News of the California Association of Criminalists • Fall 1994

The CAC News

The President's Desk

As I write this, Fall is just around the corner and that means it is time to finalize plans to attend the 84th Semi-annual Fall Seminar in Pasadena. And, what a seminar it promises to be. We will be co-hosting the seminar with our colleagues from the United Kingdom, the Forensic Science Society. The theme for the meeting in "Personal Identification."

There really is something for all criminalists at this meeting. The Bureau of Alcohol Tobacco and Firearms and Forensic Technologies, Inc. will be present to describe their computerized firearms identification system known as BulletProof. For all you managers out there who need to start thinking about building or remodeling your laboratories, and who doesn't (except perhaps Frank Fitzpatrick) you will not want to miss the workshop on crime laboratory planning and design with representatives from the architectural firm of Ruth and Goines. The DNA Western Working Group has planned a full day meeting devoted to new developments.

We are honored to have Dr. Margaret Pereira as our Founder's Lecturer. She has chosen the topic of "Women in Forensic Science", and I, for one, am looking forward to her presentation on the distaff perspective!

I am informed by Seminar Chairman Manuel Munoz that the technical session is very close to being full. The preview of technical papers runs the gamut of personal identification topics: from Lockerbie to Waco, and points (and pores) in between.

Finally, plenty of time has been scheduled to allow us to meet with our British visitors, to make new acquaintances and renew old friendships between tow of the oldest forensic science societies in the world. This is a truly rare opportunity brought to you by the diligent efforts of the Los Angeles County Coroner's Laboratory and the Los Angeles County Sheriff's Department Laboratory. Don't miss it!

The CACNews is published four times a year (January, April, July, and October) by the California Association of Criminalists, a non-profit professional society dedicated to the furtherance of forensic science in both the public and private sectors.

The CAC News

Fall 1994

The Bad Boy of forensic microscopy
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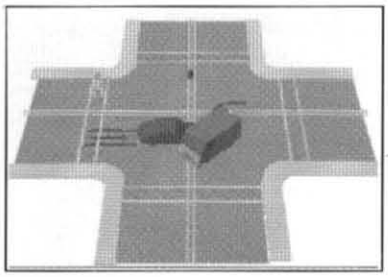

New Three-D sketching software
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Departments

Features

Technical Papers

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Notice to Contributors

This newsletter publishes material of interest to its readers and is pleased to receive manuscripts from potential authors. Meetings and course announcements, employment opportunities, etc. are also solicited. Advertisements are also accepted, although a fee is charged for their inclusion in The CAC News. Please contact the Advertising Editor for further information. Because of the computerized typesetting employed in The CAC News, we requests that where possible, submissions to the News be made in the form of IBM or MS-DOS compatible files on 5.25 or 3.5 inch floppy disks (high or low density). Text files from word processors should be saved as ASCII files without formatting codes, e.g. bold, italic, etc. An accompanying hardcopy of the file may be submitted along with the disk to illustrate the author's preference for special emphasis. Graphics, sketches, photographs, etc. may also be placed into articles. Please contact the Editorial Secretary for details. FAX submissions are also acceptable. The FAX number for the Editorial Secretary is (408) 298-7501. The deadlines for submissions are: December 15, March 15, June 15 and September 15.

Data From the Northern Computer Study Group

A meeting of the Northern Section CAC Computer Study Group was held on August 10, 1994, at Forensic Analytical Specialties in Hayward, CA. The subject of the meeting was Digital Image Capturing. **Steve Shaffer** reviewed the basic hardware and software requirements for image capturing. Optimizing the process of capturing an image on a computer requires a consideration of the nature of the original image (scene, photograph, or videotape, for example) as well as a consideration of the display or other output device. It is also necessary to consider the intended use of the image: image analysis (particle counts, area analysis, etc.), image enhancement, image manipulation, or production of a hard copy of the image. A number of hardware and software vendors were in attendance at this meeting. A list of those who attended, along with their products/services they offer follows. Each of these vendors is willing to work with laboratories to develop hardware and software that meets the needs of forensic laboratories.

Greg Brown
Dentech, Inc.
1721-A Little Orchard St.
San Jose, CA 95125-1038
408-947-8277 (voice)
408-885-8335 (fax)

Dentech manufactures the "VARS" Video Archival Retrieval System for analog image storage, and related database management in either single- or multi-user versions.

Tom Cavallero
Forest Hill Products
P. O. Box 1364
5714 Maywood Dr.
Foresthill,CA 95631
916-367-3887 (voice)
916-367-3352 (fax)

Forest Hill develops software and hardware solutions to microscopy laboratories, including image analysis, image processing, image and conventional databases, etc.

Tony Guzzo, Presentation Systems Representative
Eakins Open Systems (EOS)
67 Easy Evelyn Ave.
Mountain View, CA 94041-1518
415-969-5109 (voice)
415-961-2130 (fax)

Offering video and digital projections systems for instruction, sales, and demonstration purposes.

Christine Patterson-Hughes
Laser-Life Technologies, Inc.
6711 Sierra Ct., Suite C
Dublin, CA 94568
510-829-9242 (voice)
510 829-2845 (fax)

Laser-Life Technologies sells a comprehensive line of printers and print-related accessories for digital and video output, from desktop through pre-press and production quality products.

Ferdinand G. Rios
Sapien Technologies
Richmond, CA
415-231-5690 x1691 (voice)
76210.702@Compuserve.Com

Sapien Technologies develops commercial software of a variety of types. They are currently developing an integrated forensic laboratory information system.

Stephen A. Shaffer
MicroDataware
2894 Tribune Ave.
Hayward,CA 94542-1637
510-582-6624 (voice)
510-582-8295 (fax)
72436.3407@Compuserve.Com

MicroDataware publishes the Particle Atlas Electronic Edition on CD-ROM. They are also developing comprehen-

sive image and database development for laboratory automation and laboratory information management.

William V. Zivic, Business Dev. Mgr.
Media Cybernetics, Inc.
5201 Great America Pkwy, Ste 3102
Santa Clara, CA 95054
408-562-6076 (voice)
408-562-6077 (fax)

Media Cybernetics sells Image Pro Plus image analysis software, on the best image processing software packages. They also sell Halo Imaging Library and Halo Advanced Imaging Library development tools and related products. As a demonstration of the use of image acquisition and processing, **Jim Norris** from the San Francisco Police Department brought the Kodak digital camera they use, and the video image capture system they use for processing latent fingerprints for AFIS input. The use of Image Pro Plus to clean up an image of a fingerprint was impressive. The facilities and refreshments for this meeting were kindly provided by **Dave Kahane** and Forensic Analytical Specialities, Inc.

The next meeting of the study group will be October 12. The speaker at that meeting will be **Duayne Dillon** who will continue on the topic of Image capture and processing by addressing specifically the processing and manipulation of the captured image. The time and location of that meeting will be announced by the end of September. Plan to attend.

—Pete Barnett
via CompuServe

Committee Staffing, Liasons, Representatives & Study Groups

Accreditation Liason
Anthony Longetti

AAFS Liason
Lisa Brewer

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Steve Renteria
Thru Oct '94
John Thornton
Thru Oct'96
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GKE Maintenance Sub-Ctte
James Bailey

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David Stockwell
Theresa Spear

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(Private Lab Rep open)

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Open

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Spring '95—Contra Costa, **Sheldon**
Fall '95—LAPD, **Hourigan**
Spring '96—Santa Clara, **Del Re**
Fall '96—DOJ Riverside, **Secofsky**
Spring '97—Sacto Co., **Murphy**

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Jennifer S. Mihalovich, North
Gary Sims, North

Drug Study Group
Pennie Laferty, South
Diane Bowman, North
Mary Trudell, North

Firearms Study Group
Lansing Lee, North

Serology Study Group
David Stockwell, South
Dean Gialamas, South
Pamela Sartori, North
Nancy Marte, North

Trace Evidence Study Group
Lynne Herold, South
Wayne Moorehead, South
Diane Bowman, North
Peter Barnett, North

Toxicology Study Group
Manuel Munoz, South

TWIGFIBE Gets Underway

The Technical Working Group for Fiber Examination (TWGFIBE) has been organized for the purpose of the advancement of forensic fiber examination.

The first Meeting of TWGFIBE was held at the American Academy of Forensic Sciences (AAFS) Annual Meeting (Arlington, TX) in lieu of the FBI Academy due to lack of travel funds. The interest to form this group has been overwhelming. In spite of late invitations to the meeting, twenty eight participants attended, including representatives from Britain, Canada and Japan. The German representative was taken ill at the last minute.

The proposed objectives were stated at the beginning of the meeting with detailed discussion later. A brief report was given by **Ken Wiggins** on the first European Fibers Group Meeting held November 4 & 5, 1993 at The Hague, The Netherlands. **Bruce Budowle** made a presentation on how the Technical Working Group on DNA Analytical Methods (TWGDAM) has worked. Each participant of the meeting introduced themselves, providing a brief personal background, home laboratory description, number of cases and fiber examination procedures. **Barry Fisher** discussed labo-

ratory accreditation.

The organizational objectives were discussed as listed below with actions taken also listed.

1. Exchange of information
   - A. Informal: through personal networking
   - B. Formal: through scientific presentations
   - C. Literature Data Base—**Mary Tungol**, FBI
   - D. Bulletins for Regional Society newsletters—**Tom Hopen**, MVA, Inc.
   - E. Physical collections
   - F. Computerized data base of fiber information including manufacturer, optical and spectroscopic data

2. Guidelines for fiber examination
   - A. General procedures
     1. Strengths
2. Limitations
   - B. Alternative procedures
   - C. Flow charts for exams - depending on needs

Methods Used:

A survey on methods used and how often used will be prepared and distributed. The results will be tabulated by the next meeting. **Terri Santamaria**, GA State Lab, is leading a committee with **Laura Nelson**, MN State Lab, and **Carolyn Krausher**, RCMP.

Laboratory Accreditation:

Judy Brummend, ASCLD LAB, requested guidelines for laboratory accreditation. Distribution of guidelines under the name of TWGFIBE will wait until they have been established and approved by this group.

Personal Certification:

Peter Barnett, ABC, requested questions for the certification exam. Distribution of information will be handled in the same manner as accreditation.

3. Collaborative Studies (Round Robin)
   - A. A general case study is being developed by **Cathy Levine**, NY State, with **Scott Stoeffler**, MI State, and **Glen Schubert**, IL State. This study is to be distributed and returned in time to discuss at the next meeting.
   - B. A mini-round on the reproducibility of visible microspectrometer on Zeiss instruments has been in the process, conducted by **Mike Eyring**, AZ State and **Ed Bartick**, FBI. This will be expanded to include Nanometric and Leitz systems. **Bob O'Brien**, CT State, is assisting in the coordination.

4. Research
   - A. Coordinated in order to prevent redundancies. A list of current research will be prepared by Ed Bartick.
   - B. Collaborative.
   - C. FBI Visiting Scientist Program

The planning of an International Fiber Examination Symposium for 1995 was discussed. It was unanimously agreed that a full scale symposium of 300-400 attendees would be very valuable. The following topics were recommended: evidence collection, sampling and analytical methods, industrial speakers, panel discussions, significance of evidence, interesting fiber cases, identification of vegetable fibers, report of protocols from TWGFIBE survey, purchasing equipment for a new fiber analysis laboratory, poster papers and 20 minute oral presentations.

Another meeting was tentatively planned for mid-November of this year. The participants unanimously said they would attend even if transportation was not provided by the FBI.

Summary:

I feel the meeting was very successful. The need for such a working group was demonstrated by the high attendance and enthusiasm. The plans enacted were intended to be conservative in order to aim for a high degree of success and get a good momentum underway.

For further information on TWGFIBE, please contact: **Ed Rhodes**, San Diego Police Department Crime Laboratory, 1401 Broadway, MS 725, San Diego, CA 92101, (619) 531-2577 or -2838.

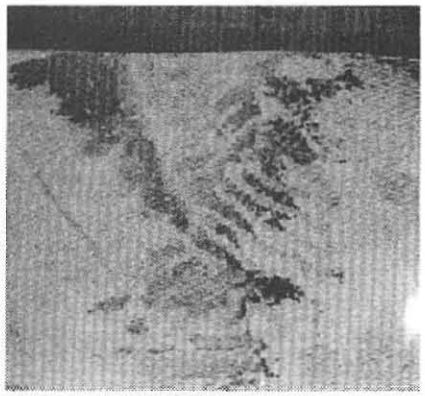
—Ed Bartick
Meeting Chairman

MailBag

Mystery Pattern

To the Editor:

The pattern depicted in the enclosed photograph was found in blood at the scene of a recent homicide in Port Hueneme, CA. There are currently no suspects in custody for this crime. The impression was made on a plastic sheet, and is reproduced here 1:1. We have examined numerous sole patterns, but haven't quite found a match. If any reader has information as to what might have made this pattern, please contact me:



Margaret Schaeffer
Supervising Criminalist
Ventura Co. Sheriff's Crime Lab
(805) 654-2333.

Insider Info

Promotions

Michele Kestler to Chief Forensic Chemist II (Lab Director) at LAPD; **Lisa Brewer** to Supervising Criminalist - Santa Clara Co. DA; **Alex Karagianes** to Acting Supervising Criminalist at San Mateo Co SO.

Transfers

Raymond Davis - From San Mateo Co SO to Santa Clara Co. DA as Supv. Criminalist ; **Manuel Munoz** - From the LA Co Coroners Office to the LA County

SO Crime Lab; **Keith Inman** - From DOJ/BFS/DNA to the Oakland PD Crime Lab; **Joyce Chang** - from Chemical Toxicology Inst. to Criminalist at San Mateo Co SO.

Retirements

John Cook - 26 years, Los Angeles Co SO

Resignations

Jake Hernandez - Santa Clara Co. DA to go to Cal Berkeley; **Rosemary Laird** - assistant criminalist, resigned to go to school.; **Celia Hartnett** - San Mateo Co SO

Marriages

Diana Holsinger, LAPD Criminalist, married **Larry Paul**, LAPD Firearms contract examiner.

Interlab Stuff

The Huntington Beach PD lab and Cal Lab were challenged to a softball rematch by Orange County, loser to buy beer and pizza. The 2 out of 3 game match was held August 20. The first game was a see-saw battle, with HB/Cal Lab surging in the last innings to win 10 to 6. After Orange County SO jumped out to a 5 to 1 lead in the second game, HB/Cal Lab scored 12 unanswered runs to win 13 to 5. HB/Cal loved the pizza, especially at that price.

Juicy Gossip

San Mateo City Police have closed their crime lab, **Gordon Deeg** now moves to San Mateo Sheriff's lab.; **Norman Wade**, former director of Ventura Sheriff's Lab pleaded guilty to one count of theft of a handgun from their property room.

Anecdotes:

1- A Huntington Beach drug dealer recently sold cocaine to 2 HB officers driving an unmarked van. Routine, except that they were both in ***full uniform***, looking for a place to set up for a planned reverse sting. Someone suggested this defendant be given the AKA Gump, Forrest Gump. After all, *"Stupid is as stupid does."*

2- OJ Simpson was not arrested or accused of any crimes in Huntington Beach.

□ □ □

Jobs • Meetings • Courses

The **Southwestern Association of Forensic Scientists** will be holding its Fall 1994 training seminar at the Adam's Mark Hotel in Houston, Texas, from November 15-19, 1994. Proposed workshops include Advanced Forensic Photography, Alcohol Testing for Transportation Industry Workers, Basic Firearms, Capillary Gas Chromatography Troubleshooting, Courtroom Testimony, ELISA, Explosives, FT-IR Analysis of Fibers, Gene Sequencing, Glass Fractures, HPLC Analysis of Drugs and Explosives, Mass Spectral Identification, Method Development for GC/MS, Microcrystalline Identification of Controlled Substances, PCR, Polaroid Photography, Pyrolysis GC/MS of Trace Evidence and Stress Management. For more information, please contact:

Pauline Louie
Houston Police Dept. Crime Lab.
33 Artesian, Rm 326
Houston, TX 77002-1505
(713) 247-5449

FORENSIC SCIENTIST II

The **Palm Beach** Sheriff's Office Crime Laboratory is currently accepting resumes for Forensic Scientist II (Firearm / Toolmark Examiner). Position is planned for FY 94-95.

Minimum qualifications: Bachelor's degree in a physical science plus three years experience or high school diploma and five years experience in Firearm and Toolmark Identification. Applicants must also be court-qualified in this discipline.

Duties: analysis of firearms, toolmarks, clothing for gunshot residues, and serial number restorations in a full range of casework.

Applicants are subject to background investigation and post-job offer processing includes polygraph, physical and drug screening.

Salary range: $32,928—51,128.

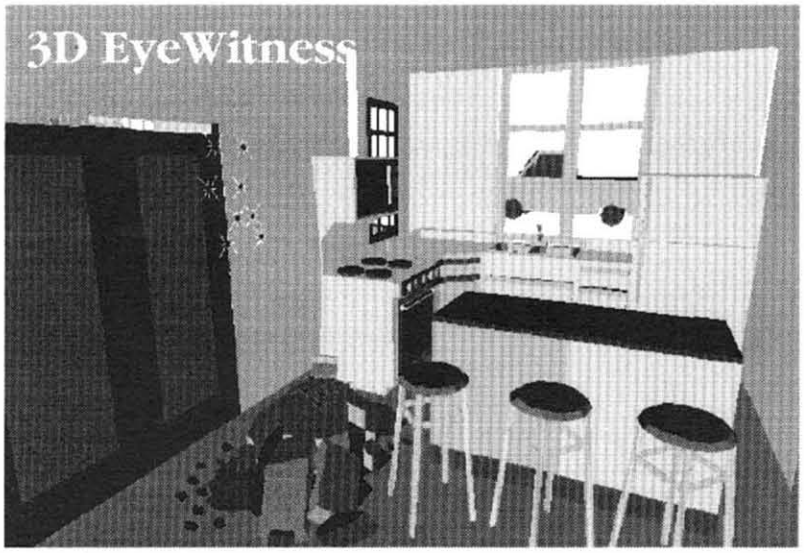
Submit resumes to:
Personnel Manager
Palm Beach Sheriff's Office
3228 Gun Club Road
West Palm Beach, FL 33406-3001

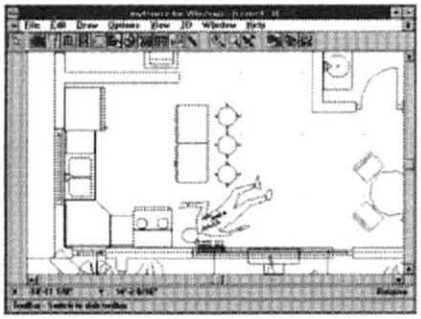
Direct inquiries to:
John O'Rourke
Forensic Firearms Examiner
(407) 688-4220
or
Richard Tanton
Lab Director
(407) 688-4204
EOE/ADA

CRIMINALIST / ASSISTANT CRIMINALIST

The **San Diego** Police Department is anticipating openings in the Criminalist / Assistant Criminalist categories. The lab is divided into specialties with some positions lock and some rotating. It is not known at this time which area these positions will fill, but the Assistant Crim. position will probably be in the Narcotics Analysis unit. For further information, contact Jim Miller, (619) 531-2579.

Please let the CAC News know about upcoming job openings and meeting announcements! FAX or call one of the publications staff to be sure your item is placed while it's still fresh.





New Product

These screen captures are from a new software package called 3D EyeWitness, a new crime scene rendering program from DesignWare, Inc. According to the Compuserve Forum editor, this product allows the user to lay out a scene in two dimensions, choose from 750+ pre-drawn objects and then view the scene in full three-D color. The List price is $149. Information is available from DesignWare, (617) 924-6725.

NEW!

- TAPE9 "*Statistics*—M. Stamm"
- *Bloodspatter Lecture* — J. Chisum
- *Footwear Mfg. Tour*, Vans Shoes
- Founder's Lectures by:
  - Stuart Kind—Fall '88
  - Walter McCrone—Spr '90
  - Lowell Bradford—Spr '93

TRAINING & RESOURCES VIDEO

GENERAL INTEREST

TAPE 1:
- ABC News 9/23/91: "Lab Errors"
- CBS News 4/27/92: "Animation Reconstruction"
- Alex Jason / Jim Mitchell: "Trial Animation"

TAPE 2:
- 48 Hours 9/25/91: "Clues"

TRACE EVIDENCE

Basic Microscopy Lecture—*Ed Rhodes, Instructor*, Two tapes
Tire Impressions as Evidence—*Lawren Nause, RCMP, Instructor*
Five two-hour tapes PLUS the course notebook
(from the three day course at SBSD)
Evaluation of Lamp Filament Evidence—*Lowell Bradford, Instructor*
FTIR Lecture—*Wayne Moorehead, Instructor*
Gunshot Residue Lecture—*Ray Calloway, Aerospace, Instructor*
Footwear—*Bodziak, Instructor*, Two tapes

Please address requests to:
Dean Gialamas / Sandy Wiersema, T&R Co-Chair
c/o Cal Lab of Forensic Science
17842 Irvine Blvd. Suite 224
Tustin, CA 92680

SEROLOGY

Back to Basics Series:

TAPE 1:
- Electrophoresis Basics — *Ron Linhart*
- Glycogenated Vaginal Epithelia —*Ed Jones*
- Erythrocyte Acid Phosphatase — *Berni Rickard*
- Phosphoglucomutase —*J. White / M. Hong*
- Haptoglobin — *David Hong*

TAPE 2: · Immunology — *David Stockwell*
TAPE 3: · Gm / Km —*Stockwell / Wraxall*
TAPE 4: · Peptidase A — *Colin Yamauchi*
TAPE 5: · ABO —*Jeff Thompson*
TAPE 6: · Saliva —*Terry Spear* (incl DNA Kelly-Frye/Howard Decision)
TAPE 7: · Presumptive Tests/Human Determination—*Peterson/Mayo*
TAPE 8: · Gc—*Devine/Navette*

Also available:

Population Genetics & Statistics Course
Dr. Bruce Weir, Instructor
Eight two-hour tapes, PLUS the course notebook.
(from the three day course at SBSD)
Bloodspatter Lecture — Fall 1992 CAC Meeting *Gary Knowles, Instructor*, 2 Tapes
Microscopic Exam. of Sex Assault Evidence *Ed Jones, Instructor*
DNA Workshop — Spring 1993 CAC Meeting, 4 Tapes

(CAC Members Only)

Section Reports

SOUTH

A dinner Meeting / Workshop was hosted by the Huntington Beach Police Department Crime Laboratory on June 16, 1994. Sergeant Brian English discussed the Hood murder trial. Dinner was held at Louise's Trattoria in Huntington Beach. Attendance was fifty-four.

SEROLOGY STUDY GROUP:

(***David Stockwell***, San Bernardino Sheriff and ***Dean Gialamas***, Cal Lab of Forensic Science, Chairs)

Topics in forensic biology:
—Statistics presented by ***Marianne Stamm*** (Riverside DOJ).
—Practical exercises in statistics, presented by Dave Stockwell.
—Bermuda Triangle Regional Crime Lab Review, presented by Dean Gialamas.
—ABC Forensic Biology Module--discussion of interest in study group(s)
Attendance: 23

DNA STUDY GROUP:

(***Rob Keister***, Orange County Sheriff-Coroner Forensic Science Services and ***Erin Riley***, Los Angeles Police Department, Chairs)

Topics:
—Certification test study materials were distributed (one copy per lab).
—Mark Taylor and Barbara Johnson reviewed DNA papers presented at the recent CAC Seminar.
—Eva Steinberger reviewed the recent western regional DNA meeting at the CAC Seminar.
—Patrick O'Donnell lead a discussion of courtroom presentation experiences for DQ alpha.
—There was a discussion of the nature and use of substrate controls in DNA typing.

DRUG STUDY GROUP:

(***Pennie Laferty***, Orange County Sheriff-Coroner, Forensic Science Services, Chair)

Topics:
—Laboratory analytical methods for analyzing drugs.
—Also a discussion of quality assurance in lab instrument calibration, etc.
Attendance: 13

TRACE STUDY GROUP:

(***Lynne Herold***, Los Angeles Sheriff Department and ***Wayne Moorehead***, Orange County Sheriff-Coroner Forensic Science Services, Chairs)

Topics:
—Tour of Van's shoe making facility in Orange, California, attended by approximately 30 people.
—Review of Fire Investigation class taught by John DeHaan at CCI.
—Round table of interesting cases.
Attendance: 13

COMPUTER STUDY GROUP: (NEW):

(***Ron Moore***, Orange County Sheriff-Coroner, Forensic Science Services, Chair)

Topics:
—Discussion of electronic mail and the Internet.
—386 and 486 and SX versus DX and what new computers loom on the horizon
Attendance: 5

• • •

NORTH

Gary Sims of the DOJ DNA Laboratory at Berkeley hosted the June 15, 1994 dinner meeting. The meeting was attended by 28 individuals. The guest speaker was ***Susan Johnson***, a defense attorney specializing in the defense of women charged with violent crimes.

DNA STUDY GROUP:

(***Gary Sims***, DOJ-Berkeley and ***Jennifer Mihalovich***, Forensic Science Associates, Chairs)

The DNA Study Group met on June 15, 1994 prior to the dinner meeting. There was a series of guest speakers including ***Henry Erlich***, ***Mike Fields***, ***Sean Walsh*** and ***Becky Reynolds*** speaking on various topics. It was held at Roche Molecular Systems. The meeting was videotaped and the tape will be forwarded to Dean Gialamas by Jennifer Mihalovich.

TRACE EVIDENCE STUDY GROUP:

(***Diane Bowman***, Oakland Police Department and ***Pete Barnett***, Forensic Science Associates, Chairs)

The Trace Evidence Study Group met on June 15, 1994 prior to the dinner meeting at the Oakland PD. The topic was Paint Analysis which is the fourth seminar in a series of seminars dedicated to a "Back to Basics" theme. ***Mike Waller*** of Santa Rosa DOJ was the guest speaker. The meeting was videotaped and will be forwarded to Dean Gialamas.

Overheard

Comments of forensic interest snagged from various E-mail messages.

#: 16362 S15/The Simpson Case
11-Sep-94 19:00:50
Sb: #DNA evidence
Fm: Kimberlee A. Watts 75210,1560
To: Craig J. Allebach 74720,1446 (X)

I am getting in on this discussion in the middle. You mention that DNA testing will prove that a suspect did or did not do a crime. Actually that is not entirely correct. The DNA fingerprinting that is done is not an exact match of the DNA material. The human genome has not been completely mapped out and they do not test for an EXACT match. The DNA testing can rule out a defendant and there for is still very useful in proving innocence. The DNA testing can also show that there is a great probability that a defendant did commit the crime but our testing procedures are not accurate enough yet to say that they did conclusively.

So while I agree that DNA testing has its place it should not be used as the sole means of conviction. It is only as good as our present technology.

• • •

#: 16535 S15/The Simpson Case
15-Sep-94 08:01:27
Sb: #16362-DNA evidence
Fm: Peter Barnett 71267,1463
To: Kimberlee A. Watts 75210,1560

It is important to remember that there are many elements to prove that someone is guilty of a "crime." Merely establishing that a person was present someplace, because a portion of some biological material containing that person's DNA was found at that place, does not mean that the person committed a crime, nor does it come close to establishing what that crime was. BUT, properly done, DNA testing can remove any reasonable doubt that the material that was tested originated from a particular person. Not all DNA testing is capable of doing that, but RFLP testing currently used in many laboratories including the FBI and Cellmark can do that.

• • •

#: 16564 S15/The Simpson Case
15-Sep-94 14:33:51
Sb: #16362-DNA evidence
Fm: Joan S Clover 72722,3013
To: Kimberlee A. Watts 75210,1560

Hi Kim, I'm very surprised by this distrust of DNA evidence. Before DNA people were convicted just for having the same blood type. DNA simply cuts down on the percentage factor.

• • •

#: 16565 S15/The Simpson Case
15-Sep-94 14:33:58
Sb: #16362-DNA evidence
Fm: Joan S Clover 72722,3013
To: Kimberlee A. Watts 75210,1560

Hi, since there seems to be a running argument about DNA, I'll add my two cents. A prominent businessman fathered a child by raping his maid. She kept this a secret until he died and then took her claim for his inheritance to court. At the time of his death, there was neither a wife nor other children to share the inheritance. The estate was to be divided among his living relatives and some charities. By court order the body was exhumed. He had been dead for three months, and his body had been embalmed before burial. Even though, only three months had passed, the coffin and the cement

"I would feel a whole lot better

about DNA testing if the testing laboratories were truly independent, were beyond the influence of the prosecution, and were able to do their own sampling."

—Phil Morison via Compuserve

Opinions expressed in this section are solely those of the writer and do not necessarily reflect those of The CACNews or its advertisers.

vault were crushed allowing water to seep in and making recovery a very unpleasant task. (There is nothing unusual about this, so consider it when you are being pressured into expensive eternal housing for your loved ones.) A medical examiner removed muscle tissue and 2 ribs for DNA testing. The tests convinced the judge to turn over the entire inheritance to the daughter. She ended up taking only half and allowing the other half to be distributed as her fathered had wished.

• • •

#: 16274 S15/The Simpson Case
09-Sep-94 23:10:15
Sb: #DNA
Fm: DONNA LESLIE 73563,703
To: Phil Morrison/PA 73340,3003 (X)

I'm wondering if people would be so quick to jump on the DNA bandwagon if they knew that DNA has proved beyond a doubt that the DNA of humans is less than 1.7 percent as being the same as chimps.

I don't think people realize that it's not DNA that is in question, but that it is the databases and statistical interpretation of the numbers that lie in question, especially since CellMark's integrity of their protocol has been badly damaged in other cases.

• • •

#: 16368 S15/The Simpson Case
11-Sep-94 21:04:41
Sb: #16274-#DNA
Fm: Phil Morrison/PA 73340,3003
To: DONNA LESLIE 73563,703 (X)

Until recently, fingerprints were unerring evidence that a suspect was indeed at the scene of the crime. No more. New technology can transfer a fingerprint from one location to another with total fidelity. This development means that fingerprints and DNA evidence now share a common problem; their manipulation is within the bounds of possibility.

If justice was a fair straightforward presentation of evidence to a jury of our peers, allowing the chips to fall where they may, both DNA evidence and fingerprints would have the blessings of us all. But 5,000 innocent people were released from jails and prisons last year and most of them were convicted with manufactured evidence. Many more thousands of innocent people remain in prison. It is not a matter of straightforward justice anymore; it is a matter of winning and losing. Expediencies are the order of the day . . . clearing cases, plea bargaining, saving money . . . sweeping the debris under the rug and into jail.

I would feel a whole lot better about DNA testing if the testing laboratories were truly independent, were beyond the influence of the prosecution, and were able to do their own sampling. In the Simpson case, there were literally dozens of people with access to the evidence between the crime scenes and the laboratory. This represents a significant loss of integrity for any scientist. All these issues must be addressed before evidence can be accepted at face value. Given the extensive amounts of blood found at the crime scenes in the OJ Simpson case, it is beyond belief that the defense finds itself without anything to test. Lots of folks trying to get away with murder, you ask me.

• • •

#: 16372 S15/The Simpson Case
12-Sep-94 00:11:59
Sb: #16368-#DNA
Fm: DONNA LESLIE 73563,703
To: Phil Morrison/PA 73340,3003 (X)

As you know, I've always agreed with you on this.

In Europe they do it differently, I understand. There is an independent laboratory not connected with the defense or the prosecution. □

Also posted on the BBS . . .

Superior Court of the State of California In and for the County of Los Angeles

Date: 26 August 1994
Department 103
Hon. Lance A. Ito, Judge
D. Robertson/Deputy Clerk
People v. Orenthal James Simpson
Case # BA097211

COURT ORDER

The prosecution has in its possession certain blood stain evidence recovered from the crime scene on Bundy Drive and from the defendant's residence on Rockingham Avenue, and has undertaken a series of tests on the samples recovered. The prosecution has taken the position that it is entitled to proceed with its planned testing, conceding that it should instruct those persons conducting the tests to preserve whatever is possible for potential retesting by the defense and that the defense is entitled to reasonable notice of the testing and to have an expert present to witness the testing.

The issue thus presented is whether the DOJ RFLP DNA testing of the items previously sent to Cellmark is reasonably necessary.

The defense has taken two positions: 1) that it is entitled to equal access to the evidence in possession of the prosecution, and 2) that because the prosecution has already caused portions of Los Angeles Police Department (LAPD) evidence items 47, 49 and 50 <1> to be sent to Cellmark Diagnostics (Cellmark) in Germantown, Maryland for RFLP <2> DNA

testing and had misrepresented to the court and to defense counsel the extent of the original sample available, the defense should be given the portions of these samples sent by the prosecution for additional RFLP DNA testing to the California Department of Justice (DOJ) laboratory in Berkeley, California.

It is settled law in California that,

> *"When a piece of evidence in the possession of the prosecution is destroyed because the prosecution finds it necessary to consume the evidence in order to test it, there is no due process violation. The prosecution must be allowed to investigate and prosecute crime, and due process does not require that it forego investigation in order to avoid destroying potentially exculpatory evidence."* (*People v. Griffin* (1988) 46 C.3d 1011, 1021).

The duty imposed by the United State Constitution upon the States to preserve evidence is limited to evidence which possesses an exculpatory value that was apparent before the evidence is destroyed in testing, and is of such a nature that the defendant would be unable to secure comparable evidence by other reasonably available means. (*California v. Trombetta* (1984) 467 U.S. 479, 488-489). In dicta, the *Griffin* court cited with approval the Colorado Supreme Court opinion in *People v. Gomez* (1979) 198 Colo. 105, for the proposition that the prosecution is not prevented from performing scientific tests that destroy evidence, but that such destruction cannot be condoned if it is unnecessary. This court also interprets this language to require that the prosecution act in good faith. The issue thus presented is whether the DOJ RFLP DNA testing of the items previously sent to Cellmark is reasonably necessary.

The prosecution presented the testimony from Gary Sims (Sims), Senior Criminalist at the DOJ DNA laboratory who testified that the DOJ uses the restriction enzyme HaeIII in its testing procedure and that Cellmark uses a different restriction enzyme, HinfI. Each process uses five probes, with two overlapping with each process; however, Sims testified that these are two different tests that focus on retrieving different information. The prosecution also presented a letter from Cellmark dated 18 August 1994 which indicated that preliminary tests of items 49 and 50 had been conducted, that the DNA obtained was degraded and not suitable for RFLP analysis, and that no further testing had been conducted. The preliminary results as to item 47 indicated that the DNA was degraded and that RFLP analysis had not been attempted, however PCR <3> testing had been conducted with results obtained. The court also heard testimony from Collin Yamauchi (Yamauchi), a criminalist employed by LAPD assigned to the serology unit, who was assigned the task of evaluating which of the cloth swatches and how many of the cloth swatches would be submitted to Cellmark for RFLP DNA testing. Yamauchi testified that this determination was made visually, stating: *"...it is kind of a crapshoot as to whether or not there is enough there."* <4> Given the results obtained from Cellmark and the imprecise nature of the determination whether the swatches contain sufficient material for testing, the reasonable necessity for the additional testing of items 47, 49 & 50 is apparent.

The request by the defense for an equal share of the evidence in the possession of the prosecution is without legal support and is denied.

Of concern to the court is that at the 25 July 1994 hearing on this issue, no mention was made of the fact that two of the seven swatches comprising item 47, three of the six swatches comprising item 49 and one of the four swatches comprising item 50 were kept at the LAPD crime laboratory, later to be sent to the DOJ DNA test facility on 12 August 1994. The defense labels the prosecution's conduct as an elaborate conspiracy to make certain the defendant does not have the opportunity to independently analyze the prosecution's physical evidence. What was revealed to the court in the course of this hearing was a picture of confusion, miscommunication and non-communication between the prosecuting attorneys and the LAPD. Such conduct, while less than exemplary, does not rise to the level of bad faith or misconduct.

The request by the defense for an equal share of the evidence in the possession of the prosecution is without legal support and is denied. The court, finding the RFLP DNA testing at DOJ to be reasonably necessary, denies the defense request for immediate possession of the samples of items 47, 49 and 5(currently in the custody of DOJ. Th prosecution and its testing agencies are ordered to proceed with their testing in as conservative a manner as is scientifically reasonable and to maintain for potential defense testing any residual or remaining material. The prosecution shall give defense counsel at least 48 hours notice of any testing to be conducted and to make any testing reasonably accessible to experts for the defense.

IT IS SO ORDERED.

/s/ Lance A. Ito

<1> All blood stains at the Bundy crime scene.

<2> Restriction fragment length polymorphism.

<3> Polymerase chain reaction.

<4> RT 582.

SAFIRE On Language

SIMPSONESE
From the *New York Times*
Sunday, September 18, 1994

Watching NBC's live coverage of the O.J. Simpson pretrial proceedings, I was startled to hear one witness identify himself as having worked "for 16 years as a *criminalist* in the city of Los Angeles." I asked myself: when is Tom Brokaw, with the vast research facilities at his disposal, going to tell us how to differentiate among a *criminal*, *criminalist* and a *criminologist*?

The phone rang. It was Tom Brokaw. "You're the word maven. What's a *criminalist*?"

To the epistemologist studying the kr ledge of knowledge, this is called circularity. However, I owe Brokaw an answer because he is a faithful Lexicographic Irregular, Jargoneer Group. (For his most recent contribution, see the next item.)

Crimen is the Latin word for "accusation, reproach"; a *criminal* thus began as "one accused," and is now "one who has been convicted of a crime."

No word is an island: John Donne wrote in 1631 that "I have read in some of the criminalists. . . ." At that time the word meant "one versed in criminal law." In 1892, The New York Nation reported on "the theories advanced by the anthropological school of criminalistics." Black's Law Dictionary also defined it as "a psychiatrist dealing with criminality."

But by 1857, *criminologist* had crept upon the scene. The suffix *-ology* means "study of," and the new study was defined in the Oxford English Dictionary as "the science of crime; that part of anthropology which treats of crime and criminals."

When I put the question "When did *criminologist* return to the old *criminalist*?" to David Gascon, commanding officer of L.A.P.D community information, he replied: "They are two separate terms. *Criminologist* is somebody who studies the sociology of crime; a *criminalist*, on the other hand, is a technician or evidence gatherer."

What caused the split? The Encyclopedia of Crime and Justice has the answer under Criminalistics: "With the expansion of scientific knowledge, the term *criminalist* was redefined in the 20th century to mean a specialist in empirical knowledge relating to crime. The earlier definition survives . . . to describe the criminal law scholar."

Jerome Skolnick, professor of law at the University of California at Berkeley, differentiates for us: "*Criminalists*, sometimes called forensic scientists, apply knowledge from the natural sciences — chemistry, physics and biology — to analyze such physical evidence as blood, hair, semen and fibers in criminal and civil cases. *Criminologists*, by contrast are social scientists. They study the causes of crime, the effects of measures to reduce crime and the criminal-justice system itself." That's from the horse's mouth: Professor Skolnick is president of the American Society of Criminology.

Relatedly, a reader noted a mistake in the description of evidence in the Simpson case. "One of the items found at the homicide scene was a knit cap," declared Deputy District Attorney Marcia Clark, in writing. "Inside the cap black curly hairs were detected which have been determined to be of African-American origin."

Jonathan Balsam of Lawrence, sent that in. "Quite startling," he wrote, "that forensic science has advanced to the point where analysis of a suspect's hair and determine not only his race but also his nationality."

That's an example of substituting *African-American* for black without thinking. An *African-American* is a citizen of the United States who is a member of the black, formerly Negro, race. Not every black everywhere is an African-American, and no hair anywhere is African-American, as every criminalist knows.

This department will continue to cover the celebrity murder trial of the century from its unique perspective, because the English language is on trial every day. □

Essay

How Much is Enough?

What Goes Through the Mind of the Forensic Chemist

JOHN HOUDE*

An essential element of any prosecution for violation of narcotic laws is the analysis of the contraband. Most of the analysis is straightforward, yet occasionally an issue of usability arises at the time of filing or trial. Of the many issues confronting the drug analyst, usable quantity is undoubtedly the thorniest. The issue of usability is really more legal than scientific. Over the years, courts have struggled with the idea that to sustain a conviction for possession of a controlled substance, the quantity of the substance must be "sufficient for use."[1]

The majority of cases which dealt directly with this issue tended to lump all controlled substances together under the heading "Narcotic." Some of the confusion can be traced to the Harrison Narcotic Act of 1914, wherein cocaine was included with other truly sleep inducing, i.e. narcotic, substances. California law has been corrected on this point, yet it is left to the expert witness to be precise when testifying[2]. For example, both sections 11350 and 11377 of the California Health and Safety Code make a distinction between "narcotic" and "non-narcotic" drugs.

Whether an amount of chemical is or is not usable is subjective in some instances. In an effort to provide the trier of fact with the best possible information, the analyst must form his or her opinion carefully. Helpful sources of information include the NIDA (National Institute for Drug Abuse) Research Monographs. These well-documented papers give extensive data about the dosages, routes, methods and rituals, etc. employed by drug users.[3,4] Discussions with other forensic scientists, known users and narcotic officers will add to the analyst's fund of knowledge. Next, the analyst should attempt to manipulate a sample of the actual drug in the manner of known abuse, short of actual ingestion of course. This experience will prove invaluable in determining where the "cutoff" point for a particular drug should be. The personal ethics of the individual analyst will dictate the level of technology employed in recovering trace amounts. When is a given amount of cocaine a non-usable "trace?" As a chemist, the analyst can rather easily extract microgram quantities of cocaine from an otherwise "empty" paper bindle. It is important to ask, *"Is it reasonable to expect a drug user to manipulate quantities this small?"*

Different drugs will have different cutoffs. Marijuana, for example, would have to be present in quantities much greater than cocaine of heroin. Current methods of abuse should be a frequent topic of discussion among forensic scientists, as they are among narcotic officers.

Another consideration is the method of packaging. Here again the analyst is asked to form a subjective expert opinion. The method of packaging must be apparent as an attempt to conserve the substance, as opposed to waste material. Persons intent on recovering trace amounts of cocaine could even do so from paper currency obtained from a bank.[5] The operative question is, "What is reasonable?" A very large plastic bag which at one time held a kilogram of cocaine might now have a thin film of dust clinging to it. A determined individual could perhaps recover a small bindle of cocaine from that same bag. But this imaginary bindle was not submitted for analysis, rather, the *bag* was, and it is up to the analyst to decide if the remainder is to be considered usable. It may be suggested to the prosecutor that, "If the amount of residue had been collected and placed in a bindle, it would be usable."[6]

Dosage form must also be considered. A tablet or capsule is by definition a usable quantity. A loaded syringe may present additional problems however. A residual amount of liquid remaining in a three cc. syringe which cannot be forced out through the needle might well be usable if it were contained in a one-half cc. syringe. Suppose instead that the syringe contains a small amount of fluid, yet the plunger has broken off inside, and the needle has become plugged, thus rendering the contents as difficult to recover as the microgram quantity in the previously mentioned "empty" paper bindle.

Phencyclidine is often encountered in the form of an oil dissolved in diethyl ether. When the ether evaporates, establishing a usable quantity may be difficult. Consider a few milligrams of PCP dissolved in five milliliters of ether in a ten ml. vial. Certainly that amount is usable. By the time the laboratory receives that item for analysis however, the ether has evaporated, leaving behind an invisible film of PCP coating the walls of the vial. Usable? All one has to do is add more ether, yet is it reasonable to assume that anyone would know that there was enough drug remaining in the vial to bother adding more ether?

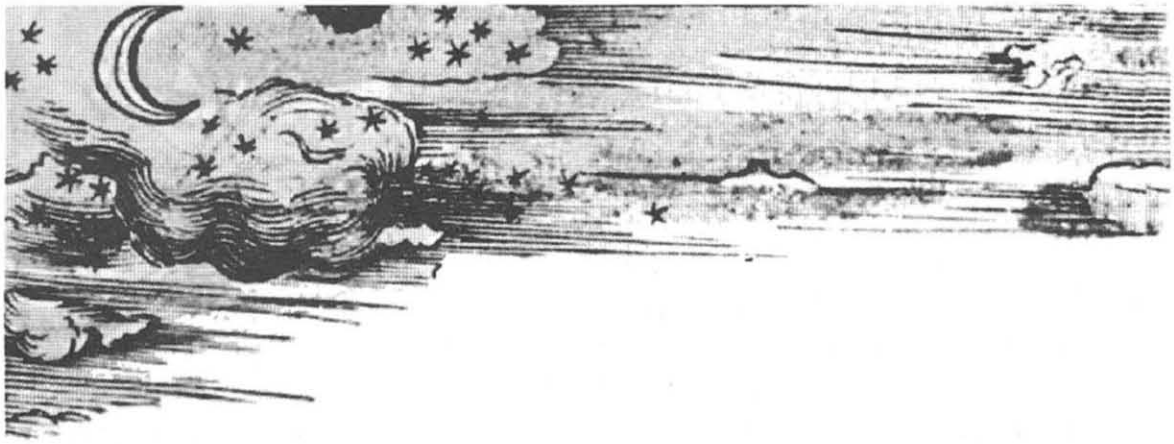
Consistency is an essential element of expert testimony. This is nowhere more evident than in cases involving usability issues. An analyst would do well to keep a record of each time testimony was given, and the amount of the drug involved. After a while, a "gray area" will emerge between those cases which were clearly usable and those which were clearly not. This area is the analyst's cutoff for a particular drug packaged in a particular manner.

Is it reasonable to expect a drug user to manipulate quantities this small?

The issue of physiological effect is, fortunately, not relevant to the question of usability despite many attorney's attempts to make it so. Case law is generally in agreement that the state does *"...not have*

Please turn to page 18

*Senior Criminalist, Ventura Sheriff's Crime Lab.



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On the History of Forensic Microscopy

Condensed from a series of three articles published in *The Objective*, newsletter of the Los Angeles Microscopical Society, Spring 1989.

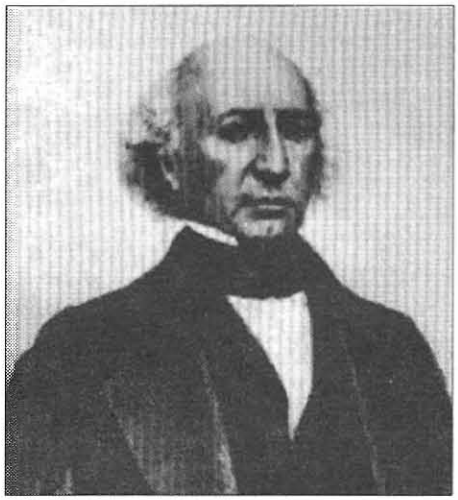
EDWIN L. JONES, JR.*

Identifying Bloodstains by Microscopy: CONTROVERSY RAGES

A controversy existed for more than seventy years in the 19th century involving, one, the use of the microscope to confirm the presence of blood and two, the confirmation of human blood. The first part of the controversy began in 1827 by the noted French medical scientist M.J.B. Orfila, who claimed he could not tell if a stain was blood by examining an extract under the microscope. Le Ballif, a respected microscopist of the time, confirmed Orfila's work.

In 1842, Louis Mandl responded to Orfila's rejection of the microscopic identification of bloodstains by pointing out two technical problems in Orfila's procedure. Orfila used a water extract of the stain to look for blood cells. Mandl claimed that fibrin and white blood cells were identifiable in the colorless clot left behind after a bloodstain is treated with water. Not only was Orfila looking in the wrong place for the blood cells, he was not using a coverslip which is helpful in making the blood easier to identify. Mandl went on to differentiate the blood of mammals from the blood of oviparous animals. The red blood cells of mammals are anuclear, while those from oviparous animals are oval, with a nucleus. Orfila restated his position of 1827, that chemical tests were the only reliable way to identify blood, and after desiccation, blood cells were too difficult to re-hydrate and separate from the stain. Further testing of stains revealed that he still could not differentiate human from pigeon blood using the microscope.

This controversy spread into the measurement of red blood cells and the identification of blood stains as human. The controversy increased in intensity until after the turn of the century, when Uhlenhuth's precipitin method for the immunological identification of species from blood stains was adopted. The technical aspects of the controversy revolved around microscopic technique and sample preparation. These involved re-hydration and separation of blood cells from stains on various substrates. The reagents developed for this purpose varied over the entire range of the pH scale from strong base to neutral to strong acid. Each scientist either claimed success with one of these reagents or he rejected the technique. The degree of certainty that various experts expressed in court concerning the species origin of blood stains came under scrutiny.



M. J. B. Orfila

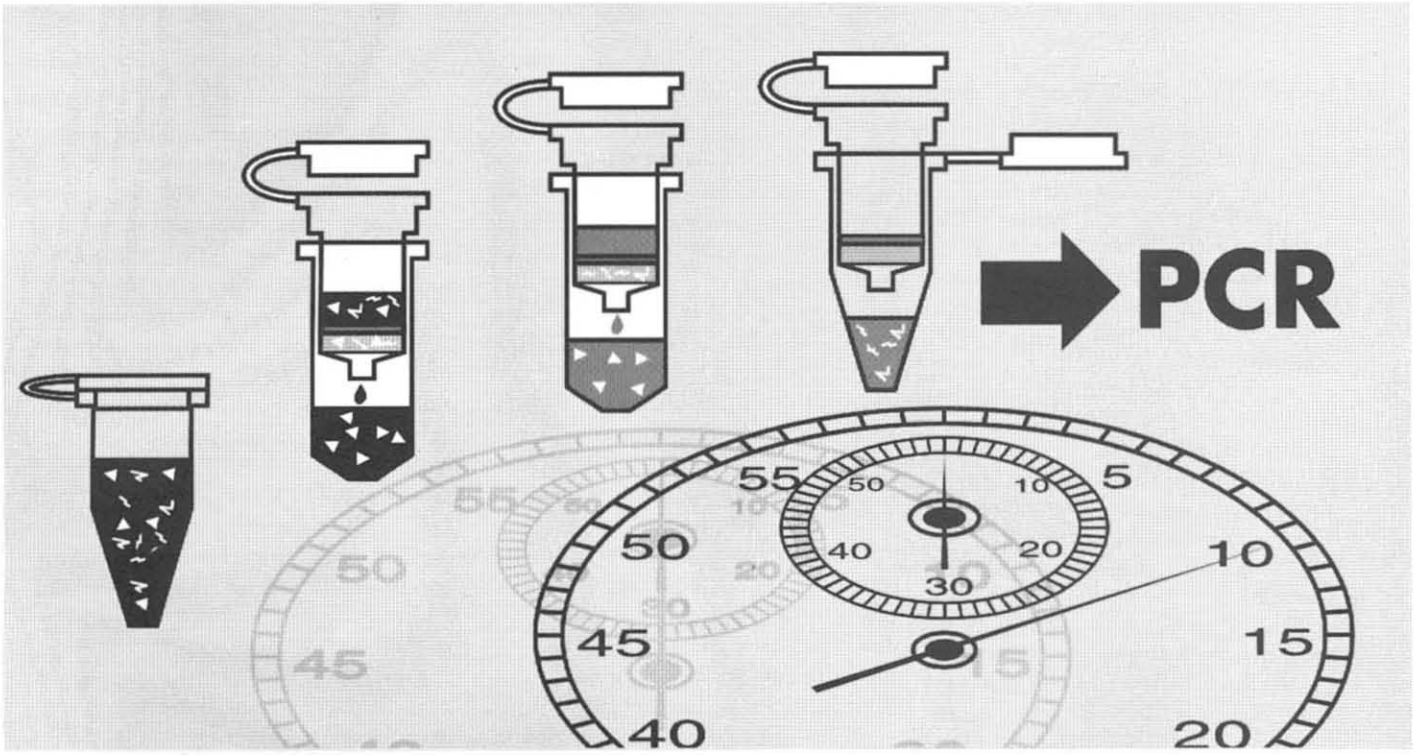
In the same year he rejected the microscope for blood identification, Orfila also rejected the use of the microscope for the identification of semen. Once again, he developed a chemical testing method for this purpose. He did bring precise chemical methodology to the field of toxicology and was considered to be an outstanding expert witness.

The first person to identify the species origin of bloodstains was J.P. Barruel, in 1829. He boiled a concentrated blood extract with concentrated sulfuric acid and smelled the odor created. Following are a few of his descriptions. *"Blood of man releases a strong odor of the sweat of man, blood of woman releases an odor of sweat of woman (weaker than man). Blood of beef releases a strong odor of cattle barn or of cow manure, and blood of dog releases an odor of dog perspiration."* Barruel worked with Orfila and in 1835 co-authored a paper concerning the murder of a constable and the scientific examination of the evidence. They concluded that a bloodstain recovered from a possible crime scene was not the blood of the constable by means of the odor test.

In 1857, Dr. Charles Robin, a respected histologist, was presented with the task of examining a suspect's clothes for the presence of blood in a homicide case. The suspect claimed that the stains on his clothes came from a butchered duck. Using a *secret* recipe made by Bourgogne—Liquid 4a—to reconstitute the blood cells from stains, Dr. Robin carried out experiments that showed the presence of anuclear red

Please turn to page 18

*Senior Criminalist, Ventura Sheriff's Crime Lab.



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Usable, *cont'd from page 14*

to prove that the contraband possessed had a potential of producing a narcotic effect." [7,8,9]

Another "red herring" frequently encountered in court is the "per cent purity" argument. Suppose, one is often asked, that only a tiny speck of the drug was mixed with a hundred pound sack of sugar. Would this be usable? It is rarely necessary to know what portion of the powder in question is a controlled substance. It is sufficient in most cases simply to show that there was sufficient powder to manipulate in the manner of known abuse, that the tests for the drug were positive, and that the drug was packaged in an apparent attempt to conserve it. It would be useful to know approximately how sensitive each screening test is, as the trier of fact may feel reassured in knowing that these tests are not likely to detect tiny amounts of drugs mixed in with a hundred pounds of sugar.

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7. *People v. Piper*, 19 Cal. App.3d 248.
8. *People v. Pohle*, 20 Cal. App.3d 78.
9. Calif. Jury Instruction Code *(CALJIC)*, Part 12.00 (5th ed. 1988) [*Comment*].

Also see: Moorehead, Wayne, *"De Minimus Quantity"*, CAC Seminar, 1988.

This article originally appeared in the Summer 1989 issue of the Calif. Narc. Off. Assoc. Magazine.

History, *cont'd from page 16*

blood cells from human blood stains and oval, nucleated red blood cells from duck blood stains. After examining and measuring cells from the suspect's clothes he concluded that they could not have come from a duck and that they were, in fact, human. In this work he did not go into detail about how the measurements were taken or how he could eliminate the possibility of the blood being from another mammal.

Also in 1857, C. Schmidt recommended the measurement of red blood cells for the identification of human blood stains and Herapath used it in a forensic case. Responding to this identification technique, the famous pathologist Rudolf Virchow claimed that the drying process of blood was subjected to too many variables for reliable results in forensic cases. He also pointed out that certain diseases would change the diameter of blood cells in man, and speculated that animals might suffer similar conditions. This could change their blood cell diameters such that animal blood might be mistaken for human blood.

In 1873, the French Society of Legal Medicine drew up guidelines that accepted the measurement of reconstituted red blood cells as a technique affirming the presence of human blood. By this time, it was generally accepted that microscopy could identify a bloodstain as being either mammalian or oviparous. It was not settled whether mammalian blood could be further identified as human based on micrometry of the reconstituted red blood cells. Many scientists believed that the difference in red blood cell diameters between human and other mammals was simply too close to call. Especially from cells that were desiccated and then reconstituted. Tables of data published in Gaensslen (see below) show such small variation in the size difference of the guinea pig, for example, that it is arguable whether its blood cells are larger or smaller than the blood cells of humans.

One of the most comprehensive papers concerning this controversy was published in 1885 by Dr. Charles Mason. He reviewed the history and tested eight different liquids on both whole blood and dried bloodstains. He worked with blood of several animal species and tested stains of varying ages on both absorbent and non-absorbent substrates. Even the effects of humidity on the drying process of red blood cells was considered. A blind study was conducted in which he correctly identified the sources of several different unknown bloodstains. All measurements were made with an ocular micrometer in a Nachet microscope giving a magnification of 800 diameters. From this work, Dr. Mason expressed his opinion as to the origin of a bloodstain, *"If the average blood cell diameters are found to be between 1/125 and 1/130 millimeters, the blood can belong to man or one of the animals (guinea pig, dog, and rabbit) who in our environment possess with him the largest circular blood cells: these dimensions are closer, however, to those of blood cells of man and guinea pig."* Other conclusions are that the blood is probably not from man and the blood is not from man.

An interesting display was made with the aid of a *camera lucida* by Prof. E. R. Axtell in 1895 showing the difference between human and rabbit blood. This was probably one of the first scientific displays prepared for court. A technique described by Dr. Richardson in the June 1881 issue of *American Journal of Microscopy* describes how a direct comparison of blood cells from two different animals within the same high-power field of view can be done. A drop of human blood is placed in the upper right hand corner of the slide, and then with a narrow strip of glass, a thin streak of it is made diagonally across the slide. Next, a drop of blood from the other animal is added to the upper left hand corner of the slide and another diagonal streak is made. On each side of the elongated "X", the blood cells from both species can be observed in the same field of view.

Today, some crime laboratories use the microscope to identify hemin crystals (Teichmann) or hemochromogen crystals (Takayama) to prove the presence of blood. The species origin of blood is determined in most laboratories with immunological techniques. A few laboratories even use the microscope to help in the determination of sex from bloodstains.

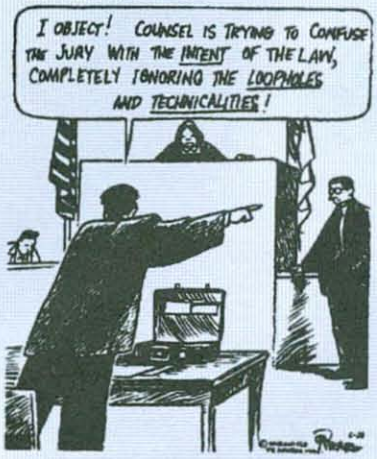
REFERENCE

Sourcebook in Forensic Serology, Immunology and Biochemistry, Unit IX, R. E. Gaensslen, U. S. Dept. of Justice, 1983

Recreations

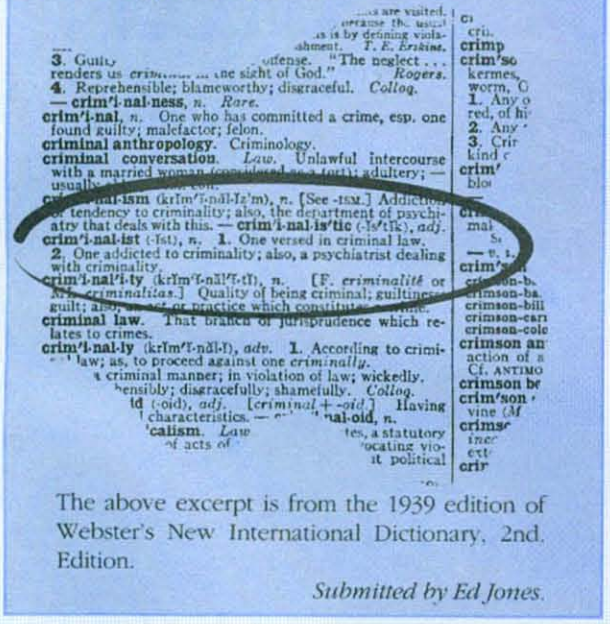
"...so she tried to break in to the Father Bear's computer, but it was too hard. Then she tried to break in to the Mother Bear's computer, but that was too easy..."

BIZARRO By Dan Piraro



"He has a reputation for swift justice."

The Origin of Species



crim·i·nal·ness (krĭm'ĭ-năl-nĕs), *n.* [See -NESS.] Addiction or tendency to criminality; also, the department of psychiatry that deals with this. — **crim'i·nal·is'tic** (-ĭs'tĭk), *adj.*

crim'i·nal·ist (-ĭst), *n.* **1.** One versed in criminal law. **2.** One addicted to criminality; also, a psychiatrist dealing with criminality.

crim'i·nal'i·ty (krĭm'ĭ-năl'ĭ-tĭ), *n.* [F. *criminalité* or NL. *criminalitas.*] Quality of being criminal; guiltiness; guilt; also, act or practice which constitutes crime.

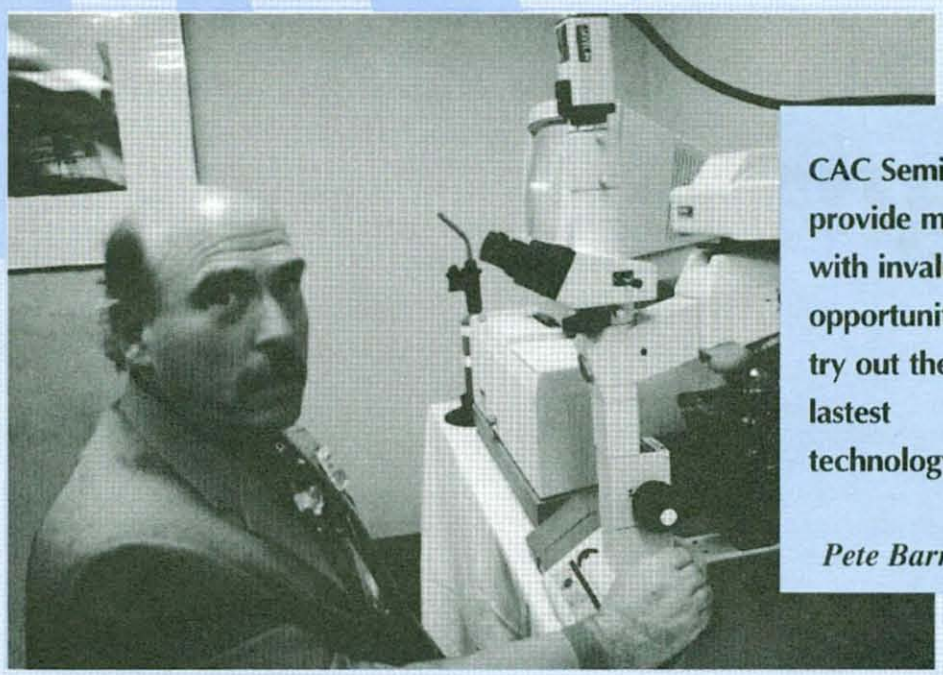
criminal law. That branch of jurisprudence which relates to crimes.

crim'i·nal·ly (krĭm'ĭ-năl-ĭ), *adv.* **1.** According to criminal law; as, to proceed against one *criminally.* **2.** In a criminal manner; in violation of law; wickedly. **3.** Sensibly; disgracefully; shamefully. *Colloq.*

The above excerpt is from the 1939 edition of Webster's New International Dictionary, 2nd. Edition.

Submitted by Ed Jones.

"That's him all right, but with perhaps a bit more texture contrasts in the sweater, more dynamic tonal variations in the face and greater use of negative space to pull him out of the background."



CAC Seminars provide me with invaluable opportunities to try out the lastest technology.

Pete Barnett

The 85th Semi-Annual Meeting of the CAC will be held at the Walnut Creek Marriot in Walnut Creek, California, on May 10-13, 1995. Walnut Creek features exceptional restaurants, shopping and a Regional Arts Center within walking distance of the hotel. Room rates are excellent at $68 single or double occupancy.

Workshops planned include: Forensic Laboratory Information Management Systems, Practical Applications of GCMS in a Crime Laboratory Environment, Glock Armorer's course, and a Polaroid class emphasizing film types and laboratory photography. A Western Regional Laboratories DNA Workshop is also planned.

Technical papers will be held Thursday, Friday morning, and Saturday morning. The American Board of Criminalists (ABC) General Knowledge Exam may be offered on Saturday. For further information please contact:

Karen Sheldon
Contra Costa Co. Sheriff-Corner's Department
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(510) 646-2455.

Contra Costa

Spring'95