was Bullet III. But, unlike Burns and Proctor, he gave the manufacturers of three of the others as the Peters Company and the two remaining as from Remington [83]. The Select Committee wisely sidestepped this controversy entirely. It simply catalogued each bullet's relevant specifications, which are charted in Table 1.

"There is a quicksand awaiting anyone who attempts to identify a bullet from its physical characteristics alone unless it is obviously of a general type made by only one ammunition company" [84]. The "w" stamped on the jacket of Bullet III made its manufacturer apparent. The others bore no similar distinctive marking. It is known that at one time Remington did impress a "U" in the base of its bullets and, like Winchester, the United States Cartridge Company used a small "s" on the side of its bullets to advertise their origin [85].

Aside from such markings, there is very little of a sufficiently individual character among jacketed bullets to enable us to draw a bead on the manufacturer of a particular bullet. Bullet weights can be an uncertain barometer since deviations from the norm exist even in the case of the same manufacturer. The fact that all six bullets were of the open base variety is not particularly meaningful since most jacketed bullets manufactured around 1920 were either hollow point or open base because of the nature of the manufacturing process then in use. The existence of a knurled cannellure on four of the bullets and none on the others is of some limited assistance in tracing the manufacturer if manufacturers can be counted on to keep records on this matter and they are available and in shipshape condition. The fact that all of the bullets had a cupronickel finish might simply be a sign that the merchandising of bullets by attractiveness (all that glitters is most saleable) which is so much a part of the contemporary scene also flourished in 1920. If so, the nickel-plated jacketing would give no lead to one manufacturer over another, since this feature lacked uniqueness.

Probably the most significant obstacle in the way of determining the manufacturer of a bullet is the industry practice of buying and selling among bullet manufacturers. It is altogether likely that a cartridge marketed by Federal, say, as a Federal brand will have a bullet, for example, made by Winchester. Sometimes this results simply from an overrun and shortage of supply at the Federal or other ammunition manufacturer's factory.

In all events, the business of tracking a bullet to its manufacturer is a treacherous business, all the more so when it becomes necessary, as in the Sacco and Vanzetti case, to pinpoint the manufacturers of bullets in and about 1920 and then to gain access to the musty records of weights, types, and so forth. The rewards, it would seem, are too chimerical to be worth the extreme effort. And, apparently, for reasons of such good sense and the constraints of time, the Select Committee steered a course away from this issue.

Other than through its "w" stamp, Bullet III was distinguishable from the other five bullets by another feature. It was the only one of the six with a left twist. The other five bullets, although bearing six lands and grooves like Bullet III, had a right twist. The lands, grooves, and

TABLE 1—*Bullet specifications.*

Bullets	Weight, grains	Type	Cannellure	Base
III-Exh. 18	72.50	FMJ-Cupronickel	one knurled	open
II-Exh. 19	69.62	FMJ-Cupronickel	none	open
I-Exh. 20	71.29	FMJ-Cupronickel	one knurled	open
III-Exh. 21	71.45	FMJ-Cupronickel	one knurled	open
X-Exh. 24	68.99	FMJ-Cupronickel	none	open
5-Exh. 25	71.28	FMJ-Cupronickel	one knurled	open

direction of twist had been impressed on the bullets' jackets by the bore of the handgun upon discharge. That Bullet III bore six lands and grooves with a left twist put it in the class of bullets which must have been fired from a Colt .32, the only American manufacturer in 1920 with such rifling characteristics. The issue then devolved to whether Bullet III was discharged from Sacco's Colt .32.

### *The Bullet to Colt Connection*

The identification of Bullet III to Sacco's Colt was said to be the "key to the entire case" against Sacco [86]. Such an appraisal does rather unfairly diminish the significance of the cartridge case identification. Yet that the bullet identification was important is indisputable. To support its position, the prosecution relied upon Captains Proctor and Van Amburgh. Neither, however, stated an unwaveringly positive opinion as to whether Bullet III was fired from Sacco's Colt. Van Amburgh was "inclined to believe" [87] Bullet III came from Sacco's Colt. Proctor indulged in that most traducious obscurity among the verbal legerdemain of expert witnesses. He said Bullet III was consistent with being discharged from Sacco's Colt [88]. Like so many expert witnesses, Proctor and Van Amburgh hedged their opinions with words of probabilistic import.

The defense experts, predictably, saw the matter differently. But Burns's expert opinion was not resoundingly helpful to the defense. Both in his direct examination as well as his cross-examination, he insisted that Bullet III could have been fired by either a Colt .32 or a Bayard [89]. He refused to be any more specific than that. In his turn, Fitzgerald did not equivocate. "My opinion is that No. III bullet was not fired from the pistol given me as Exhibit 28" (Sacco's Colt) [25]. Hamilton, in his sworn affidavit accompanying the Fifth Supplementary Motion for New Trial, was his uniquely didactic self. "Summarizing the answer to the question whether the mortal bullet was fired through the Sacco pistol, the affiant gives it as his unqualified opinion that same was not fired through the Sacco Pistol" [90].

### *The Nuances of "Consistent with"*

Captain Proctor's use of "consistent with" in his trial testimony became a notable event in an otherwise notable trial when, in a posttrial affidavit [91] in support of the defense's Fifth Supplementary Motion, Captain Proctor proclaimed that he had no intention of suggesting that he believed Bullet III did come from Sacco's Colt. Further he accused the prosecutor of inveigling him into using "consistent with" to express his opinion in order to mislead the jury.

That Defense Attorney McAnarney thought Proctor's "consistent with" meant Bullet III was in fact fired from Sacco's Colt came out at the Lowell Committee's hearings in 1927 [91]. Under examination by Defense Counsel Thompson, McAnarney, then a judge, was asked [91]: "Q. What did you understand him to mean when he said it was his opinion that it was consistent that the mortal bullet was fired from Sacco's pistol?" To which McAnarney replied: "A. I understood that he thought that bullet came from Sacco's pistol." The Lowell Committee, however, did not envision the jury's being taken in by this semantic juggling [50].

But Judge Thayer may have been misled by it. His jury instructions stated that "the Commonwealth claims that . . . the fatal Winchester bullet . . . was fired through the barrel of the Colt . . . To this effect the Commonwealth introduced the testimony of two witnesses, Messrs. Proctor and Van Amberg (sic)" [92]. The Lowell Committee resolved the question most unsatisfactorily. Like Van Amburgh, it was "inclined" [93] to believe that Bullet III was fired from the Sacco Colt. Its opinion was predicated upon its untutored "inspection of the photographs" of the bullets, which photographs were, presumptively, those submitted by defense advocate Hamilton.

That the phrase "consistent with" is the darling of expert witnesses [94] and that it is subject to much vacuity and misunderstanding is apparent from its usage in judicial decisions and

elsewhere. A surgeon who conducted an autopsy in *Commonwealth v. Palmariello* [95], testified, on the one hand, that a furrow on the neck of the deceased was “consistent with a cord of some type.” Then, the same expert gave it as his unqualified opinion that ligature strangulation caused the death of the victim in that case [95, p. 809]. Los Angeles Coroner Thomas Noguchi stated on 24 May 1974 that deceased Symbionese Liberation Army Chief Donald De Freeze had a wound in his right temple which was “consistent with a self-inflicted wound” [96]. To the Los Angeles Times “the clear implication of the statement was that De Freeze committed suicide.” But one year after the death of the S.L.A. members, the Los Angeles coroner’s office definitively announced that De Freeze did not commit suicide after all [96, 97].

In *People v. Bethune* [98], the prosecution introduced the testimony of an odontologist to establish that the victim’s teeth caused a two-and-a-half year old scar on the accused rapist’s arm. Even though the expert could only state the victim’s dentition was consistent with having inflicted the wound, a New York appellate court viewed his statement as meaning the teeth were “entirely consistent” [98, p. 583] with the scar. Unsatisfied with this gloss on the expert’s opinion, the court reasoned that the expert had meant there was a “probability supported by some rational basis,” which rational basis the appeals court did not enunciate.

The addition of modifiers to the word “consistent” can totally alter its generally accepted signification. The prosecutor at the first von Bulow trial argued in his summation that the comatose condition of Mrs. von Bulow was “only consistent with surreptitious or the secreted administration of drugs on the part of another person” [99]. The prosecutor’s message was not that there was a “probability supported by some rational basis” of criminal wrongdoing, as in *People v. Bethune*, but rather that the sole cause of Mrs. von Bulow’s condition proceeded from an attempt to murder her by poisoning.

That the use of “consistent with” or its blood relative “consistency” is a hobgoblin in the scientific community became evident in a recent article on the matching of fingernail patterns through their distinctive striations [100]. The authors remark on an earlier study in which it was reported that there was a “consistency of nail patterns from one of the authors over a period of seven years” [100, p. 202]. The undiluted impression this statement conveys is that the nail patterns were the same over this ten-year period. If so, why not say so? If not, why becloud the statement in terpsichorean verbiage?

That the phrase “consistent with” has not always been greeted with hospitality by the courts was manifested in *State v. Adams* [101]. The Rhode Island Chief Medical Examiner had been permitted to testify at a first-degree murder prosecution that certain bruise marks on the deceased’s arm were “consistent with a bite mark.” The Rhode Island Supreme Court deemed the use of “consistent with” insufficient to establish the strong probability necessary as an acceptable basis for the opinion of a medical expert in Rhode Island. For that reason it was considered to be error for the trial court to have received the medical examiner’s opinion on that issue. Other courts, however, have viewed the use of “consistent with” by the experts more permissively [102].

It would be unfairly myopic to cast blame upon Captain Proctor for couching his opinion in terms of “consistent with.” Not only is the phrase a commonplace one in the use of forensic scientists, but it found favor throughout the Sacco and Vanzetti trial and its aftermath.

The defense did not find it to be anathema when its use suited their needs. “Is the appearance of this hammer consistent with it having been put in this revolver in March 1920 and not used any since then?,” asked Defense Attorney McAnarney of his firearms expert Burns [103]. “I should say not, as a new hammer,” replied Burns, the quintessential verbal prestidigitator. Albert Hamilton too, apparently unaided by counsel, reported his conclusion that five of the six bullets extracted from the victims were “consistent with the same having been fired from a Harrington & Richardson .32 automatic pistol” [104].

In its turn, the prosecution did not limit itself to exploring the varied ambiguities of “consistent with” in connection only with the testimony of Captain Proctor. Captain Van Amburgh’s testimony is also marked by the occurrence of “consistent with.” Prosecutor Williams injected

it when he asked "Are the five other bullets . . . from their physical appearance consistent with the fact of their having been fired from a Savage or from Savage automatic pistols?" [105] To which Van Amburgh unhesitatingly replied: "I would say that they are" [105]. Medical Examiner Dr. Magrath did not need the prosecutor's promptings to induce him to dip into the "consistent with" well. His testimony, in identifying the bullets recovered by him from the victims, is rife with statements characterizing the bullets as "consistent with .32" [106].

Probably as a matter of rote, the Select Committee itself fell afoul of the vagaries of "consistent with" phrasing. In detailing the evidence examined by it, the Committee notes that it received a bullet "marked on the base 'III' for identification and is consistent with Winchester manufacture" [107]. Yet certainly Bullet III is much more than "consistent with Winchester manufacture" since it is seen, even with the unaided eye, to have a "w." signifying its Winchester lifeline, engraved on its side, just above the cannellure.

The recurrent use of "consistent with" in the testimony and the reports of forensic scientists may spring from an unwillingness on their part to fling words straight and true. If it proceeds from a consciously withheld mind, the expert may justly be on the receiving end of a "J'Accuse" or worse. Some respected scholars, such as Morris Ernst, have viewed all expert testimony as "pre-arranged" [108]. Even the Lowell Committee was willing to indulge in the assumption "that all expert evidence on such subjects is more or less unreliable" [93]. On those unjustly cynical views, Proctor's testimony was not so out of the ordinary or scandal-catching as his affidavit might make it appear to be. It was merely part of the recognized fabric of unreliability of expert testimony in general [109].

In 1977, a proclamation was issued by Governor Dukakis of Massachusetts declaring that Sacco and Vanzetti had been unfairly tried [110]. Note should be taken that this proclamation did not state that they were innocent. In an accompanying report from the Governor's legal counsel it was said that "whether one of the bullets taken from Berardelli's body was fired from the gun found in Sacco's possession at the time of his arrest remains one of the most hotly disputed points of this hotly disputed case" [110, p. 177].

#### *The Select Committee's Finding*

Ruefully, the Select Committee was unable to settle this controversy by a comparison of evidence Bullet III to the Select Committee's bullets which had been test fired in 1983 from Sacco's Colt. The "poor condition" and the "heavy oxidation" of the mortal bullet were cited [111] as precluding such a definitive identification. The Committee's Report does not specifically say the Select Committee was unable to accomplish such an identification, but in meetings with this author, the Committee members individually expressed this view. It would have been helpful if the Committee had explicitly addressed this issue and had included photographs of their abortive attempt to compare Bullet III to the 1983 test fired bullets, at least, that is, for the benefit of certain dyed-in-the-wool skeptics.

The Select Committee did, however, identify evidence Bullet III "as having been fired from Exhibit #28 semi-automatic pistol" (The Sacco Colt). The Committee's photographic Exhibit KKK, which is cited by it in support of this identification, illustrates a side-by-side comparison of the striae on Bullet III and the matching striae on one of the Winchester Lowell test-fired bullets, which was introduced into evidence at the trial as Exhibit 35. Apparently, the Committee reanalyzed and recompared Bullet III to the Lowell bullet in default of its being able to do so with any of its 1983 test-fired bullets.

#### **The Fraher Cartridge Cases**

That someone picked up some quantity of spent shells from the Pearl Street crime scene which eventually found their way into the hands of Thomas F. Fraher, Superintendent of Slater & Morrill, is about all the agreed facts one can discover with respect to this physical evidence, which became known as the Fraher shells.

*The Finding of the Shells*

The first testimony the jury heard concerning the Fraher shells was grippingly dramatic. It came from James F. Bostock, a “mill-wright” in Brockton who was probably the last person to speak to Frederick Parmenter before he was gunned down. Bostock was proceeding along Pearl Street from the upper Slater & Morrill factory where he had been doing machinery repairs when Parmenter and Berardelli passed him as they travelled in the opposite direction. Shortly, Bostock heard gun fire and turned to see a lone gunman shooting Berardelli “probably four or five times” [112]. Even though he must have been terror stricken, Bostock walked toward the gunman until he was forced to take flight when the bandit “shot at me twice” [113].

After the fugitives’ getaway car had negotiated the nearby railroad crossing in full view of Bostock, he returned to give succor to the dying Berardelli and to assist in carrying the wounded Parmenter into the Colbert house, across the street. At some point in Bostock’s activities as a good samaritan, he picked up “three or four” [114] shells which were “about two or three feet from the shooting” [114]. He took these shells into the office of Slater & Morrill where he left them” in one of the desks” [114].

Although few commentators on this case have noted it, even when addressing the question of the number of spent shells retrieved from Pearl Street, Bostock also testified that he “saw some others picked up. I saw some others had some others, but that is all I picked up” [114]. No accounting has ever been given for these other shells or the persons who found them.

On Defense Attorney McAnarney’s cross-examination of Bostock, his custody of the shells was not probed in preference to a new line of questioning. McAnarney, apparently presaging coming events, examined Bostock’s knowledge as to whether Berardelli was armed when he met his death and whether Bostock could identify the revolver Berardelli was known to carry. To McAnarney’s delight, Bostock could not advance the cause of the prosecution on these issues.

*The Custody of the Shells*

On 21 June 1921, almost two weeks after Bostock’s testimony, Thomas F. Fraher testified that Bostock had delivered “four empty shells” [115] to him shortly after the holdup. Even though the headstamp markings on these shells plainly indicate they are .32 caliber, Fraher gave it as his best estimate that they were .32 caliber in size. Fraher indicated that he turned these shells over to Captain Proctor as soon as he arrived at the crime scene. Nothing was said, nor was anything asked of either Bostock or Fraher, concerning their having marked these shells nor whether they could presently identify them. No one has ever suggested that these shells were marked by any of their successive custodians, until Prosecutor Williams made a “slight scratch” [88] on the only Winchester shell during his examination of Captain Proctor at the trial. Neither the size, the location, nor the marking medium were specified by Williams. It is no wonder, therefore, that neither the 1983 Select Committee report nor earlier evaluations of this exhibit have mentioned it. This is much to be regretted since its present existence on the shell could, at the very least, negate any loss or substitution of the original since the trial.

It is passing strange that the prosecutor did not seek to have either Fraher or Bostock express a very general identification of these shells, at least by caliber and headstamp markings, even in the absence of their having been marked for later identification. Whether the prosecution could legally seek such a vague identification had already been resolved in its favor during Officer Connolly’s testimony on Vanzetti’s .38-caliber H. & R. and the cartridges unloaded from it [116].

*Preliminary Dilemmas—Names, Places, and Numbers*

Bostock and Fraher’s testimony was contradictory on two scores. Bostock said he left the shells in a desk but Fraher said Bostock had hand-delivered them to him. Further, it was

Fraher's best recollection that he received four spent shells but Bostock said he had found three or four. (He also was hazy as to whether four or five bullets were fired into Berardelli.) The lack of concurrence in their testimony became significant only subsequently when efforts were made to pinpoint one of the four shells, the only one of Winchester manufacture, as having been fired from the Sacco Colt. If only three shells were truly found by Bostock, then the fourth shell might have been a governmental addition to the group, designed to bolster its case against Sacco and Vanzetti through fabricated evidence.

Yet, in retrospect, that ruse seems hardly likely since "neither government expert at the trial testified to an opinion that Shell F4 (the Winchester) had been fired in Sacco's gun" [117] to the exclusion of all others. If the government were set on framing Sacco and Vanzetti with a manufactured shell, the scheme was certainly carried out most amateurishly and ineffectually.

Ehrmann suggests, however, that the devious ways of the government involved an attempt to intimate that the Winchester shell, although its experts could not state it originated from the Sacco Colt, was the cartridge case from which Bullet III (also bearing the Winchester monogram) had been fired. Such subtle connections could easily have been missed by the jury without some gentle reminding by the prosecution. The transcript, however, does not reveal any attempt at the trial or in the government's arguments to the jury in which the prosecution tried "to insinuate that the fourth shell matched the fatal bullet and so formed (a) single cartridge" [117]. The government's machinations, if any, would have been foredoomed without its flagging the jury to the connection.

The hubbub over the authenticity of Fraher Shell F4 has not abated over the years. Brian Jackson reports [118] that in 1977 shock waves were emitted from the sedate precincts of the Harvard Law School Library when an amateur historian, Lincoln A. Robbins, "must have sworn out loud in the library" [118]. Robbins had happened upon a notebook of Prosecutor Williams which recorded "Shay picked up 3 shells where Ber. fell and gave them to Sherlock." Three shells were found, not four, and by Braintree policeman Shay, not machinist Bostock, who gave them to state detective Sherlock, not factory superintendent, Fraher.

Amazing as it may appear, the critics of the prosecution in Sacco and Vanzetti never make any allowance for honest mistakes by the government. Prosecutorial good faith errors are taboo. Here again a pretrial notation by a prosecutor made "a few months" before trial is said to be fixed in conniving stone. It could not possibly be explained as a prosecutor's tentative and casual rendering of the events of the criminal episode. No, more sinister connotations immediately leap to some minds.

Yet, when Jackson captions this stunning tableau "The Case of the Extra Bullet" [119], mistaking an extra cartridge case for a bullet, he is not villified with charges of an intentional fabrication. And when Jackson mentions the defense's filing "their sixth supplementary—the Proctor motion" [120], when in fact it was the fifth and last supplementary motion, most persons would charitably wince and pass the error off to an honest mistake in the reporting on a very complex case. But when the prosecution is on the receiving end of its mistakes, matters are viewed much less sympathetically.

In this connection, it is deserving of note that Prosecutor Williams was far from perfect in his factual understanding of his case. On his direct examination of Captain Proctor, for example, the court interrupted him to correct his misdescription of the four spent shells as "cartridges, four cartridges" [121]. Judge Thayer knew they were properly "shells," not cartridges. And everyone with eyes to see must have realized the caliber and manufacturers of those four shells since those identifying features were emblazoned on the base of each of them. But Williams seemingly did not know or he had an inexplicable lapse of memory on that entirely obvious matter. In retrospect and upon an evaluation of Williams', who was later to become a Justice of the Massachusetts Supreme Court, probing of Proctor on the witness stand, the only safe conclusion points to Williams' grievous ignorance of either his own evidence or the firearms interpretations to be gleaned from it.

Williams, to keep the identity of each of the four cartridge cases distinct so that one would

not be mistaken for another, asked Proctor [28] “is there any way that you could mark these . . . so that we can identify the different marks later, in referring to them?” Proctor replied, with what must have been more than a note of consternation, “It is marked on the \_\_\_\_\_.” Whereupon Williams stopped him in mid sentence to ask and, unwittingly, to fix his error in the bright light of the transcript, “It is marked on them?” Proctor, instead of uttering a simple yes, compounded Williams’ embarrassment by noting that each was already plainly marked “(r)ight on the bottom of the cartridge, the shell.”

Matters were apparently now completely out of Williams’ control. Instead of changing his course and developing a new line of questioning, he stepped further into the trap his own careless preparation had set for him. “I see,” he remarked after what must have been a startled but cursory inspection of the base of the four shells. “W. R. A. Peters and U. M. C. I see.” Then he really threw his best wayward foot forward by asking “Are they all .32 calibre?” At this point Proctor must have become aware of Williams’ predicament for, rather than directly accosting him with the base of each shell which proclaimed its caliber in an unmistakable and almost un-erodable inscription, he signalled for a halt by saying, simply, “They are.”

Not yet, however, had Williams had his fill, even though it was clearly time for him to regroup. Now that he could see the base of the shells and the headstamp markings, he asked, in near childlike curiosity, “what is the dent which is noticeable in the end of each cartridge (sic) or shell?” This “dent” or impression was the mark left by the firing pin in the primer which was in the center, not at the end, of each cartridge case. All this Williams should have known in advance of trial if he had prepared with reasonable diligence and if he had had even the most perfunctory pretrial interview with his expert, Captain Proctor.

This one, brief vignette from a long trial demonstrates that errors by the prosecution on even vital factual details were manifest and that malicious intent in their inception was not necessarily to be inferred.

### *The Origin of the Shells*

As introduced into evidence as Exhibit 30 at the Dedham trial, there were four Fraher shells. All bore distinctive manufacturers’ headstamp markings; all were of the center fire type and all were .32 automatic Colt pistol (ACP). Two were of Peters manufacture; one was from Remington; and the fourth was manufactured by Winchester. The Winchester was unique because impressed into its primer cap it bore a monogrammed “w” attesting to its Winchester parentage. The prosecution sought to prove, as best it could in view of the equipment and knowledge available to it at that time, that the Winchester shell was fired either from Sacco’s Colt or at least from some unidentified Colt, which might by chance have been the Sacco Colt.

### **Class Versus Accidental Characteristics**

Probably the most basic and the most misapplied distinction in the rubric of firearms identification is that between class and accidental characteristics. In brief, class characteristics are those features of a weapon or a projectile and its components (cartridge case, shotgun wadding, shells, and so forth) that stamp the particular group of which it is a member. Whether a rifled barrel has a left or right twist, for example, is a class characteristic that will suffice to identify a bullet as having been discharged by any of the class of weapons with that twist, but that will not enable an examiner to specify the precise weapon which fired the bullet. Class qualities are, therefore, nonspecific, justifying an examiner’s exclusion of all firearms not of the same class and his inclusion of all firearms which bear the same class features. Narrowing the class is not comparable to establishing a one-to-one identification, however.

Accidental characteristics, on the contrary, are the highly specific, individual markings that permit a firearms examiner to pinpoint with certainty the source of a projectile or cartridge case. These individual features are termed striations or toolmarks for they arise from metal

marking metal, leaving telltale signs undetectable by the naked eye. A firing pin upon striking the primer, for example, will leave its distinctive brand of striations on it, but it will also imprint its class characteristics, to be ascertained in the measurements or the configurations of the impression it imparts. In addition to firing pin striae, other accidental characteristics that can mark a cartridge case as having been fired by a or cycled through particular weapon and none other are the striations left by the ejector, the extractor, the breechface, and the firing chamber. Often has it been said, with much justification, that class and accidental features should be kept separate in the theory of firearms identification and in its practice, as well as the courts [122].

### **Cartridge Case Identifications**

According to current firearms identification learning [123], a cartridge case, ejected from an automatic or semi-automatic handgun, can be traced to its source through a number of different and quite individual markings and their spatial relation to each other. Four fundamental approaches exist, any one of which might suffice for a positive identification of the origin of a cartridge case. Optimally, all techniques of identification are predicated on a matching of striations found on an evidence shell (one found at the crime scene) with a test shell (one fired from a suspected weapon) or, in the absence of a weapon to test, a shell known to have been fired from a suspected weapon.

Broadly defined, the striations on a spent shell are of two kinds, impression or scratch marks [124]. Impression marks are those "produced due to static contact under pressure between a tool and a surface" [124]. Scratch-type striation marks are made "due to sliding contact" [124] between a tool and a softer surface. Firing pin, ejector, and breechface marks are typically impression striations, whereas extractor and firing pin scrape marks arise from the movement of the extractor or firing pin against the cartridge case. Since to create toolmarks, called striations, requires a scribing by a harder onto a softer metal, it is best to seek the striae on the primer of a shell, since the primer is made of a soft metal, either copper or brass.

In the firearms identification work of today's crime laboratories, chief reliance in the identification of cartridge cases is placed on breechface impressions, chamber marks, and firing pin impressions. The theory underlying the individuality of breechface striae arises from the manufacturing process of pistols, during the finishing stages of which the breech block, being inaccessible to mechanical devices, is hand filed among other systems of finishing, like broaching and end-milling. This hand filing produces the toolmark striations that are engraved upon the base of a shell when, upon firing, it is propelled back against the breechface.

Even though Albert Hamilton's posttrial affidavit [125] reveals that breechface markings were known in the 1920s to be a technique of cartridge case identification, still the sole testimony at trial on this matter related to the individuality, or the lack of any, of the firing pin impressions on the evidence shell and test cartridge cases as indicative of their having been discharged by Sacco's Colt. Admittedly, firing pin impressions may be a sound basis upon which to predicate an identification, but in that case the expert looks for firing pin striations [126], not the position of striking the primer or the amount or direction of flow back from the soft metal of the primer.

The varied marks and impressions produced by a firearm on a cartridge case can have a discernible spatial relationship that can be useful in identifying two shells as having been fired by the same weapon. According to the Gunthers [127], "(t)he examiner of cartridge cases fired in automatic pistols is primarily interested in the relative position of the characteristics one to the other." Thus, even though a firing pin may not always strike the primer in the same location, such a divergence is not sufficient to preclude a determination that two cartridge cases have a common origin, if the breechface marks have the same relative position with the firing pin impression [127]. Merton Robinson, who submitted a posttrial affidavit, was the only expert on the prosecution's team who made a point of having "observed the relation as to position of

these significant markings with respect to the ejector mark, extractor mark, and the imperfection in the primer indent" [128].

Even though these considerations are the benchmarks and the rudiments of the firearms examiner's skills today [129], in the 1920s only a glimmer was aborning of this contemporary learning.

### Goddard and the Select Committee's Findings

On 3 June 1927 [130], Calvin Goddard, a pioneer in the modern science of firearms identification [131], reexamined the Fraher Winchester cartridge case and one of the Lowell test fired shells through the comparison microscope. These experiments were conducted in the presence of District Attorney Ranney, a stenographer, Defense Attorney Ehrmann, Professor Gill (a defense expert), and a number of newspaper men [132]. His tests left him with the inflexible convictions that the Fraher Winchester shell was fired from Sacco's Colt and none other [132, 133]. He depicted this identity between the Fraher and the test shells through a superimposition of one into a cutout version of the other [134].

Even though Goddard did not appear as a witness before the Lowell Committee, Francis Russell postulates that his findings "undoubtedly had much influence on the Lowell Committee" [135]. Jackson, however, erroneously describes Goddard as "the decisive ballistics expert to the Lowell Committee" when no evidence exists that the Lowell Committee heard from Goddard in person [6].

The Select Committee's report concurred with Goddard's view based upon a current test firing of .32-caliber Winchester rounds through Sacco's Colt .32 [136]. A singular and unique V, tilted to its side, namely "<," at 12 o'clock on the cartridge cases, which was reported by Calvin Goddard, still appears [136] and makes the matching of the cartridge cases to Sacco's Colt all the more damning.

**To be continued in the July 1986 issue of the *journal*.**

### Notes

\*References to the transcript of the proceedings in the Sacco and Vanzetti case appearing in this paper are to the six-volume work entitled *The Sacco-Vanzetti Case: Transcript of the Record of the Trial of Nicola Sacco and Bartolomeo Vanzetti in the Courts of Massachusetts and Subsequent Proceedings, 1920-7*, Henry Holt, New York, 1928-1929. The first five volumes of this work have Roman numerals designating the volume number. The sixth volume, which includes material on Vanzetti's trial at Plymouth, MA for a 24 Dec. 1919 Bridgewater, MA attempted robbery of an L. Q. White Shoe Factory vehicle is denominated a Supplemental Volume. In this paper, references to the first five volumes of this publication shall be signified by volume and page number, namely, IV - 3481. Citations to the Supplemental Volume shall appear as Supp. Vol. -37, for example.

References to the 1983 Report of the Select Committee on Sacco and Vanzetti are given as "Report, p. ." Page references are to the report as published in the *Association of Firearms and Toolmarks Examiners' Journal*, Vol. 17, No. 3, July 1985, pp. 13-42. This publication of the committee's findings unfortunately excludes the very valuable worksheets of the committee and does not explain the nature of the side-by-side comparisons in the photographic exhibits, which, in the republication of the photographs, are only dimly realized.

### References

- [1] Frankfurter, F., *The Case of Sacco and Vanzetti*, Little Brown, Boston, 1962, p. 9. Novelist Katherine Anne Porter agreed with Justice Frankfurter's assessment. The murders were, to her, "a commonplace crime by quite ordinary, average, awkward gangsters." Porter, K. A., *The Never-Ending Wrong*, Secker & Warburg, London, 1977, p. 3. But defense counsel Moore saw the murders as of a baser, meaner sort. "The crime was a peculiarly atrocious one, a peculiarly vicious one," he admitted in his summation at the trial (II - 2124). Even on this seemingly nondebatable point, the Sacco and Vanzetti case has been embroiled in ceaseless controversy.

- [2] Of the plethora of books devoted to the Sacco and Vanzetti case, I have found that the most rewarding, if not always the most accurate, are: Russell, F., *Tragedy in Dedham*, McGraw-Hill, New York, 1962; Joughin, C. L. and Morgan, E. M., *The Legacy of Sacco and Vanzetti*, Harcourt, Brace, New York, 1948; Jackson, B., *The Black Flag*, Routledge & Kegan Paul, Boston, 1981; Montgomery, R. H., *Sacco-Vanzetti: The Murder and the Myth*, The Americanist Library, Boston, 1965; Ehrmann, H. B., *The Case That Will Not Die*, Little, Brown, Boston, 1969; Gunther, J. D. and Gunther, C. D., *The Identification of Firearms*, John Wiley, New York, 1935, chap. II; Frankfurter, F., Note 1. Young, W. and Kaiser, D. E., *Postmortem*, The University of Massachusetts Press, Amherst, 1985. The Young and Kaiser book, although the latest on the subject, is crippled by its failure to take into full account the findings of the 1983 Select Committee, of which this author informed Professor Kaiser well in advance of his book's publication. Another book, by the redoubtable Francis Russell, is understood to be under full sail at this time.
- [3] Boyer, R., *The Penny Ferry*, Houghton Mifflin, Boston, 1984. The Sacco and Vanzetti case has insinuated its way into a current college textbook on psychology, in which the better part of a chapter is given over to the deficiencies in the eyewitness identifications, particularly at Vanzetti's solo trial in Plymouth, MA. The authors, however, confusedly and erroneously intermingle their discussions of the Plymouth and Dedham trials so that it is trying to sort out which one is being addressed at any point. Worchel, S. and Shebilske, W., *Psychology: Principles and Applications*, Prentice-Hall, Englewood Cliffs, NJ, 1983, chap. 6.
- [4] Thorwald, J., *The Century of the Detective*, Harcourt, Brace & World, 1964, p. 438; Sifakis, C., *The Encyclopedia of American Crime*, Facts on File, New York, 1982, p. 633; Montgomery, Note 2, p. 344.
- [5] Russell, Note 2, pp. 212, 233.
- [6] Jackson, Note 2, p. 137.
- [7] Montgomery, Note 2, chap. 11, pp. 94-100.
- [8] Montgomery quotes insider sources to the effect that Dr. Magrath matched Sacco's hair to hair taken from the cap, but that Katzmann balked at using this finding as evidence. Montgomery, Note 2, pp. 99-100.
- Sherlock Holmes bedazzled Dr. Watson with his deductive powers in "The Adventure of the Blue Carbuncle" when Holmes' scrutiny of a hat led him to conclude that its owner was "highly intellectual, fairly well-to-do," possessed of "foresight," a wife who "has ceased to love him," and lived without "gas laid on in his house." Holmes' perceptive talents could have been put to good use on the putative Sacco cap. Doyle, A. C., *The Complete Sherlock Holmes*, Doubleday & Company, Inc., Garden City, NY, 1927, pp. 244-257 (pp. 246-247).
- [9] In a telephone conversation with the author on 9 Aug. 1984, Ms. Kathryn M. Carey, Chief Conservator of the Massachusetts Supreme Judicial Court, indicated that a notation in the Sacco and Vanzetti files reveals that the clothing of the victims was destroyed in 1927, rather than having been transferred with the other items of physical evidence to the Massachusetts State Police, since it was moldy and deteriorated. Her files did not reflect the whereabouts or the disposition of the Sacco cap. These revelations are just more proof of the slipshod methods of handling the physical evidence in the Sacco and Vanzetti case in the twenties.
- [10] See illustrations from the *New York World*, *Pravda*, *Le Drapeau Rouge* (Brussels), *Bandera Proletaria* (Buenos Aires), *New York Daily Worker*, *The Nation*, all in Lyons, F., *The Life and Death of Sacco and Vanzetti*, Da Capo, New York, 1970.
- [11] Millay, E. St. V., "Two Sonnets in Memory," *The New Republic*, Vol. 64, 27 Aug. 1930, p. 34. Also see her "Justice Denied in Massachusetts," *Collected Lyrics*, Harper & Row, New York, 1943. An extensive cataloging of verse references appears at pp. 576 to 580 of Joughin and Morgan, Note 2.
- [12] Morgan, "Review of The Untried Case by Herbert B. Ehrmann," *Harvard Law Review*, Vol. 47, 1934, pp. 538-547 (p. 546).
- [13] Montgomery, Note 2.
- [14] Llewellyn, K., "The Sacco-Vanzetti Case," in *Criminal Law and Its Administration*, J. Michael and H. Wechsler, Eds., The Foundation Press, Chicago, 1940, pp. 1085-1091. In a similar vein, Doctor Martin Luther King said: "Injustice anywhere is a threat to justice everywhere. We are caught in an inescapable network of mutuality tied in a single garment of destiny. Whatever affects one directly affects all indirectly." "Letter from Birmingham City Jail," *The New Leader*, 24 June 1963, p. 3.
- [15] This statement may be more of the apocrypha of the Sacco and Vanzetti case. It is not that Vanzetti was beyond the pained lyricism of this statement. His impassioned and memorably literate declarations at his sentencing (V - 4896-4904) and in his letters during his imprisonment attest to his ability to declaim in a fashion sufficient even to please the pulse of a Roman senator. This quote appears in Feuerlicht, R. S., *Justice Crucified: The Story of Sacco and Vanzetti*, McGraw-Hill, New York, 1977, p. 344. A shortened version of Vanzetti's statement appears in Russell, F., "A Retrospect of the Sacco-Vanzetti Trial: *Tragedy in Dedham*," *American Heritage*, Oct. 1958, pp.

52-57, 109, at p. 55 where Russell attributes this statement to Vanzetti's "noble last address to the court." The court records on the contrary, do not reflect such a statement.

- [16] District Attorney Katzmann could not have made his position plainer than he did in his summation when he proclaimed:

We say in Plain English that on the evidence we have proven to you beyond any reasonable doubt that the defendant Sacco fire (fired?) a bullet from a Colt automatic that killed Alessandro Berardelli: that some other person whose name we do not know and who is not under arrest, in custody or upon his trial, killed the man Frederick A. Parmenter with a Savage automatic, and that that was not the defendant Vanzetti. II-2183.

- [17] II - 2244-2245.  
 [18] Moenssens, A. A. and Inbau, F. E., *Scientific Evidence in Criminal Cases*, 2nd ed., The Foundation Press, Mineola, NY, 1978, pp. 192-193.  
 [19] *Comm. v. Best*, 180 Mass. 492, 62 N.E. 748 (1902).  
 [20] Gunther and Gunther, Note 2, p. 256, footnote 30.  
 [21] The Frankford Arsenal did little touted pioneering research in cartridge case identifications in connection with the military riots at Brownsville, TX in 1907. See Hatcher, J. S., Jury, F. J., and Weller, J., *Firearms Investigation. Identification and Evidence*, The Stackpole Company, Harrisburg, PA, 1977, pp. 4-6.  
 [22] I - 911.  
 [23] II - 1405.  
 [24] II - 1445-1447.  
 [25] II - 1466.  
 [26] II - 1464.  
 [27] Hatcher, Jury, and Weller, Note 20, p. 114.  
 [28] I - 886.  
 [29] Gunther and Gunther, Note 2, p. 88.  
 [30] The sad tale of Prevost's woe is told in Borchard, E., *Convicting the Innocent*, Archon Books, Hamden, CT, 1961, pp. 201-209.  
 [31] I - 887.  
 [32] I - 900.  
 [33] IV - 3608-3635.  
 [34] V - 5006.  
 [35] V - 5017-5018.  
 [36] Goddard, C. H., "Scientific Identification of Firearms and Bullets," *Journal of Criminal Law, Criminology and Police Science*, Vol. 17, Aug. 1926, pp. 254-263 (p. 255).  
 [37] Pamphlet entitled "That Man from Auburn" in files of Sacco & Vanzetti Case in Massachusetts Supreme Judicial Tribunal.  
 [38] Letter from Leanore F. Bona, Supervisor, Records Division, Office of Student Information Services, Columbia University, undated, received 20 April 1984.  
 [39] V - 5018.  
 [40] IV - 3634.  
 [41] Joughin and Morgan, Note 2, p. 190.  
 [42] Joughin and Morgan, Note 2, pp. 160-172.  
 [43] Joughin and Morgan, Note 2, p. 14.  
 [44] Joughin and Morgan, Note 2, p. 15.  
 [45] I - 133.  
 [46] I - 136.  
 [47] I - 134.  
 [48] I - 77. District Attorney Katzmann, in his summation (II - 2203), also counted 22 loose cartridges as found in Sacco's pocket, but something must have gone awry with his arithmetic, or that of the court stenographer, since he also said Sacco had "32 death dealing automatic cartridges, 9 of them in the gun ready for action." 9 from 32 leaves 23 not 22, even under the strictures of the "old math" of 1921.  
 [49] I - 762.  
 [50] V - 5378g.  
 [51] I - 781.  
 [52] I - 782.  
 [53] West, B., *Browning: Arms & History*, Stockton Trade Press, Santa Fe Springs, CA, 1972, pp. 7-29 to 7-32.  
 [54] *John M. Browning Armory*, Browning Arms Co., Ogden, UT, 1959, p. 46.  
 [55] Sutherland, R. Q. and Wilson, R. L., *The Book of Colt Firearms*, Glenn Printing, Kansas City, MO, 1971, p. 409.  
 [56] I - 749.

- [57] I - 752.
- [58] I - 781. "On the stock I put the initials 'M. S.,' I think."
- [59] I - 757.
- [60] During the testimony of James Bostock, a machinist who was a witness to the South Braintree affray, Prosecutor Williams questioned his knowledge of Berardelli's habits with respect to the carrying of a revolver. Defense Attorney McAnarney properly objected to the relevance of this line of interrogation (I - 196). After an unreported side bar conference with Judge Thayer, Williams was allowed to proceed, subject to the assurances he had made to the judge of its materiality. Francis Russell, apparently privy to facts not appearing on record, has maintained that at this side bar conference, "Assistant District Attorney Williams revealed for the first time the Commonwealth's contention that the revolver found on Vanzetti had been taken from Berardelli's body by the man who shot him" (Russell, Note 2, p. 160, note 2).
- Whether Russell was speculating or not, Katzmann's summation crystallized the prosecution's theory that Vanzetti lifted Berardelli's revolver and then was caught with it on his person in Brockton on 5 May 1920 (II - 2183-2184). See Russell, Note 2, p. 160, note 2. Judge Thayer, in his instruction to the jury (II - 2255), also adverted to the prosecution's attempt to link the .38-caliber Harrington & Richardson seized from Vanzetti to Berardelli.
- Supreme Court Justice Felix Frankfurter thought so little of the merits of this feature of the prosecution's case against Vanzetti that he derided it as "too insignificant for detailed attention," and buried it in a brief footnote reference in his book. Frankfurter, Note 2, p. 32, note 2.
- [61] I - 807.
- [62] V - 5235.
- [63] V - 5010-5011.
- [64] Letter dated 20 April 1983 signed by R. E. Chatigny, Director of Research & Development for Harrington & Richardson, Inc.
- [65] I - 756.
- [66] I - 759. In *State v. Benson*, 574 S.W.2d. 440 (Mo. App. 1978) a shotgun loaded with #6 shot, found in the accused's possession, was admitted into evidence since the deceased was demonstrated to have been killed with #6 shot, even though the gun from which that shot was fired could not be identified. See also *United States v. Barber*, 495 F.2d 327 (9th Cir. 1974) (involving coins stolen in a bank robbery).
- [67] I - 760.
- [68] III - 2757-2758.
- [69] Supp. Vol. - 354-355.
- [70] Supp. Vol. 141.
- [71] Supp. Vol. 356.
- [72] Joughin and Morgan, Note 2, p. 50.
- [73] Ehrmann, Note 2, pp. 108-113.
- [74] Ehrmann, Note 2, p. 110.
- [75] II - 1714-1715.
- [76] Ehrmann, Note 2, pp. 53, 299.
- [77] I - 328.
- [78] Sinclair, U., "The Fishpeddler and the Shoemaker," *Institute of Social Studies*, Vol. 2, No. 2, Summer 1953, pp. 13, 23-24 (p. 23).
- [79] *In re Winship*, 397 U.S. 358 (1970).
- [80] Gunther and Gunther, Note 2, p. 244.
- [81] I - 690-692 Bullet I (Exhibit 20) - Winchester; Bullet II (Exhibit 19) - U.M.C.; Bullet III (Exhibit 21) - Winchester; Bullet 5 (Exhibit 25) - Peters; Bullet X (Exhibit 24) - U.M.C.
- [82] II - 1415.
- [83] Russell, F., "Sacco Guilty, Vanzetti Innocent?," *American Heritage*, June 1962, pp. 5-9, 108-111 (p. 5).
- [84] Hatcher, Jury, and Weller, Note 20, pp. 201-202.
- [85] Hatcher, Jury, and Weller, Note 20, p. 200.
- [86] Joughin and Morgan, Note 2, p. 83. The Lowell Committee too saw this feature as of primary importance to Sacco's case. V-5378w.
- [87] I - 920. The Lowell Committee incorrectly construed Van Amburgh's "inclined to believe" that Bullet III was fired from the Sacco Colt to mean that "it did so." V-5378r.
- [88] I - 896.
- [89] II - 1408, 1430.
- [90] IV - 3633.107. IV - 3641-3643.
- [91] V - 5054.
- [92] II - 2254.
- [93] V - 5378w.
- [94] *Kennedy v. State*, 640 P.2d 971, 976 (Okl. Cr. 1982); *Powell v. Comm.*, 554 S.W.2d 386 (Ky. 1977);

- Ethridge v. State*, 418 So.2d 798 (Miss. 1982); *State v. Casarez*, 656 P.2d. 1005, 1007 (Utah 1982); *State v. Williams*, 659 S.W.2d 309, 310 (Mo. App. 1983); *State v. Boyd*, 331 N.W.2d. 480 (Minn. 1983).
- [95] 446 N.E.2d. 805 (Mass. 1984).
- [96] *Los Angeles Times*, 17 May 1975, p. 18.
- [97] See Noguchi, T. T., Holloway, J. E., and Nakamura, G. R., "Medicolegal Investigation in the Deaths of The Symbionese Liberation Army Members, Los Angeles," *Legal Medicine Annual*, pp. 1-54.
- [98] 484 N.Y.S.2d. 577 (App. Div.2d. 1984).
- [99] *State v. von Bulow*, 475 A.2d. 999, 1014 (R.I. 1984).
- [100] Stone, I. C. and Wilimovsky, A., "Evidentiary Basis for Fingernail Striation Association," *Journal of Police Science and Administration*, Vol. 12, No. 2, 1984, p. 201.
- [101] 481 A.2d. 178 (R.I. 1984).
- [102] *Thomas v. State*, 455 So.2d. 278 (Ala. Cr. App. 1984).
- [103] II - 1419.
- [104] IV - 3627.
- [105] I - 916.
- [106] I - 119-120.
- [107] *Report*, p. 18.
- [108] Ernst, M. L., "Book Review: The Case of Sacco and Vanzetti by Felix Frankfurter," *Yale Law Journal*, Vol. 36, June 1927, pp. 1192-1194.
- [109] In commenting on the expert testimony in the trial of Bruno Richard Hauptmann for the kidnapping-murder of Charles A. Lindbergh Jr., Professor Seidman has asserted that "(t)he testimony of the handwriting and wood experts, for example, can be disposed of only by assuming the general unreliability of forensic scientists. This skepticism may be well founded." Seidman, L. M., "Trial and Execution of Bruno Richard Hauptmann: Still Another Case That 'Will Not Die'," *Georgetown Law Journal*, Vol. 66, pp. 1-48, Oct. 1977 at p. 8.
- [110] Jackson, Note 2, pp. 88-90.
- [111] *Report*, p. 27.
- [112] I - 189.
- [113] I - 189, 191.
- [114] I - 195.
- [115] I - 882.
- [116] I - 760-761.
- [117] Ehrmann, Note 2, p. 261.
- [118] Jackson, Note 2, pp. 107-108.
- [119] Jackson, Note 2, p. 106.
- [120] Jackson, Note 2, p. 54.
- [121] I - 885.
- [122] Houts, M., *From Evidence to Proof*, Charles C Thomas, Springfield, IL, 1956, p. 300.
- [123] Fontaine, R., "Identification of Shells," *Journal of the American Institute of Criminal Law and Criminology*, Vol. 23, 1933, pp. 542, 545; Goddard, C. H., "Scientific Identification of Firearms and Bullets," *Journal of Criminal Law, Criminology and Police Science*, Vol. 17, No. 2, Aug. 1926, pp. 254-263, 260.
- [124] Sharma, G. P., "Firing Pin Scrape Marks and the Identification of Firearms," *Journal of Criminal Law, Criminology and Police Science*, Vol. 57, 1966, pp. 365-366.
- [125] IV - 3621.
- [126] Sharma, B. R., "The Importance of Firing Pin Impressions in the Identification of Firearms," *Journal of Criminal Law, Criminology and Police Science*, Vol. 54, 1963, p. 378.
- [127] Gunther and Gunther, Note 2, p. 230.
- [128] IV - 3675.
- [129] Felix mistakenly believed the "shell is marked for two reasons," which he described as breechface and firing pin marks. Felix, D., *Protest: Sacco-Vanzetti and the Intellectuals*, Indiana University Press, Bloomington, IN, 1965, p. 123.
- [130] Joughin and Morgan, Note 2, p. 304.
- [131] Thorwald, J., Note 4, p. 433 passim.
- [132] Montgomery, Note 2, pp. 89-90. Montgomery gives the full text of Goddard's letter of 8 Aug. 1927 as it was published in the *Boston Evening Transcript* reporting on the conduct and results of his tests.
- [133] Goddard, C. H., "Who Did the Shooting?," *Popular Science Monthly*, Nov. 1927, pp. 21-22, 171-172, p. 21. But Goddard's article, and possibly his firearms identification work as well, is compromised by numerous factual errors. His article states twice that six shells were found at the crime scene when only four were even in issue at any time. Sacco, according to Goddard, had three bullets of the "obsolete: Winchester type on his person when arrested, but, in reality, six were discovered

on him." Finally, Goddard mentions that one of the five non-Winchester bullets displayed a right twist of the lands and grooves, when all five bullets revealed such a twist.

[134] Hatcher, Jury, and Weller, *Note 20*, pp. 464–465 contain Goddard's photographs of the results of his cut and paste technique.

[135] Russell, *Note 98*, p. 108.

[136] *Report*, p. 40. Photographic Exhibits QQQ and RRR show two side-by-side comparisons of 1983 test cartridge Case 5 and the Fraher Winchester shell.

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