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Teamwork in the Forensic Sciences: Report of a Case

The scene in which the following events occurred is a single story dwelling in a quiet residential neighborhood where the victim lived. The victim was a 45-year-old woman who lived in the second house on a particular cul-de-sac street next to a red house on the corner (which is of later significance). A street light is situated here.

The investigative events began with the discovery of the victim lying faceup over the foot of her bed with the top of her head completely blown off. Tissue debris covered both walls and the ceiling surrounding the victim. The gruesome discovery was made and reported immediately at 2:30 a.m. by an elderly male boarder who rented one bedroom in the victim's house. The boarder had entered the house, using his key, at about 1:15 a.m. after working as a bartender since 4 p.m. the previous day. He went directly to his bedroom and read for about an hour. When ready to retire, he noticed lights in the victim's bedroom and kitchen. Investigating, he discovered the victim. The first patrol unit arrived at the scene within minutes. The patrol officer found no weapon and, after a quick search for a possible intruder on the premises, called for assistance.

The detective team arrived at the scene within ten minutes and was followed within the hour by a team of four investigators who were immediately deployed to interview neighbors for possible leads. A more detailed search of the scene revealed that:

- (1) All doors were locked and there were no signs of forced entry.
- (2) The victim's clothing was neatly arranged on a chair next to her bed.
- (3) There was no indication of a struggle prior to the fatal shot.
- (4) Valuables appears to be intact and undisturbed.

After photographing the victim and the scene, the body was removed; and a search was made for the projectile which caused the extensive trauma to the victim. A high velocity weapon was assumed to be the cause of death.

The major portion of a 150 grain, military type, jacketed bullet was recovered in the wall space back of the headboard of the victim's bed. A projection of the bullet path through the mattress, headboard, and wall, in conjunction with the position of the body, an apparent "defense" type wound on the lower right wrist of the victim, and the lack of powder residues indicated that the victim was shot while sitting on the end of the bed, leaning back at about a 30 degree angle, and holding her right arm held in defensive fashion over her face. Class characteristics of the rifle impressed on the .30 caliber bullet indicated the possibility of Remington Rifles, Model numbers 721 to 760.

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This fatal bullet was destined to be the vital link in connecting the suspect with the victim, but in a very unusual manner. The second vital link, discovered later in the investigation, was a cancelled check, which will be discussed separately.

Canvassing of the immediate neighbors developed several witnesses who on the evening before:

(1) heard a loud "bang" or "back fire" between 10:15 p.m. and 10:30 p.m.

(2) saw a red station wagon with white top, round tail lights, and loud muffler start up and drive out of cul-de-sac within a few minutes after hearing the "loud bang". The license number was not obtained.

(3) described the driver of the vehicle as a male—without further details.

It was also learned from persons in the neighborhood that a vehicle similar to the described station wagon had been parked near the scene on several previous occasions.

Careful and methodical interrogation of all the neighbors, known friends, and former husband (amicably separated) of the victim continued until such time that a conference was called by the detective-in-charge to summarize and evaluate the information assembled. Logical suspects, including the boarder, the former husband, and several known acquaintances, were quickly eliminated because alibis were confirmed by investigation. One lead, however, needed to be followed. It was learned from friends that the victim frequented a local commercial dance studio. Questioning of persons present during Wednesday afternoon at the dance studio indicated that most of the victim's dancing lessons had been with a part-time instructor who would be in a position to give more information about the victim's acquaintances and habits than anyone else.

Through further leads and contacts, the address of this man was found to be an apartment in an adjacent city. The instructor was 23 years old and married with two children. Two detectives upon arriving at the suspect's apartment, noted a red and white 1955 Ford Station Wagon parked in the stall of the apartment. Upon knocking and identifying themselves they were invited into the living room by the instructor. While questioning him about the victim, her acquaintances, and his actions the night of the murder, the detectives noted a marble topped coffee table, end table, and lamp which fitted the description of furniture taken in a burglary of the victim's residence several months prior. When asked about this furniture, the instructor said that he had purchased it somewhere at a department store. He later changed his story indicating that it was given to him by a friend. The suspect further stated that he had visited the victim the previous week to borrow \$50.00; but instead he sold her a painting for \$140.00. He denied any knowledge of the murder or of owning a caliber .30 rifle.

He had a good alibi for the night of the murder. He had taken his wife (a waitress) to work early Wednesday evening, taking their children (girl, age 5; boy, age 3) with them and returned home to baby-sit, clean house, and watch TV until about 12:30 a.m. when he departed, leaving the children at home alone, to pick up his wife at work.

As the result of this initial questioning, during which the suspect had changed some of his story, and considering the presence of the stolen furniture, the investigators asked the suspect to go to police headquarters for further questioning which he did willingly. Further interrogation of the suspect at headquarters, and interrogation of his wife, separately, strengthened the investigators' suspicions that the suspect was not telling the truth and knew more about the murder than he had admitted. At the conclusion of these interviews, the man and wife accepted the police opinion that the furniture was stolen property and allowed it to be taken from their apartment. The man was released at this time after agreeing to a polygraph examination the following day.

Shortly after midnight when the investigators arrived at the suspect's apartment to recover the furniture, they learned from a neighbor adjacent to the suspect's apartment that their apartment had been burglarized about three weeks earlier while she and her husband were away for that weekend. This burglary had been investigated and revealed a forced entry by cutting a screen over the bathroom window and entry through an unlocked window. Reported stolen were a Remington .30-'06 Model 760 Gamemaster rifle and \$10 in cash. With this information in hand, a warrant to search the suspect's apartment and station wagon was obtained and executed on Friday afternoon, the second day following the murder.

The search of the suspect's apartment brought forth the following:

- (1) A paper target with bullet holes which appeared to be about .30 caliber.
- (2) One fired caliber .30-'06 cartridge case (established by laboratory examination to be not connected with the stolen rifle).
- (3) A caliber .22 rifle, a .410 gauge shotgun and a caliber .25 pistol.
- (4) An electric shaver identified as belonging to the boarder living in the victim's house and reported stolen in a burglary.
- (5) A pair of stained trousers (lab examination revealed no blood or human tissue on these trousers).

The search of the suspect's station wagon developed the following:

- (1) Cuff links identified as taken with the electric shaver found in the apartment.
- (2) A large "gunshot" penetration from interior to exterior at about a 45 degree angle in the right side with the entry in line with the top of the rear-seat cushion.

The "gunshot" hole in the suspect's vehicle was an unexplained event which later developed into yet another interesting speculative aspect of this case. From an examination of the penetration, powder, pattern, and lead pellets found in the vehicle, it was determined that this hole was consistent with the firing of a .410 gauge shotgun. It was found that this single shot, bolt action Mossberg, Model 173 A, .410 gauge shotgun found in the suspect's apartment would fire when dropped on its butt with the thumb safety in the "fire" position. This information at the time did little more than add mystery to the investigation. About 19 days after the murder, however, this event assumed new significance when one of the investigators in checking out the neighborhood near the scene observed what appeared to be a pellet pattern on the sidewalk next to the curb in front of the house on the corner next to the victim's residence. This was the area in which the red and white station wagon had been observed parked on previous occasions. Examination of the pattern in conjunction with the hole in the vehicle indicated that the pattern, size, shape, shot imprints, and angle were all consistent with the hypothesis that the suspect's .410 shotgun discharged through the right side while parked at the curb. No statements had been given by the suspect to the point of this evidence.

When again questioned about the items recovered in the search and his alibis, the suspect refused to answer most questions without his attorney. He did, however, attempt to explain the target with the caliber .30 bullet holes by saying that he had recently been to a local outdoor shooting ranch where he was shooting a "large caliber rifle" which he described as "more than a .22 and smaller than a cannon." This statement, which must have been an inadvertent "slip" by the suspect, provided a useful clue.

All information thus far obtained pointed to a connection between the suspect and the victim, the burglaries, and possibly the murder; but a direct link with the crime was not a matter of established fact. Based upon these tenuous developments and on the advice of

the District Attorney of Santa Clara County, the suspect was arrested and charged with Burglary, Receiving Stolen Property, and Murder. After the arrest the chief detective found a key in the personal property taken from the suspect at the time of booking which appeared to be identical with the house key to the victim's residence. The suspect when questioned about the key said that it was for a prior residence in the area and gave an address. A check of this alibi address revealed that the suspect and his wife had lived at that address. The locks had not been changed after they had moved, and the key taken from the suspect and matching the victim's key did not open any of the locks at the alibi address; but it did open the entrance door to the victim's house. How or when the suspect obtained this key has never been determined, but it was known that the victim stored her wraps and purse in the cloak room at dancing periods when the suspect was present. Consequently, he had the opportunity to make a duplicate.

At this point, a service station attendant was located who tentatively identified the suspect as one who had stopped at his gas station in the vicinity of the death scene on the night of the murder.

The suspect, when faced with all of the apparent contradictions to his alibis, accused the police of lying and attempting to falsely implicate him and refused to answer further questions. When the time for an agreed polygraph examination arrived, he refused to undergo the examination. From this point on, no further information was obtained directly from the suspect which would aid in the solution of the case.

Two days after the murder, the police were faced with an array of alibis, contradictions, and facts which appeared to be pieces of a puzzle, but which defied fitting together in any logical way. It was again time for reflection and contemplation before planning the next move. A review of the progress to date indicated that the next two main lines of investigation should be:

- (1) to contact the neighbors of the suspect who resided in the apartment adjacent to the suspect to determine whether any fired components from the caliber .30-'06 Remington Model 760 rifle were available from the period prior to the time of the burglary in which the rifle was taken.

- (2) to investigate the shooting range for spent bullets where the suspect indicated that he may have fired a rifle.

The neighbors were contacted first and three fired .30-'06 cartridge cases were obtained which had been fired from the rifle before it was stolen (Fig. 3). When asked when and where the rifle had last been fired, the neighbor replied that it had been at a pine tree during the recent fall deer hunting season in the Sierra Nevada mountains located about 150 miles from his apartment. This occurred while he was hunting with a friend and a nephew. The neighbor had his .30-'06 Remington Model 760 rifle; the friend had a .30-'06 Springfield, Model 1903 rifle; and his nephew had a .30-30 Winchester Model 94 rifle. He said that he and his nephew had sighted in their rifles with targets placed against a large pine tree at a distance of about 150 feet from a clearing near a road. Several shots were fired. He thought that he could locate the tree. Four days after the murder, the neighbor guided investigators to a pine tree approximately 100 feet tall and about 30-in. in diameter. A small section surrounding one apparent bullet hole was cut out, and a jacketed bullet was recovered and returned to the laboratory in San Jose for examination. This bullet was found to be from a caliber .30 weapon of six right hand riflings with a land width consistent with the Model 94 Winchester used by the neighbor's nephew. A second trip to the pine tree was made; and with permission and assistance of the U.S. Forest Service, the tree was felled. A five-foot section of the trunk was returned to Santa Clara

County where it was split and dissected. With the aid of X-ray equipment, a second bullet was recovered. The bullet was fully mushroomed, leading to a cover over the rifling marks which had preserved the class and individual characteristics on the base portion of the metal jacket. The bullet proved to be a soft point fired from a caliber .30 weapon with class characteristics consistent with a Remington Model 760 rifle. These class characteristics were the same as those of the fatal bullet. Further study revealed a significant similarity of individual characteristics between the fatal bullet and the bullet from the tree indicating that both had been fired by the neighbor's stolen rifle (Figs. 1 and 2).

The next phase of the investigation proceeded to the shooting range where it was believed that the suspect may have fired a rifle prior to the murder. Nine days after the murder the range master of the Sunnyvale Rod and Gun Club was contacted, and it was determined that the range had opened about a month prior to the murder after renovating the sandstone-shale embankment which served as a backstop at 100 yards from the firing point. The range had been closed for about three months while the embankment was scraped and cleared. When shown a photo of the suspect and asked if he recognized the person, the range master stated that the photo resembled a person using the range during the past month who was shooting a .30-'06 Remington Model 760 Gamemaster, "pump-action" rifle. Entries on the sign-in register required for all persons using the range were hastily searched for the name and address of the suspect. None being found, the list was submitted to the Laboratory of Criminalistics for a handwriting examination to determine whether or not the suspect could have signed the register using an assumed name.

When the register was examined at the Laboratory, the only immediately available authentic specimen of handwriting of the suspect was his endorsement on a \$140 check which he had earlier mentioned in connection with the purported sale of a painting to the victim. An examination of the complete range record revealed the name of the suspect one week later than the date first indicated by the range master. This name was identified with the writing on the check endorsement. There was further examination of the check which will be discussed separately. The signature on the range record was dated three days prior to the murder. The register indicated that he was assigned to firing Point # 29. Point # 30 was the last firing position. A man and his son assigned lanes 27 and 28 and another person assigned lane 30 were immediately contacted and questioned. Lanes 29 and 30 were customarily the only targets used for high velocity weapons.

The man and his sons shooting lanes 27 and 28 identified the suspect from a photograph and said he was firing a .30-'06 Remington Model 742 or 760 in lane 29. Also that he was firing military type ammunition and when asked if they could have his brass, the suspect replied that he was saving it for a friend. They further noted that a girl, about 5 and a boy, about 3, accompanied the suspect at the range. Based upon this information the embankment covering targets #28, 29 and 30 was searched with the aid of a screen. Several buckets of metal jacket fragments were recovered. The buckets of projectiles were taken to the laboratory where rapid sorting based on gross class characteristics eliminated all but a few jackets and jacket fragments with class characteristics similar to the fatal bullet (Fig. 1).

A detailed comparison microscope examination was now begun which revealed that two bullet jackets from the range had class and individual characteristics that established an identity between the .30 caliber bullet from the tree and the fatal bullet (Figs. 1 and 2). Thus, about three weeks after the murder, the two bullets from the range provided the needed missing link between the stolen rifle and the fatal bullet. Without this evidence a connection between the stolen rifle and the fatal bullet would never have been established because the rifle had not been found. The physical evidence had now provided a link be-



FIG. 1—Bullets used to link the FATAL bullet with the missing murder rifle. The FATAL bullet and the two RANGE bullets are metal jacketed, spitzer, 150 grain M2 ball (U.S. Army) military type. The bullet from the TREE is a 180 grain soft point corresponding to ammunition possessed by the owner of the stolen rifle. The two TESTS were not fired by the murder weapon and are included solely for the purpose of illustrating bullet type and class characteristics of rifling marks.

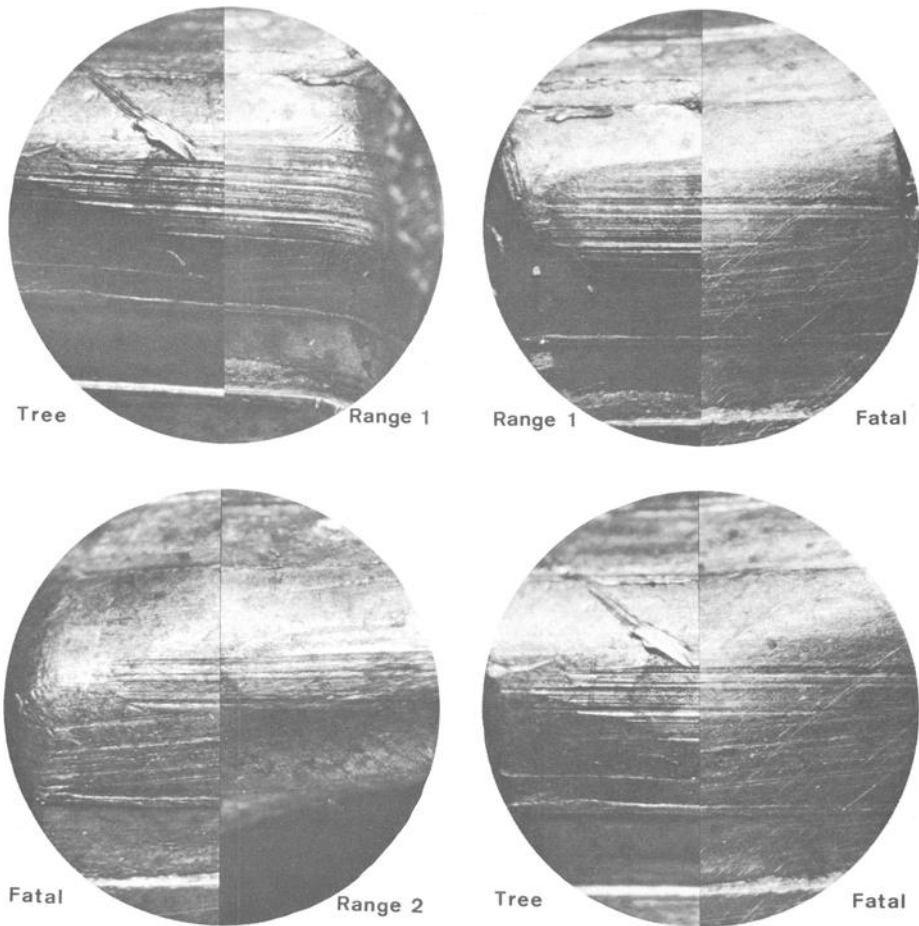


FIG. 2—Comparison photomicrographs demonstrating the identification between the bullets shown in Fig. 1.

tween the murder weapon and the suspect and the fatal bullet. To strengthen this link further, a third trip was made to the area from which the neighbor had fired at the pine tree. With the aid of a metal detector, three fired .30-'06 cartridge cases were found. Microscopic comparisons of breech bolt marks on these cases led to an identification with the three fired cases previously obtained from the neighbor (Fig. 3).

Returning to the subject of the \$140 check, the endorsement was of interest as an exemplar of the defendant's signature for the purpose of comparison with the range record. Much to the surprise of the investigators during the preliminary examination of this document at the laboratory, it was discovered that the entire face of the check was traced. It was further determined that the payer signature was traced from an authentic victim's signature and the remainder of the check was traced from authentic writing of the suspect, including his own name as payee.

The document examiner, upon this finding, asked the detectives to obtain the victim's check stubs for the period involved with the \$140 check.



FIG. 3—Comparison photomicrographs demonstrating the identification between cartridge cases recovered near tree to cases from the owner of stolen rifle.

It was found that the traced check was numbered in a sequence different from those covering the period of her stubs. The traced check was number 330. A new group of five personalized check books had recently been received from the bank by mail. Four of these were found by the detectives in an opened bank envelope on the victim's desk. The fifth book containing checks No. 325 through 349 was missing. Speculate now as to the reason that check No. 330 was cashed by the defendant rather than Nos. 325, 326, 327, 328, and 329.

The prosecutor charged first degree murder. The defendant was found guilty and was sentenced to life. The prosecutor used the following lines of argument following the presentation of all the evidence:

(1) The victim was a lonely woman who had spent several thousand dollars for dancing lessons over a period of years as a form of recreation.

(2) The defendant gained a knowledge of the victim's habits, address, and situation through frequent association as a dance instructor.

(3) Through access to the defendant's wraps and purse while at dancing sessions, the defendant gained possession of a key by either replication or theft.

(4) Using this illicit key, the defendant had made visits to the victim's home while she was attending dance sessions in other areas. He had taken property from this home on several occasions. This included the furniture, boarder's cuff links, and the check book.

(5) The defendant had burglarized his neighbor's apartment and had taken the .30-'06 rifle. When entering the victim's home, he was armed, first with the .410 gauge shotgun, later with the .30-'06 rifle. The long-barreled weapons were concealed by placing them on the floor behind the driver's seat of the vehicle. On one of these occasions, while the vehicle was parked near the victim's home, the shotgun was accidentally discharged while in the act of placing or removing it from this position.

(6) The defendant traced the victim's signature on check No. 325, using the technique of carbon paper; however, when he covered the tracing with ink, it was a different color than his freehand writing on the remainder of the check face. He continued practicing the forgery until he learned that tracing the entire check face was the only method of avoiding a difference in appearance of the ink color between the payer line and remaining entries.

In this way he used up checks Nos. 325, 326, 327, 328, and 329, and finally perfected the forgery on check No. 330.

(7) After cashing the check, the defendant waited until the day that he thought cancelled checks through the mail would arrive at the victim's house, at which time he again entered the home armed with the rifle intending to remove the cancelled check No. 330 and destroy it in order to conceal the forgery; he unexpectedly encountered the victim and killed her.

The case is bizarre for several reasons:

(1) The connection of the fatal bullet with the suspect without the rifle is exceptionally uncommon.

(2) The fact of a defendant tracing his own name is very peculiar.

(3) The good fortune of finding exemplar bullets in examinable condition from the tree and range under the circumstances described is unlikely.

It is to the credit of the investigators, examiners, and prosecutors that they recognized the value and significance of all of the facets of the evidence and were able to communicate with each other in a manner which made the most effective use of all of it.

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