



THE PRINT

The Official Publication of the Southern California Association of Fingerprint Officers
An Association for Scientific Investigation and Identification Since 1937

September/October 1998 Volume 14 Issue #5



OFFICERS 1998

PRESIDENT

Clint Fullen
San Diego Police Dept.
(619) 531-2569
cfullen@msn.com

FIRST VICE PRESIDENT

Tom Lapisto
Los Angeles Sheriff's Dept.
(213) 567-8121
trlapist@lasd.org

SECOND VICE PRESIDENT

Art Coleman
Oceanside Police Dept.
(760) 966-7959
scenenoop@msn.com

SECRETARY/TREASURER

Robert Goss
San Bernardino Police Dept.
(909) 384-5742
bdgoss@aol.com

SERGEANT AT ARMS

Dennis Uyeda
CAL-DOJ
(916) 227-3314

CHAIRMAN OF THE BOARD

Louis Herbert
Riverside District Attorney's Office
(909) 955-5810
lherbl@gte.net

DIRECTOR

Lisa Allyn DiMeo
Forensic Consultant
(619) 464-3434
arcanaarts@juno.com

DIRECTOR

George Durgin
Escondido Police Department
(760) 839-4770
gdurgin@fda.net

DIRECTOR

Katie King
San Bernardino Sheriff's Dept.
(909) 387-8841

DIRECTOR/ASST. EDITOR

Steven Tillmann
Los Angeles Sheriff's Dept.
(213) 974-4605
satillma@lasd.org

HISTORIAN

Bill Corson
NCIS-San Diego
(619) 556-1389
wcorson@cs27frodo.org

PARLIAMENTARIAN

James Lawson
NCIS-San Diego
(619) 556-1389
jlawson@cs27.frodo.org

EDITOR

Alan McRoberts
Los Angeles Sheriff's Dept.
(213) 974-4605
almcrobe@lasd.org

SCAFO WEBSITE

<http://www.iinet.com/market/scafo>

Mary E. Holland America's First Fingerprint Instructor

(This article by a long-time SCAFO member, was originally published in the May 1993 issue of THE PRINT.)

by **RUSSELL R. BRADFORD**

Who was the most important person in the advancement of fingerprint classification in the United States? Was it Richard Edward Henry, who developed the "Henry System" in 1900? What about Alexander J. Reno, who developed the "Reno Extension" to the Henry System? Or was it John Kenneth Ferrier, who brought the Henry System to America in 1904?

No, it is none of the above. The author believes it was Mary E. Holland, who was born February 25, 1868, in Iowa. She was the daughter of Mr. and Mrs. Elias Troxel and in about 1888 married Phillip C. Holland. Mr. Holland published "The Detective," a criminology magazine that contained photographs of criminals wanted, law enforcement supplies, and for many years was the official journal for police and sheriff associations. Mary soon became co-editor and took a major hand in the firm. She headed a manufacturing extension of police supplies (she patented a boot for prisoners to wear instead of a ball and chain). She also became manager of a detective agency.

Richard Henry developed the "Henry System" in England in 1900. James H. Parke, New York State Prison Department, developed in 1903, the "American System of Fingerprint Classification." Parke took his system, in 1904, to the World's Fair in St. Louis. Sgt. John Ferrier, fingerprint expert with New Scotland Yard, came to America as part of the security accompanying the "Queen Victoria diamond jubilee collection" to the World's Fair.

Both Parke and Ferrier set up fingerprint exhibits at the Fair. Sgt. Ferrier, who had personally trained under Richard Henry, began teaching the Henry System. Various persons would sit in on the classes, but a core of nine students studied for seven and one half months. They were: Edward Brennan and John Shea of St. Louis, Mr. Ryan of St. Joseph, Capt. Edward Foster from Canada, George Koestle of Cleveland, H.A. Thompson of Oklahoma City, and Edward Evans, Emmet A. Evans, and Mary Holland, of Chicago.

Mary Holland became an advocate of the Henry System and began teaching it around the United States. In 1906 she introduced the Henry System and then taught it to the Navy Department. Her teaching advanced the Henry System throughout the country, while Parke's system spread only to the New England states (today it is used only in New York, and some believe it is superior to the Henry System).

In about 1910, Mary Holland testified in the People vs. Jennings trial in the State of Illinois. This is said to be the first judicial ruling on fingerprinting in the United States. The conviction was supported by the Illinois Supreme Court.

Sgt. John Ferrier wrote, "Later on, in England, it gave me special pleasure to renew my friendship, with John W. Shea, Edward Brennan, William McCoughry and my dear old friend, the inimitable, Mary E. Holland." Mary died on March 27, 1915 at the age of 47 - America's First Fingerprint Instructor and Fingerprint Pioneer.

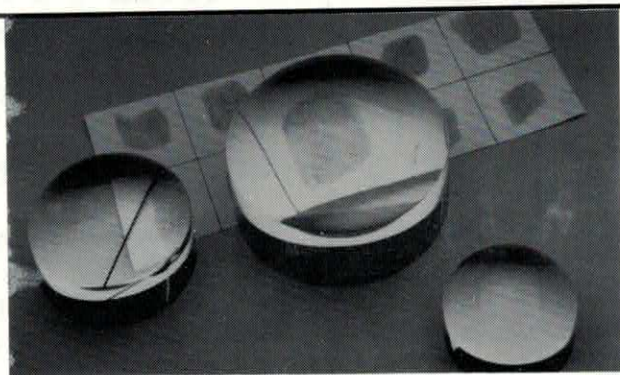


(Editor— After reading the informative account of the Jennings case in the last issue of THE PRINT, Russell Bradford sent me a letter and commented that while he has always known the importance of the Jennings case, he had not known all the facts of the case. Russ is one of SCAFO's senior members and prepared the 1967 SCAFO "30 year" history. Thanks, Russ, for this article about this important pioneer and for the 42 years of continuous support of the association.)

Some Truths about Attitude

(The following thoughts are reprinted from the Aug. '98 issue of Fingertips, published by SOCO in Christchurch, New Zealand)

- Attitude is not how you feel, rather how to communicate feelings and ideas to other people.
- Our greatest freedom is to choose our own attitude to any set of circumstances.
- It's not what happens to you good or bad that matters - it's only how we react to it.
- Attitude is 93% of your performance every day.
- It takes 4 to 10 minutes of positive attitude to make up for every one minute of negative thought.
- Whatever you think about most becomes your attitude.



ID Magnifier

Identicator's new, lightweight, non-glass forensic magnifier makes enlarging fingerprints and other small evidence very easy. Providing minimal distortion at 4x magnification, its concave base minimally contacts examined evidence. The ID Magnifier's domed shape allows evidence to be viewed at an angle and without special lighting. The magnifiers are available in three convenient sizes and may be ordered with a reference line across the entire base of the magnifier, halfway across for pointing, or without any line. This could be the last magnifier you ever purchase! Call for our complete product catalog and price list.

ID. Identicator . . . The leader in fingerprinting

4051 Glencoe Avenue, Marina del Rey, CA 90292
Phone (310) 305-8181 Facsimile (310) 578-1910

THE PRINT is the official publication of *Southern California Association of Fingerprint Officers (SCAFO)*. The information in this publication is offered to the membership without guarantees, nor endorsements. Statements, opinions or views expressed in the **THE PRINT** are not necessarily those of the association or its officers. Some articles may contain descriptions of processes utilizing chemicals or combinations of chemicals which may be hazardous to the user's health. It is recommended that proper precautions be taken when using any chemicals. The publication of advertisements should not suggest or imply endorsement of any product or company.

The Importance of Standards in Forensic Science

(The following article is reprinted from Standardization News, April 1995, Volume 23, Number 4. American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

by JOSE' R. ALMIRALL
KENNETH G. FURTON

While crossing the street, a woman is struck by a speeding car that leaves the scene of the accident. The woman expires at the scene, a quiet street in a residential area. Crime scene technicians collect the physical evidence left by the car after the collision while the only eyewitness is interviewed. The eyewitness states that he is unsure of the make and model of the car but thinks that "it was blue". Broken glass and pieces of plastic are gathered from the roadside and paint chips are found on the victim's clothing.

The driver of the car is eventually identified as a suspect in the hit and run. In addition to a broken headlamp and a cracked front plastic grill, the car has very small bloodstains visible on the hood. The last piece of evidence collected is a fabric impression from the woman's garment that was transferred to the car's rubber bumper. The physical evidence is the only link placing the vehicle at the crime scene and the forensic scientists' testimony ultimately convinces the jury of the driver's guilt.

Forensic scientists labor in the laboratory and in the courtroom. They carefully examine the evidence, perform the appropriate analysis and render an opinion based on their conclusion. Every forensic scientist is aware of the responsibility stemming from playing an important role in determining the fate of an individual based on their testimony. This feeling is tempered by their faith in the scientific method and the scientific principles utilized to reach their conclusion.

The Evolution of Forensic Science as a Profession

Legal medicine was the term used for the application of medical knowledge to the investigation of crime. The Chinese book Hsi Duan Yu (The Washing Away of Wrongs), which appeared in 1248, provided the first association of medicine and law [1]. The book offered useful advice, such as distinguishing drowning (water in

the lungs) and strangulation (pressure marks on the throat and damaged cartilage in the neck) from death by natural causes. The first appearance of experts in the courtroom was documented around the end of the 18th century [1]. The emergence of modern chemistry as a bona fide science around that period led to discoveries which were applicable to crime investigation and detection.

One of the first celebrated cases in forensic science involved the 'father of toxicology', Mathieu Orfila (1787-1853), who worked in Paris and testified in an arsenic poisoning criminal trial in 1840 [2]. Orfila and others had developed a chemical test to detect arsenic, the poison of choice for the period because the symptoms, violent stomach pains and vomiting, were similar to cholera (a common disease of the times) and often went undetected. Alphonse Bertillon's (1853-1914) anthropometry (or personal identification) system using a series of body and facial measurements for individualization, developed in 1882, and Dr. Francis Galton's (1822-1911) Fingerprints, published in 1892, were pioneering contributions to the emerging field of forensic science [2].

Alexandre Lacassagne (1844-1921) has been called the founder of modern forensic science. Lacassagne spent a lifetime making contributions including the first to recognize the significance of the striations etched on a bullet extracted from a murder victim and their link to the gun from which it was fired, thus beginning the science of ballistics. He also was the first to study the relationship between an attack on a victim and the shape and configuration of bloodstains, and was first to recognize the need for adequate means of identifying criminals through a police filing system [3].

Edmond Locard's (1877-1966) exchange principle is often quoted to this day: "objects or surfaces which come into contact always exchange trace evidence" and it was he who set up the world's first forensic laboratory in France in 1910 [2].

The first crime laboratory in the U.S. was established in 1930 by the Los Angeles County Sheriff's Department [2]. The Federal Bureau of Investigation (FBI) lab was established in 1932 and in 1937 Paul Kirk (1902-1970) set up the first academic criminalistics program in the U.S. at the University of California [2].

Presently, the organizational structure of crime laboratories in the U.S. varies from state to state. Crime laboratories are usually under the jurisdiction

of a local police department, the state's law enforcement agency or a federal agency. Crime laboratories also operate under medical examiner's offices, university departments, prosecutor's offices and public defender's offices. There are also many private laboratories performing forensic examinations around the country. The criteria needed to be declared an expert in a particular field of forensic science is determined by the individual judge during the trial process. The judge also determines the amount, if any, of the expert's testimony that will be allowed during that particular trial. The District of Columbia's *Frye v. United States Court of Appeals* ruling of 1923 [4] has been used as a guide for evidence admissibility in court.

"Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimony deduced from well-recognized scientific principle and discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs" [5]

Standardization, Accreditation and Certification

In an effort to further guide the judiciary and the forensic community, several organizations have emerged. Although there are other worthy organizations devoted to the professionalization of the field, only three will be mentioned here.

ASTM Committee E-30 on Forensic Sciences was created in 1970 [6] to address the process of standardizing the methods and terminology which are particular to the field. Many good standards have been written to date and, with the rapidly advancing technology in the field, standards are continuously being updated to reflect these changes. The volunteer membership is composed of practicing forensic scientists from around the country.

The American Society of Crime Laboratory Directors (ASCLD) is an international organization composed of crime laboratory directors whose mission it is to promote "excellence through leadership in forensic science management" [7]. The American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) is a related organization which has published minimum standards for a laboratory facility

and it's personnel to meet in order for the laboratory to be declared accredited by that organization. The main areas of concern are 1) physical plant 2) administrative practices (including evidence controls) 3) personnel credentials 4) examination methodology 5) quality control and 6) report writing. [7] Approximately 35 percent of the public laboratories in the U.S. and many other laboratories in other countries have undergone this voluntary accreditation process.

The American Board of Criminalistics has developed a series of examinations to certify individual forensic scientists in their particular area of expertise. The exam questions are developed by practicing forensic scientists in their area of expertise. At the present time, the individual certification process is voluntary.

The accreditation of labs and the certification of individuals is presently being addressed by the ASCLD/LAB and the ABC, respectively. The standardization of forensic analysis techniques (which includes sufficient control stages including blanks, negative controls and positive controls) has been led by ASTM Committee E-30. Although the accreditation of labs, the certification of individuals and the use of standard methods remains voluntary, the courts (judges) will come to expect these quality assurances as the number of certified labs and individuals using standard techniques continues to grow. The standardization of methods as well as the movement of crime labs toward greater autonomy are facilitated by the increased participation of academic research laboratories in the forensic sciences. Academia played an important role in the early practice of forensic science, beginning with Paul Kirk in 1937,[2] and continues to offer a means of updating the knowledge and skills of practicing forensic scientists, providing information and collaboration on the most up-to-date analytical methods as well as providing the first training for scientists interested in the profession.

Quality Assurance

ASTM Committee E-30, ASCLD/LAB and the ABC all play important roles in guiding the profession and the judiciary towards improved quality assurance. The forensic science community has been under increased scrutiny in the 90's as high profile trials, such as the State of California vs. O.J. Simpson, where verdicts hinge on physical evidence, have been widely featured and in sometimes dominate the print and television media. Although all scientists must be continually concerned with quality,

the forensic science professionals have an increased moral obligation to ensure that analyses and conclusions are objective and correct. Although quality in forensic science has and will continue to be fostered by professional pride, commitment, experience and inquiring minds, there is a strong push towards formal accreditation which seeks minimum levels of competence for forensic scientists and minimum standards for procedures [8].

For example, quality assurance in Scotland has been based on four principles [9]. Firstly, all scientific facts are witnessed by at least two scientists. Secondly, the scientists have a minimum education standard (honors graduates) and minimum training period (at least two years) before they are allowed to present evidence in court. Thirdly, techniques and instruments are thoroughly tried and tested with a range of known controls. Fourthly, a program of "declared" external Quality Assurance trials is employed with "undeclared" trials to be employed in the future.

One leading campaigner for professional standards and regulations in the forensic sciences has been John E. Murdock of the Contra Costa County Criminalistics Lab [10]. Murdock and others have campaigned for the development of ethical standards for the field, the establishment of an enforceable system of quality assurance for labs and proficiency testing for individuals, the setting of guidelines for casework using established scientific methods, the guaranteeing of impartial expert testimony in the courtroom and movement of crime labs towards autonomy. As D. Helvarg says in a California Lawyer article, "Although most crime labs are associated with law enforcement, philosophically we have to stand alone" [10]

Education

The increased media spotlight of the forensic science community in the 90's has also increased the number of students interested in the profession. Many forensic science programs are revisiting how undergraduate and graduate education should be undertaken. The applied and interdisciplinary nature of forensic science has resulted in forensic programs administered from various departments although the areas of drug analysis and trace analysis generally are focused on in chemistry departments, whereas serology/DNA and toxicology are focused on in biology departments.

Departments of Forensic Science have been included for the first time in the most recent issue of the directory of graduate research published by the American Chemical Society. Four departments of this type are listed including the program offered through the school of public health at the University of California, Berkeley, programs offered through criminal justice programs at City University of New York and Michigan State University and an independent program at the University of New Haven [11]. Recently, graduate education in 'conventional' criminalistics has been studied and a proposal made to include an apprenticeship under court-qualified criminalists [12]. The diversity of forensic science programs in the United States is highlighted in the College Blue Book, including five departments offering undergraduate degrees and one department offering a master's degree in "criminalistics", two departments offering undergraduate degrees, six master's and one doctoral program in "forensic science". [13]

Independent departments of forensic science administered in universities (as opposed to police agencies) reduce the potential (or perception) of partisanship. The use of forensic scientists trained in universities and utilizing standard/certified analytical methods move crime labs towards greater autonomy and minimize the impact of 'experts' for hire by the defense who may have inadequate training and/or use questionable analytical methods. The goal is impartial expert testimony in the courtroom based on the reliable scientific analysis of the evidence (preferably using a standardized method such as those proposed and under development by the ASTM).

The Current Practice of Forensic Science in U.S. Laboratories

In the April 1973 issue of Standardization News, Charles R. Kingston wrote an introductory article on "Forensic Science" [6]. New technologies have contributed a great deal to advancements in many different areas of the profession in the 22 years since that article was published, including the highly publicized and powerful technique of DNA fingerprinting introduced by Jeffreys [14].

The modern full service forensic laboratory performs some (if not all) of the following examinations: (Note: The following list does not include the services of the medical examiner, forensic anthropologists and forensic psychiatrists as they are generally not under the jurisdiction of the crime laboratory):

- 1) Crime scene processing

- 2) Analytical services Drug Analysis Trace Evidence analysis Fiber and hair comparison and analysis Paint comparison and analysis Glass comparison and analysis Fire debris and explosives analysis Gun shot residue analysis Figure(1) Tape comparison vii) Soil and building materials comparison and analysis viii) Lamp and filament examinations Figure (2)
- 3) Serology/ Biology services a) Serological typing Biological fluid identification and species origin antigen antibodies iii) protein and polymorphic enzymes b) DNA analysis Figure (3) i) Polymerase chain reaction (PCR) ii) Restricted fragment length polymorphism (RFLP) c) Bloodstain pattern interpretation
- 4) Firearms and toolmark identification a) Firearm operability b) Projectile comparison c) Casing comparison d) DRUG-FIRE automated system Figure (4) e) Gun powder pattern interpretation f) Footwear and tire impression comparison g) Toolmark identification
- 5) Questioned document examination 6) Toxicology a) Breath and blood alcohol analysis b) Urine analysis c) Drugs in biological fluids and tissues 7) Fingerprint and latent identification and comparisons 8) Specialized analysis a) Computer and data recovery b) Voiceprint analysis

DRUG-FIRE

For much of its history, the FBI laboratory has taken on a leadership role in research and development in several areas of forensic science, including their recent pioneering effort for fired cartridge casing comparison called DRUG-FIRE. This sophisticated technology uses a traditional microscope connected to a computer workstation to collect the magnified images of fired casings in firearms identification cases. The unique microscopic characteristics imparted by the firing pin and breech face on the casing are recorded and stored in the computer's memory and catalogued into a permanent database. Confiscated weapons are routinely test fired and the resultant casings are recorded into the database.

The DRUG-FIRE software searches each image for similar topographical characteristics and a "hit list" for possible matches is generated. The added bonus to this equipment is its ability to search databases in other jurisdictions. The State of Florida has implemented a state-wide network of DRUG-FIRE computers (see figure 4) and the preliminary results have shown a great potential for the successful

association of routinely confiscated weapons with unsolved shootings (even though they might occur in different parts of the state).

The stated objective of DRUG-FIRE is to provide the means for the following: 1) promote the collection and interagency sharing of forensic data and imagery 2) rapid, comprehensive searching of local and regional firearms evidence files, overcoming jurisdictional and logistical constraints by performing remote electronic comparisons of digital images. 4) linking unsolved shootings to other shooting incidents and/or confiscated firearms, utilizing firearms evidence to link repeat offenders to crimes and expediting their identification and apprehension [15]

The FBI has also been instrumental in the creation of technical groups which regularly meet to address pressing issues in the field. The Technical Working Group on DNA Analysis Methods (TWGDAM) "was formed to address the development and implementation of forensic DNA analysis methods in public crime laboratories throughout North America" [16]. The group has published guidelines for conducting RFLP and PCR based tests for use by the crime laboratory community. (See Figure 3)

The Future of Forensic Science

Lower limits of detection of materials including drugs and accelerants at crime scenes via improved biological detection systems (primarily canine detection) will continue to enhance the investigator's set of tools in the field. Forensic scientists expect improvements in the isolation and separation of these materials recovered from crime scenes by the incorporation of new analytical methods such as supercritical fluid extraction (SFE) and solid-phase microextraction (SPME). Improved detection limits and faster confirmation of the identity of isolated materials can be obtained via increased use of new analytical instrumentation developed at government research centers and in practicing forensic science laboratories with increased collaboration with faculty at research universities.

The forensic science community anticipates an ever-increasing role of statistical methods of analysis as data banks become increasingly available on more evidentiary materials. The information age will also make these resources available to all experts more efficiently. The use of standardized methods by certified personnel in accredited laboratories will become routine as these quality assurances become expected by the courts.

References

- 1 Kind, S. and Overman, M., *Science Against Crime*, Aldus Books, London, U.K. 1972
- 2 De Forest, P.R., Gaensslen, R.E. and Lee, H.C., *Forensic Science; An Introduction to Criminalistics*, McGraw-Hill, New York, 1983
- 3 Lane, B., *The Encyclopedia of Forensic Science*, Headline Book Publishing, London, U.K., 1992.
- 4 Saferstein, R., *Forensic Science Handbook*, Prentice-Hall Inc., Englewood Cliffs, N.J. 1982.
- 5 *Frye v. United States*, 293 F.2d 1073 (D.C. Cir. 1923)
- 6 Kingston, C.R., "Forensic Science," *Standardization News*, vol. 1, no. 4, pp. 1-8, 1973.
- 7 *Laboratory Accreditation Board Manual*, American Society of Crime Laboratory Directors, January 1994.
- 8 Davis, R.J., "Forensic Science on the Quality Track", *Journal of the Forensic Science Society*, Vol. 31, No. 4, 1991, p. 407.
- 9 Knibb, L., "Quality Assurance in Forensic Science. QA-AQ: Quality Assurance-Answers Questions", *Analytical Proceedings*, Vol. 27, 1990, pp. 280-281.
- 10 Helvarg, D., "Crime Labs Under the Microscope", *California Lawyer*, Vol. 11, No. 12, 1991, pp. 43-105.
- 11 "Departments of Forensic Science" in *Directory of Graduate Research*, American Chemical Society, Washington, D.C., 1993.
- 12 Linquist, C.A., Liu, R.H., Jenkins, K. and Yates, L., "Graduate Education in 'Conventional' Criminalistics: A Proposal and Reactions", *Journal of Forensic Sciences*, Vol. 39, No. 2, 1994, pp. 412-417.
- 13 *The College Blue Book*, 23rd Edition, "Degrees Offered by College and Subject," MacMillan Publishing Co., New York, N.Y., 1991
- 14 Jeffreys, A.J., Wilson, V. and Thein, S.L. "Individual Specific 'Fingerprints' of Human DNA", *Nature* 316 (1985) pp. 76-79.
- 15 Sibert, R.W., "Drugfire: Revolutionizing Forensic Firearms Identification and Providing the Foundation for a National Firearms Identification Network", *Crime Laboratory Digest*, Vol. 21, No. 4, October 1994, p. 63-67.
- 16 "Notes from the Technical Working Group on DNA Analysis Methods", *Crime Laboratory Digest*, Vol. 21, No. 4, October 1994, p. 69-74.

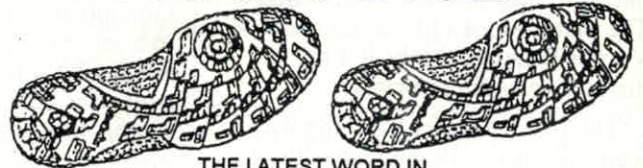
(Editor -- Standards, accreditation and certification will continue to have an increased influence on all aspects of Forensic Science. Everyone working in the field of forensic identification must be familiar with these influences, as ignorance about one's profession is not bliss!)

ASCLD/LAB News Fingerprint Evidence

(This information is reprinted from the March 1998 issue of the ASCLD/LAB Newsletter.)

Several Inspectors have inquired of the Board as to whether fingerprint evidence must be sealed, opened and resealed each time the prints are examined during a period when a case is being actively investigated and comparison print cards are being periodically submitted for comparison purposes. Evidence such as fingerprints and/or projectiles in unsolved cases, that are subject to frequent requests for comparison, should be treated as "evidence in the process of analysis." As such, the evidence storage must meet the requirements of criterion 1.4.1.5 (Is there a secure area for overnight and/or long-term storage of evidence?) The board feels that the discussion related to this criterion found on page 24 of the Manual would apply to fingerprint and firearms evidence and that such evidence should be considered to be in a state of analysis. The discussion reads: During the process of examining evidence, if an examiner needs to leave for a short time such as for lunch, it is not necessary to pack up the evidence being examined if it is in a secure area (e.g., a limited-access laboratory room). This is also true for large and/or cumbersome items where it is advantageous to have the evidence remain out and there is limited access to the area. "Limited access" is access limited to personnel authorized by the director.

TRAXTONE™



THE LATEST WORD IN

CASTING

A NEW AND SUPERIOR CASTING MATERIAL
WITH MIXING INDICATOR PIGMENTS

- CONVENIENT 1½ LB. BAGS
- AVAILABLE IN KIT FORM
- SHORT SETTING TIME
- HIGH COMPRESSION STRENGTH
- LOW EXPANSION FACTOR
- NEARLY MISTAKE PROOF

GIVE US A CALL FOR MORE INFORMATION

(800) 377-0450

EVI-PAQ PHOENIX, AZ

Unusual objects aid Investigators

(The following article was downloaded from an online news service June 1, 1998. Thanks to Steve Tillmann for the submission.)

By **MALCOLM RITTER**
The Associated Press

NEW YORK (AP) - The bank robber wore a mask, a parka and blue jeans. The pants told Richard Vorder Bruegge of the FBI everything he needed to know.

Just like a wad of gum spoke to Dr. Dennis Asen. And a piece of weatherstripping helped a prosecutor nail a rapist.

To the untrained eye, none of these items looked unusual. But they revealed enough to play a part in criminal cases that concluded within the past year or so. They show it doesn't take a dramatic bloody glove or a high-tech DNA analysis to put somebody at a crime scene.

Sometimes it just takes a close look.

Try this: Notice the string of dark and light blotches that runs along the leg seams of well-worn jeans. The pattern looks like a bar code. Vorder Bruegge thinks it's as distinctive as fingerprints.

The pattern arises from the way jeans are made. When jeans are stitched, the operator pushes fabric through the sewing machine by hand, a bit at a time. The material on the bottom puckers, so when the sewing is done, it ends up in an irregular, undulating pattern of ridges and valleys.

As the jeans wear, the dye fades faster from denim that's stitched over a ridge than over a valley. The result: light and dark blotches with irregular spacings and widths.

Vorder Bruegge hopes to do mathematical analysis and compare a lot of blue jeans to see if that bar code pattern really is distinctive.

He used his observations last year, testifying in Spokane, Wash., against the bank robber. The finely detailed 35-mm film of the bank's camera offered him an eyeful. Beside the bar code pattern on the outside of the right pants' leg, he saw other traits like an H-shaped wear pattern near the left cuff.

The overall collection of traits matched one of 26 pairs of jeans seized from the homes of several suspects, and none of 34 pairs offered by defense lawyers.

"The bank robber depicted is wearing this pair of pants," he testified while holding up a pair of Plain Pockets. "I'm 100 percent certain."

The suspect was convicted, although the verdict is on appeal. Prosecutor Tom Rice called the blue jeans testimony pivotal.

The cases involving weatherstripping and chewing gum are unusual uses of a standard forensic practice, analyzing bite marks.

Dr. Norman "Skip" Sperber, chief forensic dentist for San Diego and Imperial Counties in California, had his doubts about the piece of weatherstripping an investigator handed him early last year.

A 16-year-old girl had been kidnapped by a man who drove her to a secluded grove in his pickup. While she was outside the truck and bent over near one of the doors, she bit the door's weatherstripping in hopes of leaving evidence behind.

Eventually, the man was arrested. The truck had been sold, and authorities didn't find it until three days before the trial. The girl identified it, remembered her bite and pointed out the spot.

By the time Sperber got the yard-long piece of weatherstripping, it had been two years since the girl bit it.

Peering closely in the sunlight, Sperber saw four tiny rectangles, the marks of four lower teeth. One was slightly out of line with the others - a standout trait that makes a forensic dentist smile. Sperber quickly turned to a cast of the girl's teeth.

"I noticed one of her lower teeth in the model sticking out," he said. "I saw it was the same tooth. ... At that point I was really kind of exhilarated."

Sperber later demonstrated the match to a jury. The man was convicted. The verdict is on appeal, although the bite marks are not at issue.

The weatherstripping "was probably very crucial evidence for the jury," said prosecutor Kimberly Smith, deputy district attorney for Tulare County in Visalia, Calif.

Like Sperber, Asen, the forensic dentist from Allentown, Pa., was skeptical when a cop called last year about a wad of gum. Police had found it near the body of a murdered 13-year-old girl, and soon after arrested a suspect. Could Asen match the gum to the man?

Gum is easily distorted when it's chewed, handled and spat, making it a lousy bet for bite marks. But Asen found that this wad had definite marks from four upper and four lower teeth. Before long, he was in a prison to make a mold of the suspect's teeth.

Later, he duplicated the teeth and the piece of gum. Then he put the models together, placing the bogus gum in a spot where one of the teeth was noticeably out of line.

"It just went, Boom, right into position," Asen said. A match.

The suspect pleaded guilty in April, so Asen never had to testify. If he had, his evidence would have run up against a different identification tool: Lab tests of the gum found DNA that didn't come from the suspect.

Two conflicting messages from one wad of gum. What's a prosecutor to do?

"It was sort of a double-edged sword," said John Morganelli, district attorney for Northampton County.

"If the case had gone to trial, we decided we were going to give this all to the jury," he said, "and let them figure it out."

Print match cited, defendant linked to Kennedy murder

(The following article is reprinted from the Daily Bulletin, Wednesday, September 2, 1998. Thanks to Bill Leo for the submission.)

By **JASON Z. COHEN**

RANCHO CUCAMONGA - A palm print left on the examination table next to the body of X-ray technician Colleen Kennedy matches that of murder defendant Gabriel Castaneda, a forensic specialist testified Tuesday at Castaneda's preliminary hearing.

Castaneda, 38, is charged with first-degree murder and five other counts in connection with the death of Kennedy, 40, of Fontana on March 30. The charges include special allegations that could qualify him for the death penalty if convicted.

A judge ruled Tuesday there is sufficient evidence to justify a trial for Castaneda, a native of El Monte who was living in Ontario when he was arrested.

Not presented at Tuesday's hearing was evidence of a possible genetic match between Castaneda's DNA and that of bodily fluids found at the scene.

The existence of a match is alleged in affidavits filed by Montclair police in support of search warrants served during their investigation.

Deputy District Attorney Michael McDowell relied instead on the testimony of Forensic Specialist Richard Howie, who said the palm print found on a paper examination table liner matched Castaneda's.

"I identified him as having made that print", Howie said. "This came from his source - his left hand."

Kennedy, her hands bound with a shoelace behind her back and a tube sock stuffed in her mouth, was stabbed in the neck more than two dozen times with a Phillips screwdriver.

Her carotid artery and jugular vein were severed.

"This cut off the blood flow to her brain, and this caused her to die," said Monclair Police Detective Roger Rice.

The palm print was left on the paper liner that covers the examination table on which Kennedy's partially clothed body was found.

McDowell tried in his questioning to head off defense assertions that Castaneda, a patient at the medical office, could have left the print on a prior visit.

Castaneda had visited the office for scheduled appointments on March 5 and March 9. He had briefly been in the room where Kennedy's body was found during both visits.

Rice said the doctor who employed Kennedy insisted the paper be changed after every patient.

Castaneda will be arraigned in Superior Court later this month.

Fugitive nabbed applying to be Cop

(The following article was downloaded from an online news service August 29, 1998. Thanks to Steve Tillmann for the submission.)

The Associated Press

WEST HAVEN, Conn. (AP) -- A Nevada fugitive wanted on fraud charges was arrested when he applied to become a town police officer.

Alexander Ocasio, 30, of Las Vegas, was arrested this week in Connecticut after the standard background check for applicants to the police force turned up his fugitive warrant.

Police quickly called Ocasio in to get his fingerprints, saying it was part of the job application. When he showed up, they pulled out the warrant with his name on it.

"I think it's hilarious," Matthew Dushoff, a Nevada deputy attorney general, said Thursday. "It's one of the dumbest things he could have done. We never would have found him otherwise, and he walked right into it."

Ocasio is a former state corrections officer in Nevada and a onetime security officer at a Las Vegas casino. He had passed both the written and agility tests to become a police officer before he was caught, said Lt. Colleen Smullen.

The Nevada charges involve allegations of fraudulently collecting unemployment benefits.

Fingerprint computer and radio security

(The following August 8, 1998 news story from AMATEUR RADIO NEWSLINE, INC. was downloaded from http://www.arnewslines.org/newsline_archives/cbbs1095.txt. Thanks to Steve Evans, Riverside D.A.'s office, for the submission.)

And finally, securely logging onto a computer or even remotely controlling your ham station may soon be just a fingertip away. This, as Compaq introduces a new form of cyberspace security system that they call Fingerprint Identification Technology.

The Houston Texas company says Fingerprint Identification Technology is a way to use a person's fingerprint instead of a password to log into a secure computer network. The system uses a special camera takes a picture of a person's fingerprint. Software then transforms the fingerprint into a point map that is stored for future reference. When a person wants access to the computer, he or she simply holds a finger to the camera, and the computer matches the stored print map to the fingerprint.

Compaq says that the Fingerprint Identification Technology system is expected to become widely available by September. Some hams are already saying that it could help both the security of repeater control systems and other radio links that are required to be under positive control.

SCAFO Officer Nominations

Tom Jones has been appointed by President Clint Fullen as the nominations committee chairperson.

Tom will accept nominations until the start of the noon business meeting to be held Saturday, September 26 1998 (during the training seminar). The election will be held during the business meeting held at that time.

Any persons wishing to make nominations or who are interested in running for an office should contact Tom at:

Phone 805-861-7712
Fax 805-391-7714
Email jones@kerncounty.com

Additionally, nominations from the floor are acceptable during the August meeting and the September Training Seminar until the time of election.

The bylaws require that:

Only members of the Association who are Active, or Life Members in good standing, shall be eligible to the elective offices of this Association. Nominations, election, and installation dates shall be determined by the Executive Board at the January Board meeting. Only active members and Life members in good standing may vote at these elections.



We have what you need:

- crime scene investigation equipment
- latent print development supplies
- supplies for rolling fingerprints
- Forensic Light Sources
- fluorescent powders and dyes
- textbooks and video training tapes
- protective clothing
- magnifying glasses
- casting materials and frames
- narcotics test kits
- photographic scales and rulers
- cans, bags and boxes for physical evidence
- and much, much more...

Call for a
free catalog!

Lightning Powder Company, Inc.
1230 Hoyt Street SE
Salem, Oregon 97302-2121
Tel. 503-585-9900 or 800-852-0300
FAX 503-588-03-98 or 800-588-03-99
e-mail 75464.2054@compuserve.com

President's Message

Hello all, I hope you are all ready for SCAFO's 8th annual training seminar to be held September 25th and 26th at Cal Poly in Pomona, CA. It will be one of our best presentations. I hope to see many of you there this year.

I was introduced to a very interesting web site by one of my colleagues today. It was so impressive I felt that I must share this information with you. The site is called LAW SEARCH - The Police Officers Power site. You can go there on the web very easily by searching the site: <http://www.chickasaw.com/~waedens/index.html>. There you can search for items from forensics to unsolved crimes and just about anything connected with law enforcement. Take a look, you will be impressed, I was.

I received some news today from Diane Castro, the President of CSDIAI, about our friend and fellow member George Pletts who is the Dean Emeritus of the South for CSDIAI. George has been moved from the Hospital to, INTEGRATED HEALTH SERVICES, 5017 East Chapman Avenue, Orange Hill, CA 92869 Room 110-A. The facility phone number is 714-997-7090. You may call to inquire about George's condition and to find out if they will allow him visitors at that time.

See you at the seminar,

Clint, President

Employment Opportunity

FORENSIC SPECIALIST I/II City of Whittier Whittier, CA

Level 1: \$2,697 to \$3,699 per month
Level 2: \$2,981 to \$4,087 per month

Join an outstanding team of law enforcement professionals at the City of Whittier Police Department, CA - (Salary: To \$4,087/mo., plus excellent Benefit Package including 7% deferred pay, \$50/mo. Pager pay, 2% at 55 PERS Plan and no Social Security deduction. Note: PERS has reciprocity with other Retirement Systems.) Civilian position performs crime scene investigation work involving the identification, collection, processing and preservation of crime scene evidence and latent fingerprints. Requires college level classes in forensic or police science and field work, preferably in a Police Department involving responsible public contact. Prior crime scene and CAL-ID System experience are desirable.

APPLY BY: October 8, 1998 at 4:00 p.m. To receive City Application Packet, call our 24-hour Job Line at: (562) 464-3398. E.O.E.

Southern California Association of Fingerprint Officers 8th Annual Training Seminar

**Expanded to 2 Days
September 25 & 26, 1998
Kellogg West Conference Center
Cal-Poly Pomona**

**Day One
Friday, September 25**

Management Issues in Latent Prints

*Supervision
Training Standards
Quality Control
Erroneous Identifications
ASCLD Accreditation
IAI Certification
TWGFAST*

**Day Two
Saturday, September 26**

General Sessions (Tentative)

*Latent Print Development on The Human Body
Chemical Safety
Latent Print Imaging
D.A.'s Latent Print Case Review*

Day one should be attended by anyone who is involved in the supervision or management of a latent print section, and by individuals who plan to become involved in latent print supervision. You may register for either day or both.

Both days for members	\$125.00	Includes lunches, refreshment breaks, and college registration
Both days for non-members	\$135.00	Same as above
All two-day registrations after August 20, 1998 are \$140.00		
Single day for members	\$65.00	Includes lunch, refreshment breaks, and college registration.
Single day for non-members	\$75.00	Same as above
All single day registrations after August 20, 1998 are \$80.00		

POST APPROVED PLAN IV

"Every man owes a part of his time and money to the business or industry in which he is engaged. No man has a moral right to withhold his support from an organization that is striving to improve conditions within his sphere."

- President Theodore Roosevelt - 1908

For subscription or membership information contact:

*S.C.A.F.O. Bob Goss Secretary-Treasurer
P.O. Box 933 Fallbrook, CA 92088-0933
(909) 384-5742 email bdgoss@aol.com
\$20.00 yearly subscription (attendance required for membership)*

*C.S.D.I.A.I. Ashley R. Crooker
2516 Otis Drive, Alameda, CA 94501-6370
(510) 521-3270
\$25.00 yearly membership*

*I.A.I. Joseph P. Polski, Secretary-Treasurer
2535 Pilot Knob Road, Suite 117, Mendota Heights, MN 55120
(612) 681-8566 (612) 681-8443 FAX
\$50.00 yearly membership*



ADDRESS CORRECTION REQUESTED



First Class Mail

S.C.A.F.O.
2020 West Beverly Blvd.
Los Angeles, CA 90057-2404

FIRST-CLASS MAIL
U.S. POSTAGE
PAID
TEMECULA, CA
PERMIT NO. 139

in this issue

pg.

- 1 Mary E. Holland
America's First Fingerprint
Instructor
- 2 Some Truths about Attitude
- 3 The Importance of Standards
in Forensic Science
- 7 ASCLD/LAB News
Fingerprint Evidence
- 8 Unusual Objects
Aid Investigators
- 9 Print Match Cited, Defendant
Linked to Kennedy Murder
- 9 Fugitive Nabbed
Applying to be Cop
- 9 Fingerprint Computer and
Radio Security
- 10 SCAFO NOMINATIONS
- 10 President's Message
- 10 Employment Opportunity
- 11 SCAFO Seminar Announcement

-- Upcoming Events/Schools/Seminars--

- September 22-24, 1998 US Dept. of Commerce
National Institute of Standards and Technology (NIST)
Fingerprint Data Interchange Workshop
Gaithersburg, MD
- September 25 & 26, 1998 S.C.A.F.O.'s 8th Annual Training Seminar
Kellogg West Conference Center
Pomona, CA
- October 26 - November 6, 1998 Combined Advanced Ridgeology,
Demystifying Palm Prints, and Comparison Techniques
(Instructors - D. Ashbaugh, D. Grieve, R. Smith & P. Wertheim)
Meridian, MS
- May 2-7, 1999 C.S.D.I.A.I. Annual Training Seminar
Whittier Hilton -- Whittier, CA
- July 11-17, 1999 International Assoc. for Identification
Milwaukee, WI
- August 22-28, 1999 International Assoc. of Forensic Sciences
U.C.L.A. -- Los Angeles, CA

SCAFO

Standardization, Training & Professionalism

Since 1937



Southern California Association of Fingerprint Officers
An Association for Scientific Investigation and Identification Since 1937