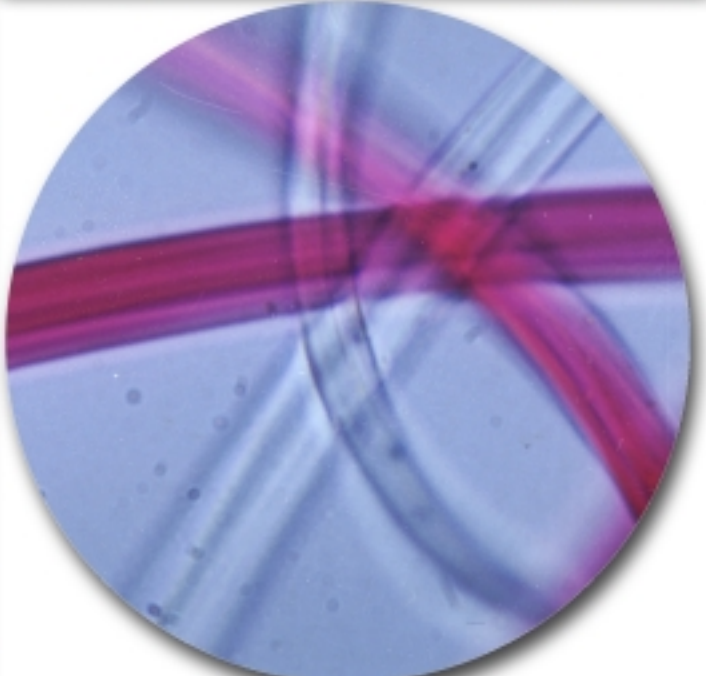
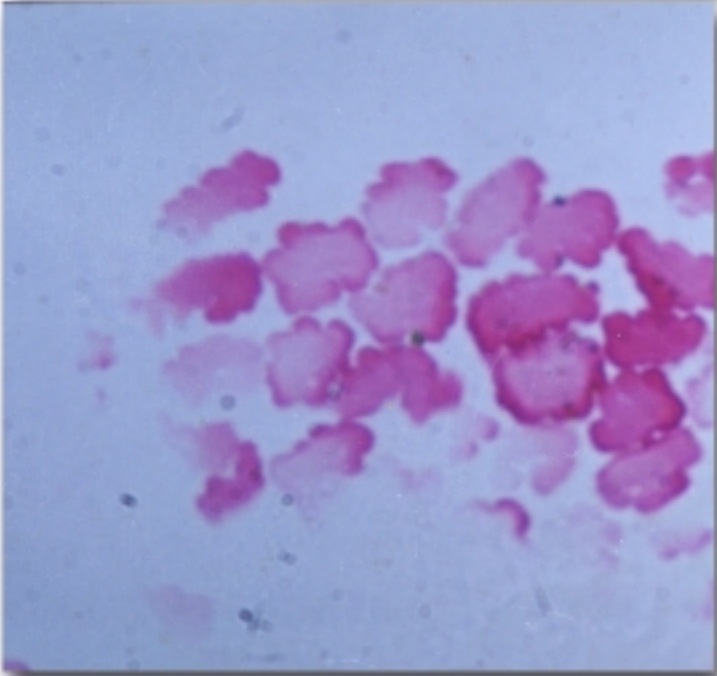
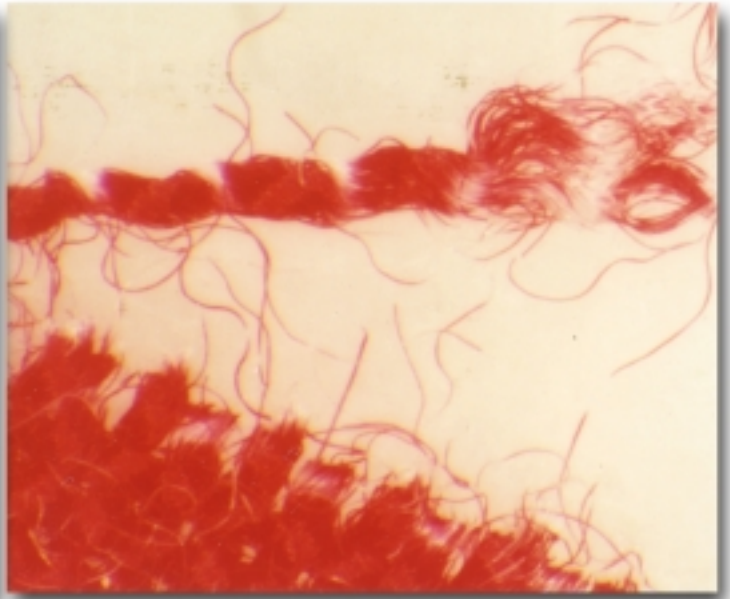


# The CACNews

*News of the California Association of Criminalists • Fourth Quarter 1999*



# HIRAM EVANS

## Meetings of the Minds

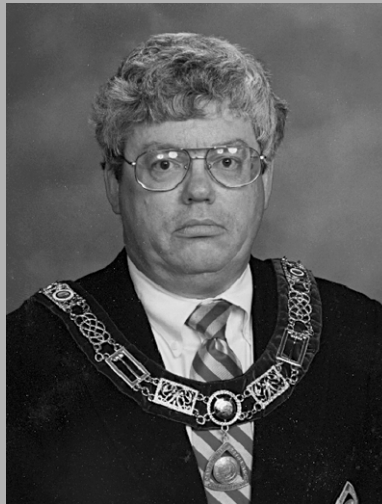
The 15<sup>th</sup> Triennial Meeting of the International Association of Forensic Sciences, held in Los Angeles, has taken its place in history. The meeting involved a number of CAC members as organizers, speakers, workshop presenters, and was hosted by CAC member and IAFS President Barry Fisher. Every three years it is nice to place into perspective the practice of forensic science in California with the problems faced by our colleagues in Jordan (honor killings), Israel and Ireland (explosives incidents), and the former Yugoslavia (war crimes). The A. Reed and Virginia McLaughlin Endowment provided seed money for this meeting and I was pleased by President Fisher's acknowledgement of that contribution by his yielding the podium to me at the final evening's banquet; I think the attendees were pleased that I kept my remarks brief.

It was my honor at the IAFS meeting to wear the CAC Presidential Medallion, a hallmarked gold and silver medallion in the form of the Association logo. This gift of the Forensic Science Society on the occasion of our first joint meeting in 1991, is sus-

pended from a blue ribbon, and in this form was worn with varying degrees of regularity by CAC presidents commencing with Mary Gibbons. It, along with gavels and 'The Coconut' are proudly displayed at Seminars in the case presented to the Association by Carol Hunter.

Those of us who found ourselves in the proud position of President and simultaneously of the "vertically challenged" persuasion have lived in some danger of finding the medallion in less than ceremonious locations. For formal occasions, the medallion may now be suspended from the collar which you see in the accompanying photograph, relieving at least *this* president from the worry of finding the symbol of office and prized gift of our sister society adorned with his soup. The collar consists of 18 gold links, one for each state in which the CAC has members, and includes the state seals of Arizona, Nevada, and California, the three states specifically noted in the CAC By-laws, and gavels representing the role of the presiding officer, all on a blue backing.

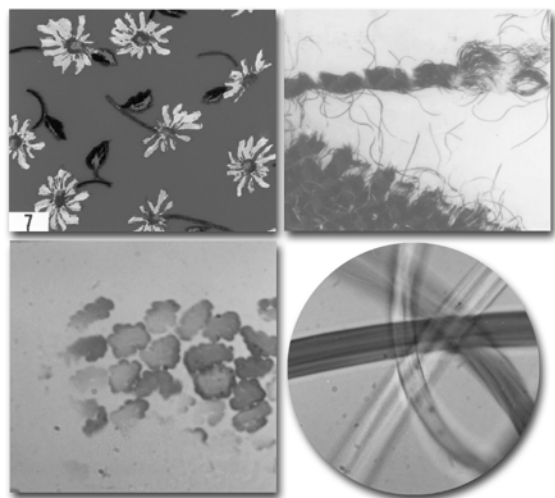
I hope future presidents will wear the medallion with pride, be it on a collar or ribbon...



**Every three years it  
is nice to place into  
perspective the  
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science in Califor-  
nia with the prob-  
lems faced by our  
colleagues**

# Fourth Quarter 1999

## C O N T E N T S



*On the cover:* Don Petka shares trace evidence from a kidnapping/sexual assault case. *Top left:* Floral print dress worn by victim; *top right:* red rayon fibers from dress showing banding pattern; *bottom row:* detail view of red fibers in longitudinal and cross section. Similar fibers were found on the suspect's carpet.

## The CACNews

### P U B L I C A T I O N   S T A F F

Editor-in-Chief: **Nancy McCombs**  
(559) 278-2982

Art Director: **John Houde / Calico Press, LLC**  
(805) 642-1977

Features: **Greg Matheson**  
(213) 237-0064

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*The CACNews*, ISSN 1525-3090, is published quarterly (January, April, July, and October) by the California Association of Criminalists (CAC), Editorial Secretary, CaDOJ Fresno, 6014N Cedar Ave., Fresno, CA 93710, (559) 278-2982, MCCOMBSN@hdcdojnet.state.ca.us. The CAC is a private foundation dedicated to the furtherance of forensic science in both the public and private sectors. **Nonmember subscriptions** are available for \$16 domestic, \$20USD foreign—contact the Editorial Secretary for more information. Please direct editorial correspondence to the Editorial Secretary.

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NOTICE: The "CAC logo" is a registered service mark of the CAC and its use is restricted to official communications and by other authorization of the CAC Board.



## Southern Regional Directors Report

The most recent CAC dinner meeting was held on June 24, 1999 hosted by the DOJ Riverside lab. The speaker was Dr. Conrad Salinas speaking on "Domestic Terrorism." The talk focused on the possibilities of biological warfare and preparation for such attacks. **Mark Traugher, Gina Williams**, and Phil Pelzel were the meeting coordinators. They were helped by members of the DOJ staff, who helped prepare and serve the food at the barbecue.

The following study groups met at this meeting: drugs, tox, trace, QA, forensic biology, and arson. The attendance at these meetings was good. The work of the DOJ staff is appreciated.

A survey listing the following questions was distributed to the crime labs:

E-mail addresses, how often are they used, and would you like to receive e-mail information from the CAC? · Would you attend a meeting at Kern County's new lab in Bakersfield and on what day (Thursday or Friday)? · Would you be interested in a crime scene study group?

I have received most of these back and will report the results at the Board of Directors' meeting. I have not called the members of the CAC not affiliated with a government lab. I hope to have most, if not all, of these calls completed before the October board meeting.

The next dinner meeting will be

hosted by the San Diego Police Department Lab in Carlsbad on Wednesday, September 15. Milt Silverman, a prominent San Diego attorney, is scheduled to be the guest speaker. My thanks to **Rich Whalley** for obtaining Mr. Silverman. All of the study groups are scheduled to participate.

—Jim Stam

## CACNews Gets Registered

The CACNews has been registered with the Library of Congress National Serials Data Program, and now sports the familiar ISSN number seen on all commercial periodicals. The International Standard Serial Number, or ISSN, is a unique identifier carried by periodicals to assist librarians and postal authorities in searching and retrieving information. The ISSN results in accurate citing of serials by scholars, researchers, abstracters and librarians.

Our ISSN is 1525-3090, and will allow information about our publication to be recorded in library databases worldwide.

## Use of the CAC Logo

The generally triangular logo bearing the Association's name, central microscope and orbitals surrounded by the Latin for "Let there be Justice through Science" is familiar to all of us. It has been in use since 1961, carried on the CAC News and proudly displayed as a lapel pin and on membership certificates, but has never been designated legally as property of the Association. This has been remedied through its registration as a service mark by the California secretary of state. In short, that means we, the CAC as a corporation, now owns our own logo and the use of that logo is limited to that authorized by the board of directors or membership.

The Board at its August 24, 1999 meeting has authorized the following uses of the logo:

- (1) Constitutional officers in connection with the execution of their office.
- (2) Editorial secretary on official publications.
- (3) Membership secretary for: lapel pins, membership certificates, member handbooks.
- (4) Committees in the execution of their office: awards or training and resources committee for certificates, except that merchandise committee use on items for sale requires the permission of the board, except that the seminar committee use on non-paper items requires the permission of the president.

Revised 9/1/99

## CAC Members Present Papers

Several members of the CAC presented papers at the recent Association of Firearms and Toolmark Examiners (AFTE) seminar. The event, which marked AFTE's 30th annual meeting, was held in Williamsburg, VA.

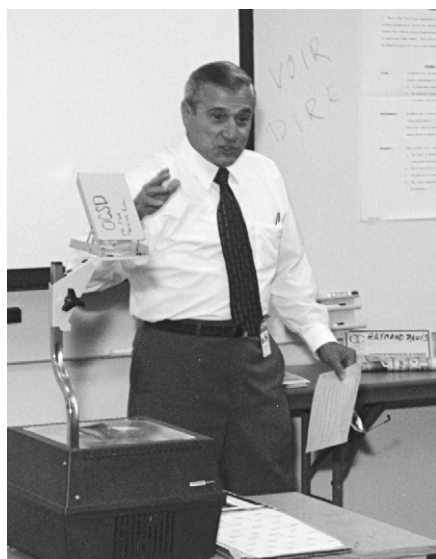
**Diana Paul** from LAPD gave a paper entitled "The North Hollywood Bank Robbery Shootout" (with 3 other non-CAC members). **Bruce Moran** from Sac. Co. District Attorney's Lab gave two papers entitled: "A Technique for 'Profiling' Firearms Depicted in Photographs Using the MP-4 Camera and Computer Imaging" and "The Association of a Bianchi Pistol Holster to a Smith & Wesson Revolver by Examination of Impression and Wear Marks." **Mike Haag** is from Albuquerque Police Department and his paper was entitled: "Stippling/Tattooing Medium." **Nancy McCombs**, DOJ-Fresno, presented "The Star Report: Observation of a Second Firing Pin Impression."

## Firearms Related Hearing Loss Warning

In the 1999 TLVs and BEIs Guidebook, the American Conference of Governmental Industrial Hygienists has recommended that pregnant workers beyond the fifth month may cause hearing loss to their child if exposed to noise in excess of 115 dBC for an 8 hour time weighted average or peak exposure to 155 dBC. The firing of a 38 pistol will likely exceed this level. Therefore, any female firearms examiners should be made aware of this potential problem.

## Most Outstanding Presentation Award Announced

**Kevin Andera**, who also serves as



## Honing Courtroom Skills

**Lou Maucieri** (pictured), **Ron Davis** and **Raymond J. Davis** present the three-day CCI class "Courtroom Presentation of Evidence" at the Orange County crime lab.



The CAC membership and editorial secretaries would like to compile a list of e-mail addresses to include in the upcoming 2000 Membership Directory.

Please contact your favorite board member, (especially the membership secretary) and let us know how to reach you via e-mail.

# Jobs • Meetings • Courses

the recording secretary for the CAC, was recently named as the recipient of the Most Outstanding Presentation Award. Kevin's paper, entitled, "Microchemical Identification of Gamma-Hydroxybutyrate," was presented at the spring seminar in Oakland, 1999. Award winners receive a certificate of merit and a \$200 stipend.

## Fiber Standard Available

A standard of the fibers from the seedpod of the silk flax tree are available free. The silk flax tree is an ornamental, often used alongside freeways, at least in Southern California. The tree trunk is without notable bark, is visually larger than would be anticipated for the tree's height and is remarkable for having horn-like projections. The large seed pod is filled with slightly off-white fibers and bursts laterally when the seeds are ripe.

These fibers are courtesy of Epcot Center at Disney World (and you thought I was there just for the AAFS Meeting!) **Hiram K. Evans**, Supervising Criminalist, Sheriff's West Valley Laboratory Phone (909) 463-5050 Fax (909) 463-5141 Hevans@sanbernardinosherriff.org

## Last Hurrah for Microcrystals?

The Scientific Working Group on Forensic Drug Analysis (SWGDRUG) is in the process of developing a series of proposals that they intend to have adopted by accrediting bodies, such as ASCLD/LAB, and certifying bodies, such as the American Board of Criminalistics (ABC). The members of SWGDRUG were selected by DEA from both foreign and US laboratories; the US representatives are not drawn from regional or national forensic science organizations, as are members of ABC, for example. Among the topics being addressed by subcommittees are quality assurance, education and training, and methods and reports.

The methods and reports subcommittee met prior to the international (IAFS) meeting in Los Angeles. The proposal coming from this subcommittee has not yet been posted on the SWGDRUG website. Based on my understanding of the current proposal from the methods and reports subcommittee, laboratories would be given 5 years to "improve" their analytical scheme for controlled substance analysis to include the mandatory use of MS, NMR, or IR.

I believe this proposal, if adopted, would have serious impact on the way some California laboratories analyze some or all of their cases. There is evi-

dence through the review of the CTS proficiency test data that instrumental analyses are not necessarily superior to chemical microscopy ("microcrystal tests"). **Jerry Massetti**, the chairman of the SWGDRUG Methods & Reports Subcommittee graciously allowed me to contribute my "two cents" worth to the committee, but apparently without sufficient persuasiveness to alter their views.

At SWGDRUG's presentation at IAFS, they invited the input from the forensic community for, as they clearly said, these 'recommendations' will have the weight of regulation should they be adopted by the likes of ASCLD/LAB or ABC. I admit of the possibility that I am presenting some lone reactionary position for the "auld ways;" but I invite you to join me in presenting information in the way of validation or refutation of microcrystal tests, such as literature references, validation data of whatever sort, proficiency test data, etc. If no one comes forward, I'll just conclude I'm as crazy as the March hare and stop babbling... Hiram Evans; (909) 463-5050; fax (909) 463-5141;

Hevans@sanbernardinosherriff.org

## Kansas Opportunities

### Forensic Scientist I Firearms and Tool Marks

\$13.13 to \$18.47 based on experience.

40 hour workweek, overtime eligible.

Duties include examining firearms for function; comparison of bullets and cartridge cases; serial number restoration; distance determination examinations; tool mark examinations; entering data into the DRUGFIRE system; and testimony as expert witness.

Bachelors' degree minimum. This is a training position. Females and minorities are encouraged to apply. EOE.

### Forensic Scientist II Firearms and Tool Marks

\$15.96 to 22.45 based on experience.

40 hour workweek, overtime eligible.

Duties include examining firearms for function; comparison of bullets and cartridge cases; serial number restoration; distance determination examinations; tool mark examinations; entering data into the DRUGFIRE system; and testimony as an expert witness.


Requires bachelors' degree and job knowledge at an advanced level in forensic science. Prefer experience as a firearm and tool mark examiner.

For either position, contact:

Human Resources Kansas Bureau of Inv. 1620 SW Tyler Street Topeka, KS 66612-1837 785-296-8247 785-296-6781 (fax). Thomas L.G. Price, Kansas Bureau of Investigation, Firearms Section 1620 SW Tyler Street Topeka, KS 66612-1837 1-888-452-4522 (toll free) 785-368-6564 (fax).

Ed Jones'  
**Face  
Game**

*Famous Names  
in Microscopy*



Who are these famous scientists?

Ans. in back.

## Stuff seen on the //WWWB

*Not verified by the CACNews*

### Murder, Mayhem & Madness

This conference is to be held in San Diego November 11-14, 1999. The theme of the conference is "Murder, Mayhem & Madness," and will emphasize the role of forensic science in criminal justice and public safety. The meeting will be at the Handlery Hotel and Resort, 950 Hotel Circle North, San Diego, CA (619) 298-0511, located in Mission Valley off Interstate 8. Included is a career fair and competitions: firearms, physical agility, mock crime scene and written tests. More detailed information and registration packets will be mailed out in early September. Please mark your calendars now and plan to attend! Please contact the Gamma Chi Chapter President, Ed Lyon, for more information. Ed can be reached via telephone (619) 668-1066 or via e-mail LAEREG1@aol.com

### Bloodstain Pattern Meeting

1999 International Association of Bloodstain Pattern Analysts will be held in Houston, TX November 9-12. The conference will be held at the Westin Galleria Hotel, 5600 West Alabama, Houston TX 77056-5898 713-960-8100. The conference Host is: Danny Rinehart drine@spry.net or you can request more information from me at JBell@ci.pasadena.net. James Bell Crime Scene Investigator Pasadena Police Department, Pasadena, TX. P.O. Box 3209, Pasadena TX 77501. Phone 713-475-5549 ext. 4304.

### Fourth International Conference on Forensic Statistics

The Interpretation Conference of the decade! Highly recommended. Star studded speaking list includes: Colin Aitken, JS Cecil, IW Evett, SE Fienberg, RD Friedman, JL Gastwirth, DH Kaye, BW Robertson, BS Weir. Hosted by the Department of Statistics North Carolina State University Raleigh, North Carolina December 5-8, 1999. Contact: Ms Debra Hibbard, Department of Statistics, North Carolina State University, Raleigh, NC 27695-8203. Phone: (919) 515-1932, FAX: (919) 515-7315, e-mail: hibbard@stat.ncsu.edu.

### Supervising Forensic Scientist Ventura County, CA

#### Forensic Alcohol

\$4399 - \$6171 per month (\$52,784 - \$74,057 per year) Possible educational incentive of \$2,639 - \$3,703 per year based on completion of a Master's degree.

#### Open Continuous

Under the direction of the forensic science services manager, supervises laboratory personnel and casework in the forensic alcohol section. Additionally, the supervising forensic scientist performs analyses; writes reports; provides expert testimony; trains and evaluates personnel; prepares statistical reports; establishes and maintains quality assurance programs; evaluates and develops methods and procedures; ensures compliance and reporting requirements with regulatory agencies; ensures compliance with the sheriff's department and county policies; assigns work; reviews and approves completed casework; and performs other duties as assigned.

#### Education, Training and Experience:

Any combination of training, education or experience, which would demonstrate the required knowledge, skills and abilities. The knowledge, skills and abilities can be obtained by graduation from an accredited college or university with a degree in biology, chemistry, physics, forensic science or related field, and five (5) years experience in a forensic science laboratory. Quantitative analysis (three (3) semester units) is also necessary. Must have the ability to meet Dept. of Health Services licensing requirements for forensic alcohol supervisor.

*The following listing includes contact information.*

### Three more positions in Ventura

The Ventura County Sheriff's Department Laboratory in Ventura, California is announcing openings for three positions for forensic scientists.

These are to be filled at the journeyman bench level (FS II or FS III dependent on qualifications). If suitable candidates are not found they may be underfilled with the best candidates available at a lower level (FS I or FS trainee-dependant upon experience). If underfilled, the individual will be provided the necessary training in the area of speciality and will move into the level the job is announced at as they gain the necessary training and experience. One position is in the forensic biology section, one in the toxicology section and one in firearm and toolmark analysis (including shoe print and tire track analysis).

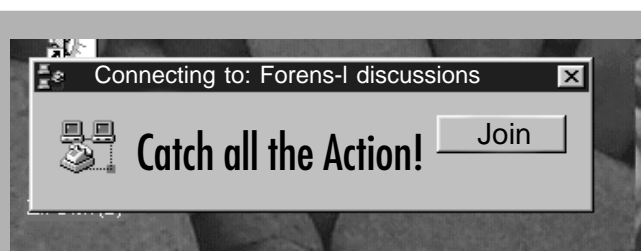
All four of the Ventura job opening announcements are available by calling the laboratory and speaking with the lab director's office manager, Mona Goe (805) 654-6877, fax (to Mona's attention) (805) 650-4080, or by going to the county website for the related opening:

<http://www.ventura.org/personnel/supfs-fa.htm>

<http://www.ventura.org/personnel/FS-dna.htm>

<http://www.ventura.org/personnel/FS-farms.htm>

<http://www.ventura.org/personnel/FS-tox.htm>



The world of forensic science is rapidly changing—stay in touch by subscribing to the "Forensic Listserver." Completely free, this message board is always buzzing with hot topics about certification, use of canine detection methods, DNA technical questions, crime scene processing methods and even requests from TV producers for broadcast ideas.

Read what your peers say when they argue about national standards. To subscribe, just send a message to:

**mailserv@acc.fau.edu**

with this request in the message body:

**SUBSCRIBE FORENS-L your real name**

Join, lurk, or flame, it's guaranteed never to be dull!



# NANCY MCCOMBS

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## The Middle Child

People often air grievances about being a middle child. As the younger of two children in my family, I could never relate to this...until now.

As you embark upon the forensic science profession, you essentially understand your designation. Perhaps you partake in a training program, frequently attend training classes, or have a mentor. You are an apprentice. Absorbing information from every angle and not yet certain which discipline best suits you. You're doing fine. This is what being a novice is all about.

As an experienced forensic scientist, you are well established. You (hopefully) work in an area(s) in which you have chosen to specialize. Years of experience in your field of study have rendered you an authority. Detectives, investigators, and others in the field recognize and respect you as an expert. You are asked for personally because of your case-work history and the name you have established for yourself. You are to be commended. This is what many strive to achieve.

If neither of the above portraits depicts you, then you, my friend, are a middle child. Existence in this category is independent of age, only on level of experience.

Perhaps you veterans recollect this period. Try. It is an awkward

stage. It can sometimes be a struggle, an area of confusion, or an emotionally difficult period. You are not quite a mentor, but undoubtedly not an amateur. You are well skilled, but still have much to learn.

To those entry-level forensic scientists: enjoy exploring and acquainting yourselves with the field. You too shall eventually enter the 'middle child zone.'

Finally, for whom this was intended, remember, being a middle child is part of a journey. As we have worked our way up the bell-shaped curve, we should not feel we are stuck at the top, laboring desperately to come down. Instead we should consider ourselves at the height of our profession. We are both excited and eager to learn as well as to share knowledge and become more involved. We are doing great. It's where we are supposed to be.

\* \* \*

The position of CACNews editor has been extended to webmaster of the new CAC website. Although the final site is not yet available, a demo version of the new web site may be viewed at [dddweb.com/cac](http://dddweb.com/cac). We look forward to good things coming your way soon.

*Nancy*



**To those entry-level forensic scientists: enjoy exploring and acquainting yourselves with the field. You too shall eventually enter the 'middle child zone.'**

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## Safety Is No Accident

As the only full time safety officer in the State crime lab system and a long time member of the American Chemical Society, it was natural that I should join the Chemical Health and Safety Division (CHAS) of the ACS. This has brought me new views of lab safety from both an academic and an industrial position. Last Spring, I attended the ACS National Meeting in Anaheim and, in a fit of enthusiasm, I volunteered to chair a half-day session on "Safety Issues in the Crime Lab" because the ACS is again holding its National Spring Meeting in California next year (at the Moscone Center in San Francisco March 26-30 to be precise). Being based in Washington DC, I guess they like to escape the winter blahs.

The health and safety problems we have in the crime lab setting go beyond solvent spills and distillation explosions and I thought it would be a golden opportunity for us criminalists

to get out among other chemists and give them a view from the inside.

Papers are generally twenty minutes plus a few minutes for questions and I think the abstracts would probably be required in October or November. But, first, I want to hear from you out there in the trenches, especially if you work in the Bay Area. I'd like to get at least six papers together (I've already got one offer) on subjects like the safe handling of firearms, supergluing and fingerprint powder hazards, clan lab stories, biohazards at a crime scene, working an arson scene, the use of luminol and other hazardous substances to find bloodstains, how to stay sober while analysing drugs, laser use, etc.

You can get in touch by e-mail:

**LindaW@hdcdojnet.state.ca.us**

or call me at the DOJ-DNA Lab (510) 540-2434.

—Linda Wraxall

## Q & A: American Board of Criminalistics: The Impact of Certification

**Q:** *I would like to find out how many police department crime labs have their crime scene investigators and their chemists certified and what impact does it make, other than having the credentials to testify in the courts. Our department is thinking about having our entire lab certified. We have an excellent conviction rate and an excellent rapport with our district attorneys office. I also would like a list of schools or courses to become certified.*

—Scott

Laboratory personnel may choose to participate in **A**n voluntary peer-based certification program offered by the American Board of Criminalistics (ABC). The ABC is a non-profit corporation managed by representatives of professional organizations of forensic scientists, such as CAC, MAAFS, MAFS, NEAFS, SAFS, AAFS-Crim, ASTM E-30, and ASCLD. The ABC developed its General Knowledge and Specialty examinations using input from virtually all professional organizations involved in criminalistics throughout the world.

How will ABC certification help an individual? ABC certification allows the examiner to document that his or her knowledge, skills, and abilities have been successfully tested by an independent agency. Because ABC certification demonstrates achievement of a professional standard,

it can assist the court in evaluating an examiner's qualifications. In addition, having certified employees allows a laboratory director to demonstrate the effectiveness of training programs for purposes of accreditation. Laboratory directors are now beginning to consider certification status in the hiring and promotion processes, as well as in the allocation of continuing professional education dollars.

Certification by a credible organization such as the ABC fulfills the forensic science community's obligation to: Establish professional levels of knowledge, skills and abilities; Define a mechanism for achieving those levels; Recognize those who have demonstrated attainment of those levels; Provide guidelines for the development of educational curricula; Demonstrate professional qualification to users such as lawyers, investigators and citizens; Promote growth within the profession.

On a more personal note, my preparation for taking the GKE and fire debris specialty examination was an excellent learning process. In addition, I received additional professional development funding in order to maintain my certification status. I am a better forensic scientist for having participated in the ABC program.

—Julia Ann Dolan

From the forensic list server "FORENS-L"





# WORK-SHOP CITY

Your host for the **Fall 1999 CAC Seminar** is  
San Bernardino County Sheriff's Department.

Join us from

**October 12 — 16**

for a **FULL** schedule of excellent workshops  
INCLUDING:

## **Power Point**

Hands on for beginners and intermediates

## **Microscopy of Botanical Traces**

Full day lecture and lab by Dr. John Shane of McCrone

## **Advanced Bloodstain Pattern Interpretation**

2 days of lecture and practical exercises

## **Clandestine Laboratory Documentation for Court**

Two days of lecture and practical exercises including  
Hazmat topics

## **DNA Users Group Meeting**

Full day lecture and information exchange



Ontario Airport Hilton 700 North Haven Avenue 800.654.1379

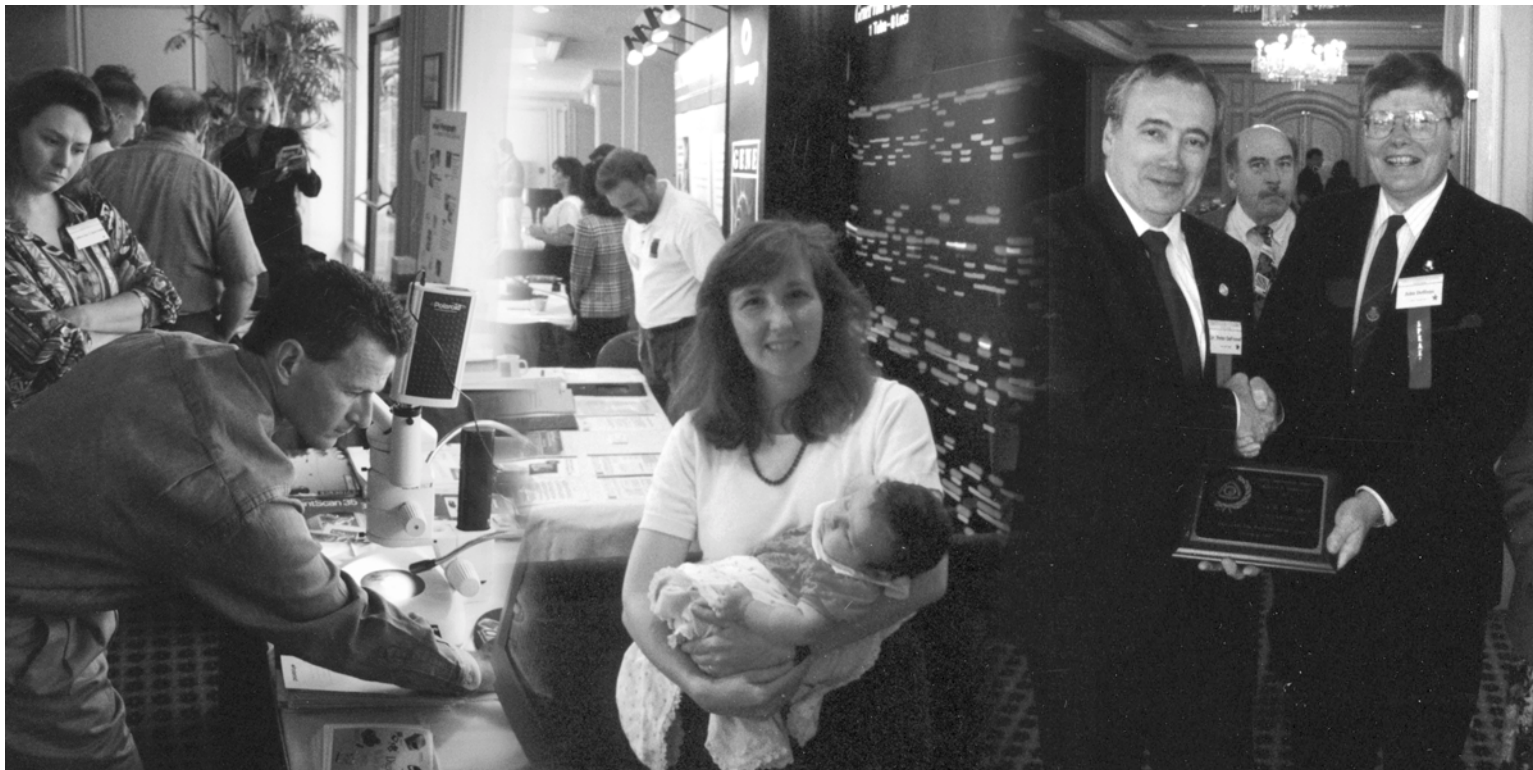
# California Association of Criminalists

## A. Reed and Virginia McLaughlin

### Endowment Fund Allocation Report

### Annual Report 1998/1999

%	Investment Unit	Balance BO Year	Re cac Acc.	Cash Income Rec.	Cash Dividend Received	Short Term Capital Gain	Long Term Capital Gain
<b>FUNDS ACCOUNT</b>							
11.4%	Aim Charter Class B	\$116,873.09		\$117.63		\$84.02	\$4,385.89
0.0%	Aim Inter. Govt. Fund CI B	\$94,715.21		\$3,158.20			
11.7%	Aim Value Fund CI B	\$122,071.29				\$558.99	\$7,910.17
9.7%	Putnam Europe Growth	\$132,194.42			\$1,224.00	\$1,327.09	\$4,358.81
19.4%	Putnam Growth & Income	\$228,440.97		\$1,666.74	\$729.88	\$16,405.92	
2.7%	Putnam Health B	\$33,737.65					\$2,744.92
4.4%	Putnam OTC A	\$51,835.62					\$1,551.49
1.6%	Putnam OTC B	\$20,256.46					\$632.87
10.7%	Putnam Vista B	\$127,364.50					\$9,866.67
12.4%	Putnam Voyager Inc B	\$128,659.13				\$142.21	\$9,574.35
0.0%	SA Cash Account	\$0.00					
<b>PAINE WEBBER ACCOUNT</b>							
2.5%	PW Money Fund	\$19,619.08		\$1,575.75			
8.4%	Mortg. Backed Sec. FHR	\$103,750.00					
5.6%	Mortg. Backed Sec. FNMA	\$0.00					
100.4%		\$1,179,517.42	\$0.00	\$6,518.32	\$1,953.88	\$2,112.31	\$57,431.09
10%	Global Interest						
74%	Mutual Fund Equities						
8%	US Gov't Bonds & Securities						
0%	Mortgage Securities						
2%	Cash						



Bond Interest Received	Reinvested Cash Income	Disbursements	Account Transfers	Market Value Gain	Total Change On Fund	Balance EO Year
			(\$4,587.54)	\$25,290.29	\$25,290.29	\$142,163.38
			(\$95,112.37)	(\$2,761.04)	(\$94,715.21)	\$0.00
			(\$8,469.16)	\$23,007.86	\$23,007.86	\$145,079.15
			(\$6,909.90)	(\$11,211.64)	(\$11,211.64)	\$120,982.78
			(\$18,802.54)	\$12,636.70	\$12,636.70	\$241,077.67
	\$2,744.92			(\$2,611.96)	\$132.96	\$33,870.61
	\$1,551.49			\$1,149.62	\$2,701.11	\$54,536.73
			(\$632.87)	\$101.17	\$101.17	\$20,357.63
			(\$9,866.67)	\$5,950.72	\$5,950.72	\$133,315.22
	\$9,716.56			\$16,443.53	\$26,160.09	\$154,819.22
						\$0.00
		\$80,447.61	\$89,954.13		\$11,082.27	\$30,701.35
\$7,350.00			(\$7,350.00)	(\$4,657.00)	(\$4,657.00)	\$99,093.00
\$2,437.50			\$72,959.71	(\$6,163.21)	\$69,234.00	\$69,234.00
\$9,787.50	\$14,012.97	\$80,447.61	\$11,182.79	\$57,175.04	\$65,713.32	\$1,245,230.74

**Paine Webber Reports, June 1998 = \$1,179,517.37**

Michael John Parigian  
June 30, 1999

# Financial Report

## General Association Account

### Account Balances, July 1, 1998 to June 30, 1999

Cash Balance July 1, 1998	\$49,546.57
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#### INCOME

	Interest	\$1,397.78	
	Meetings	\$12.94	
	Seminars	\$17,610.03	
	Membership dues	\$40,682.50	
	Membership applications	\$5,505.00	
	Newsletter	\$352.00	
	Advertising	\$225.00	
	Endowment income	\$-	
	Other	\$70.00	
(Seminar Visa Income Holding)		\$65,855.25	
Total income		\$65,855.25	\$65,855.25

#### EXPENSES

	Travel	\$2,211.72	
	Printing	\$17,453.79	
	Postage	\$2,225.46	
	Supplies	\$93.50	
	Bank fees	\$894.21	
	Accounting service fees	\$825.00	
	Awards	\$2,379.08	
	Meetings	\$115.17	
	Seminars	\$668.67	
	ABC support	\$500.00	
	Memorial donations	\$-	
	Endowment Exp., admin.	\$527.85	
	Journal	\$16,494.76	
	Phone	\$67.29	
	Refunds	\$115.00	
	Newmember	\$51.52	
	Consultations	\$-	
	Other	\$1,956.78	
Total Expenses		\$46,579.80	\$(46,579.80)

Cash Balance June 30, 1999	\$68,822.02
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	Cash on hand 6-30-99		
	Money Market Savings	\$23,585.06	
	Checking	\$563.19	
	CD 1	\$10,000.00	
	CD 2	\$10,000.00	
	CD 3	\$10,000.00	
	CD 4	\$10,000.00	
	Seminar Checking	\$2,000.00	
	Spring 99 seminar seed	\$2,000.00	
	Fall 99 seminar seed	\$500.00	
	Meeting South seed	\$250.00	
		\$68,898.25	

Note: Merchandise Account Balance June 30, 1999 = \$1,911.88

Michael John Parigian  
CAC-Treasuer



# ABACUS FULL PAGE DISPLAY AD

# Number One Fear

***Accomplished public speaker Raymond J. Davis discusses how he learned to channel nervous energy in to an effective presentation, and how you can, too.***

As an expert witness and public speaker I know first hand about the fears and anxieties we all experience when we decide to stand before a group of people and speak. Especially when that group is composed of your peers. In fact, they say that a man's number one fear is the fear of public speaking and for a woman, death by fire quickly followed by public speaking. So when a woman is listening to a man give a talk her apprehension will be relieved by the fact that at least he's not on fire!

How one deals with this most vexing yet common problem of public speaking is the purpose of this paper. What I have learned over my career is that I have found three fundamental things that overcame the fear I experienced when asked to testify, lecture or speak before a group. The first deals with identifying my own fear and how to cope with it, the second was to find a way to organize my thoughts and ideas so I wouldn't have to think while speaking and the third and final thing was to find a way to deal with the nervous energy I always felt on my way to the front of the room. Sounds simple enough. Three fundamental things that will change your life.

Here are some of the fears I have heard from others and see if you share any of them:

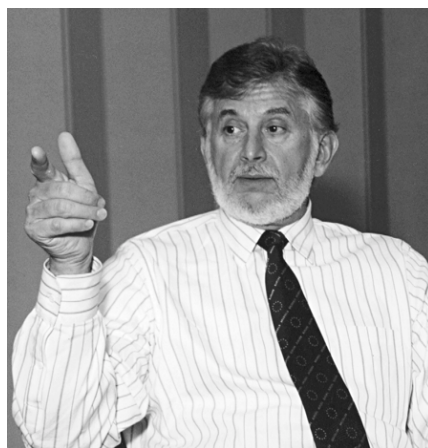
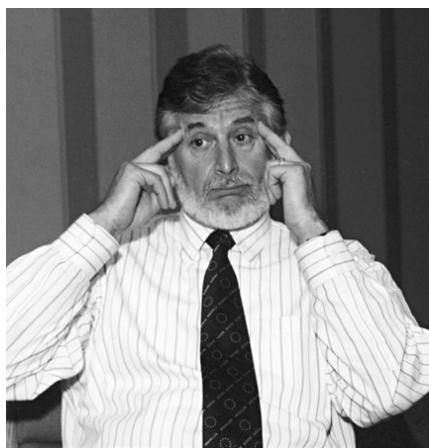
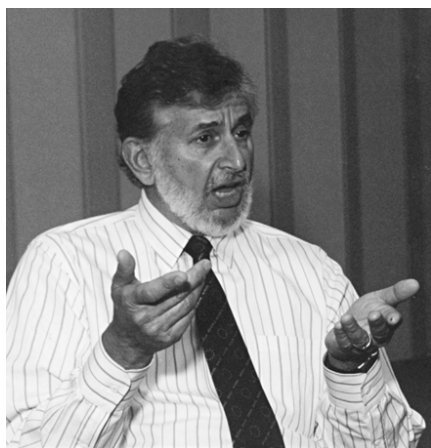
- 1. I'm afraid that I'll say something stupid or inappropriate.*
- 2. I'm afraid I'll look foolish or unprepared.*
- 3. I'm afraid that I'll run out of material before I run out of time.*
- 4. I'm afraid that I'll run out of time before I run out of material. (Better to be in this latter situation rather than in the former)*
- 5. I don't think that I'm that interesting and people won't pay any attention to me.*
- 6. I might get my slides, overheads or visuals all mixed up and people will think I'm unprepared or worse, incompetent.*

**And the number one concern is:**

*What will people think about me? Will they like me? Will they even clap when I'm through?*

Now, some or all of those thoughts may be going through your mind as you contemplate presenting a paper to your peers or giving expert testimony. These thoughts are even more pronounced as you proceed up to the podium or witness stand to expose yourself to what may seem a terror filled eternity. It's important to identify the fear that keeps you from standing in front of the room. Once you have done that all you need to know is how to deal with it.

One of the ways is to learn what's going on with the audience, either at a symposium or courtroom as you make your way to the front of the room. One of the most remarkable things that occurs with an audience is that they know there is some fear around public speaking and will grant you some degree of nervousness. They expect you to be a little nervous and if you misspeak or fumble for words or get a little lost during your presentation, they'll cut you some slack. Most times your topic is either so interesting or so timely that your audience will not be focused on the presentation style. If you were to ask your audience



Photography by John Houde

why they came to hear you speak they will say that they attended because of the information you possessed rather than to see how well you presented the material.

When I confronted my reasons for not speaking in public and realized that these were not the same reasons why my audience came to listen to me I began to relax a great deal. I know that regardless of the setting, at a conference or in court my audience would like to be informed and entertained at some level. They want to be left with the feeling that the presentation should have gone on a little longer. And most important, that they came away from my presentation or testimony with useful and timely information that will make their lives a little more enjoyable and less stressful. That's precisely the strategy I use before I go to court or speak before an audience. I believe that the audience is always on my side supporting me through my testimony or presentation. I especially like to look over at a jury and see them smiling, nodding and paying attention when I testify. In fact I had a trial one time where a juror actually answered a question posed to me. I was asked how many ounces in a pint of Jack Daniels whiskey. At that precise moment I lost my brain's file on volume measurements and sat there in silence. The longer I waited the more I realized that that information was not forthcoming. As the silence continued a juror spoke up and informed the court that Jack Daniels whiskey doesn't come in pint bottles which is 16 ounces but rather in 3/4 pint bottles which is 12 ounces. In my best confident voice, I acknowledged that juror number 8 was absolutely correct! I know that my audience wants to believe in me when I take the witness stand. It's up to me to give them every reason to continue believing in me. And believable witnesses are credible witnesses. And credible witnesses are compelling witnesses.

The second thing that helped me immeasurably was finding a way to speak without having to think at the same time. Especially at trial, I found it very difficult to be a great listener while trying to think at the same time. I have found that both suffer if tried simultaneously. I have always marveled how the people on Jeopardy could think and respond so quickly and not get stage fright. I feel that is a

talent most of us do not possess. About 10 years ago I learned a new technique for organizing my thoughts and ideas that helped me to relax when I gave testimony, presented a key note speech or asked to be an emcee. That technique is called "Mind Mapping" and it allowed me to think ahead so that I wouldn't have to while under pressure. And standing before your peers or a jury can feel like being in a pressure cooker. The technique is very visual, fast, comprehensive and best of all, easy to use. The Mind Mapping technique is an important element in the Courtroom Presentation of Evidence class offered by CCI. Students are asked to prepare their resume's and cases using this technique prior to the qualification and testimony exercises.

The third and final thing I had to overcome was how to deal with the nervous energy that accompanied me to the podium and witness stand. Early in my career I was counseled to just be calm,

### ***I found it would be easier to be taller than to just be calm.***

cool and collected. Given the unreality of this advice, I found it would be easier to be taller than to just be calm. Again, I learned some techniques that allowed me to channel my nervous energy through my voice, eye contact and gestures. By actually utilizing this energy I found that my presentations were much more effective and it gave me a way to deal with the stress of bearing witness if you will. Although this technique was slow in developing, I made it a habit to practice it wherever I found myself.

Summarizing, I realized that my greatest fear was not a concern that my audience held. As the years passed by I began to realize that my audience responded and appreciated what I had to say. My worst fears were unfounded. This fear had kept me from presenting technical papers at symposia, from giving tours through the crime lab, speaking at dinner meetings, etc. I missed many opportunities to share my experience and

wisdom with others because of this fear. I began to learn more about the audience's needs and their expectations from a speaker. I realized that these needs and expectations were the same as mine when I sat out in the audience. Those expectations were that I wanted to learn something new and have some fun in the learning process. I know that whenever I decide to give a lecture or present testimony, my audience and I are going to spend some quality time together. We all have that choice available to us if we just take it. And if I can relax and channel my nervous energy into an effective presentation, my audience will be more focused on the material than they will be on me. In fact, this is precisely the secret that actors use when they appear on stage. A lot of professional actors have severe cases of stage fright. It's not just their talent and egos that get them on stage. They know that the audience is there to see the "performance of the actor" and not the "actor themselves". Most of you know the actor Robert DeNiro. I think he is one of the most compelling and interesting actors in the world today. And by contrast, he is the worst person I have ever seen interviewed. In fact he's downright boring. He doesn't have a way to deflect the attention away from him personally as he does when he's in a role. As a public speaker, as a witness you have a role to play. Your audience comes to see the role and not just the person playing that role.

So now you know three basic truths or insights about public speaking: First that it's OK to be nervous and that your audience will be in your corner providing all the support and encouragement you'll require. Second, use the Mind Mapping technique so you don't have to think while you're talking. This allows you the opportunity to put more into the presentation without having to think ahead. And third, channel that nervous energy, through your voice, eye contact and gestures for a more effective and powerful presentation. Following this basic plan can assist you in those challenging times when you're asked to stand and deliver.

—Raymond J. Davis  
Quantum Communications  
San Carlos, CA 94070  
650.802.0931

# **ABC Update— A Time of Extension**

## **Technical Specialist Examinations in Drug Analysis and Molecular Biology**

In June of 1998, the Board of Directors and Examination Committee for the American Board of Criminalistics began formally deliberating on the possible extension of certification for another category of forensic professionals. As you know, the ABC currently offers two specific strategies for approaching certification:

1. Professional forensic scientists can demonstrate competency by successfully challenging the General Knowledge Examination, after demonstrating successful completion of a baccalaureate in physical science and acquiring two or more years of full time experience in a forensic laboratory. Those who meet this challenge are certified as Diplomates of the ABC, as they have objectively demonstrated the ability to understand, manage and direct multidisciplinary casework in criminalistics. The honorific "D-ABC" denotes attainment of this certification.

2. Forensic scientists who have achieved Diplomate status and wish to further demonstrate competence in a forensic discipline may achieve professional certification as a Fellow of the ABC. Fellow certification is earned by Diplomates after successfully challenging a Specialty Examination, completing a proficiency test in the specialty, and demonstrating experience in the specialty in an operating lab. Fellows have not only objectively demonstrated that they understand and manage multidisciplinary casework in forensic science, but have also demonstrated technical competence in one or more forensic discipline(s). The honorific "F-ABC" denotes attainment of this certification.

For some time, forensic practitioners have asked the ABC to consider development of a third category of certification: Specialists in Drug Analysis and Specialist in Molecular Biology. These oftentimes work in specialty Units that are "stand-alone", and require little or no interaction with examiners in other disciplines.

## **When Our Peers Speak, We Listen**

The American Board of Criminalistics has always been a peer-based organization. After careful consideration of the status of the field, and results from a comprehensive survey of current Diplomates and Fellows, the Board of the ABC has determined that a new certification process will be implemented. Beginning January 1, 2000, the ABC plans to offer a certification process leading to the designation "Technical Specialist -Drug Analysis" and "Technical Specialist - Molecular Biology". Successful completion of requirements for both types of Specialists will be designated by the honorific "S-ABC". Fundamental concepts of the new certification are as follows:

1. The Technical Specialist Examination will comprise a single examination administered in one sitting (two blocks of time separated by a brief administrative instruction / waiting period).

2. It will comprise a Specialty Examination Component and a "Forensic Science Core" set of questions reflecting essential Knowledge, Skills and Abilities of forensic scientists practicing in that specialized discipline.

3. In order to sit for a Technical Specialist Examination, an applicant must provide documentation of successful completion of an appropriate Proficiency Test within the prior 12-months.

4. Annual and 5-year recertification requirements for the

Technical Specialist will be identical to those for a Fellow in that discipline.

## **Development and Expectations for Technical Specialist Certifications**

In developing the Technical Specialist Examinations, the ABC Examination Committee will maintain the reputation of ABC examinations for providing credible, traceable, consensus- and peer-based objective measurements of competency. The examinations will continue to be one important part of the overall measure of accomplishment necessary to become certified as a professional criminalist.

Technical Specialist Examination questions will be linked to peer-based, agreed-upon Job Description elements for such specialists. Each Job Description element will continue to be defined by objective Knowledge, Skills and Abilities of the specialists, and have a literature source provided in advance to those who wish to challenge the certification process. All questions will be sensitivity tested to remove gender, cultural and other forms of inherent bias, and blue-ribbon panels of experts will be asked to assess the examinations prior to full implementation.

Technical Specialists certified by the ABC will be recognized for having gained a level of competency believed by their peers to be necessary for a forensic practitioner who is fully accomplished as a specialist in Drug Analysis or Molecular Biology. Those who have not gained the appropriate knowledge, skills and abilities - as defined by their peers - are not expected to be successful in their pursuit of Technical Specialist certification.

## **An Extension of ABC Service, NOT a Replacement**

As a responsive organization, the American Board of Criminalistics endeavors to provide the products and services that our field's practitioners demand. Professional forensic practitioners deserve the right to have objective certification available. Over the past 10 years, the ABC has provided certification to more than 450 Diplomates and 145 Fellows. The time has come to extend this service to many more scientists who desire objective recognition of professional competence, yet do not readily fit into the mold of forensic practice challenged by the Diplomate and Fellow certification process.

Over the next few months, the Examination Committee will be completing their work. Look for updates on Technical Specialist certifications in regional and national forensic organization newsletters. If you have any questions or would like more information, please contact me at (YOUR PHONE and e-mail address HERE). As the (YOUR Member Organization Name here) representative to the ABC, I want to help you participate in the certification process, and would like to hear your comments and suggestions. You may also contact the ABC Registrar - Mike Haas - by phoning (715) 845-3684, by FAX at (715) 845-4156, or via e-mail at [abcreg@dwave.net](mailto:abcreg@dwave.net). You may also contact the ABC President - Carl Selavka - via e-mail at [CAYR@aol.com](mailto:CAYR@aol.com).

The recognition of your peers as a professional who has "achieved the standard" is a worthy goal. The pursuit of continued professional development is an important component of life as a professional criminalist. We welcome the addition of Technical Specialists in Drug Analysis and Molecular Biology to the family of professionals who may objectively demonstrate that they meet the strict competency standards of their peers, and desire a structured professional development process. Thank you for your input into enhancing the ABC's service to the profession, and for your support and participation.

—Carl Selavka, President  
American Board of Criminalistics



# JOHN SIMMS

## Quality Assured

This column is going to present you with lots of tid bits of information. There are some recent changes in standards as well as some offered interpretations of standards that everyone should be aware of. Second, I will present you a general overview of a proposed strategic plan for ASCLD/LAB.

### CHANGES AND INTERPRETATIONS

**Quality Audits:** The annual internal audits went from an "I" or important rating to "E" or essential. Do not forget that Forensic Biology (DNA) needs to have an external audit every other year.

**Proficiency Tests:** There was a subtle but important change for DNA proficiency test requirements. It used to be that each DNA person had to have two tests per year, with one being external. Now, both tests are required to be external. In the past, CTS refused to accept split samples but recently ASCLD/LAB has said that split samples do qualify as external if the results are mailed in and that they have worked this out with CTS.

**Backs Of Note Pages:** Accreditation standards never really specifically addressed the backs of note pages. The summer of 1999 newsletter addresses this specific issue. The standard is now to mark the backs of pages with all the proper identifying information that you would the front page. As a special note, the Southern California labs, for the most part, either have policies against using the backs of pages or even if they do not have policies, the labs just do not do it as evolved practice.

### STRATEGIC PLAN DEVELOPMENTS

ASCLD/LAB must change the way it does business to meet the anticipated increase in workload

demands it will be facing in the next five years and longer. The strategic plan committee met the first

time in spring of 1999 and hashed out a generic list of ideas covering a wide range of topics (financial, consistency in reports and interpretations, long range goals). The committee met the second time last August and structured the list of recommendations into a formal strategic plan that is still in the preliminary stages.

The plan will certainly undergo many changes before final adoption by the delegate assembly but it will mean some serious but beneficial changes in the way they do business.

As of this writing, the Board did not feel comfortable with publishing the strategic plan until it is further down the assembly line.

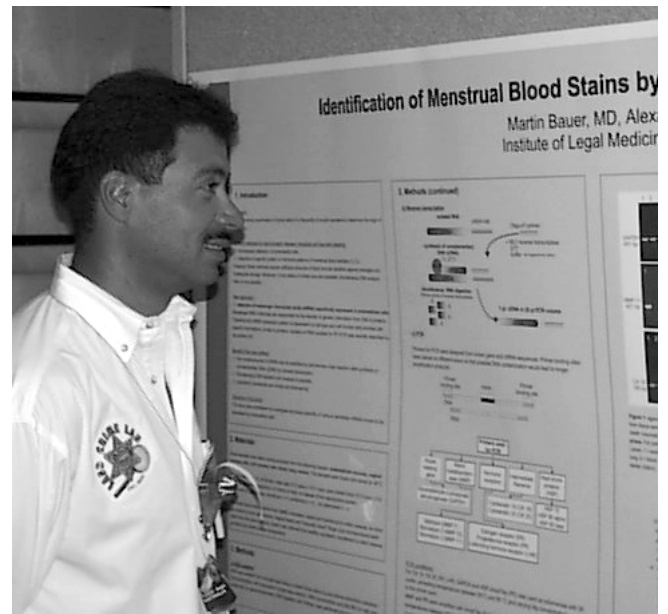
### A FINAL COMMENT

At an August Southern California Quality Assurance Workshop, some interesting points were made about the most common problems found in accreditation inspections and reinspections. Case packets continue to be the greatest areas of weakness, with the problems being inadequate marking of

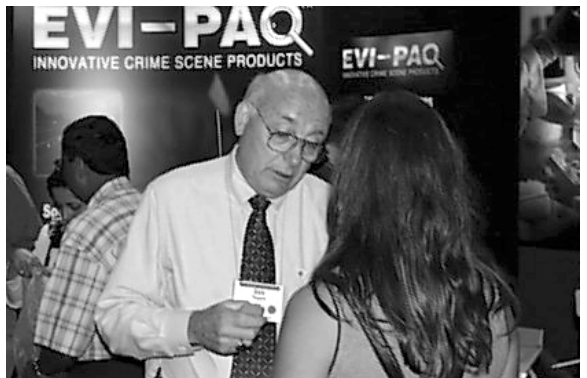
note pages and improper cross outs. The advice out of our group is: inspect your packets thoroughly. People will do whatever is accepted, not what you expect.



**Case packets continue to be the greatest areas of weakness, with the problems being inadequate marking of note pages and improper cross outs.**







# Microchemical Identification of Gamma-Hydroxybutyrate (GHB)

## Introduction

Gamma-hydroxybutyrate (GHB) was recently made a controlled substance in California, obligating criminalistics laboratories to provide conclusive identification of suspected samples. Unfortunately, the nature of the compound complicates this task. Problems such as impure samples, need for derivatization for chromatography, conversion of the sample to and from the precursor during analysis, and the extremely hygroscopic nature of the drug all make identification by instrumental techniques difficult. The authors have developed a microcrystal reagent that can overcome some of these problems.

## GHB SUMMARY

### Chemistry

The precursor for the manufacture of gamma-hydroxybutyrate is Gamma-Butyrolactone (GBL), a clear viscous liquid at room temperature with a boiling point of 204°C, used industrially as a solvent. GHB is clandestinely manufac-

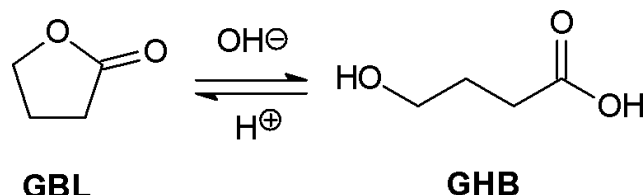


Figure 1.

tured by the basic hydrolysis of GBL using sodium hydroxide. After a few hours of heating this mixture, the pH is brought down to neutral with hydrochloric acid. GHB in its pure form is a white crystalline solid with a melting point of 145 °C, but it is extremely hygroscopic and if left exposed to air will quickly become colorless as it is saturated with water. It is usually encountered as a concentrated aqueous solution. GHB and GBL exist in equilibrium with each other, with the value of K dependent on the pH (Fig. 1). At pH 14 most of the GBL will be hydrolyzed to GHB, while at pH 0 the reverse is true. Both compounds are stable at neutral pH. There is some indication that buffered acid solutions can still produce GHB from GBL.

### Scheduling

GHB was made a Schedule II controlled substance in Cali-

fornia in July of 1997. It has been made a Schedule I or II drug in several other states, but is not currently a federally scheduled controlled substance. GBL is not a controlled substance anywhere, and in fact is a fairly common industrial chemical. It is important to keep in mind when analyzing GHB that it always exists in equilibrium with its (legal) precursor, and that altering the pH of the sample can create or destroy GHB. This means that pH based extractions cannot be used on GHB samples.

## Current Methods of Analysis

There are currently three color tests for GHB. There is a chromic acid color test, but it is a general test for alcohols. The ferric chloride color test for GHB works quite well, but it also gives a reaction with hydroxide ion which may be present in clandestinely manufactured GHB. The cobaltous nitrate color test works well on solid samples, but not on liquids. FTIR can distinguish between GHB and GBL to give a positive identification, but because of the hygroscopic nature of the drug obtaining a good spectrum can be difficult. (Adding a liquid sample directly to ground KBr, drying it in a microwave oven and pressing a pellet works quite well.) Since pH based extractions cannot be used to cleanup GHB samples, spectral interference from other substances (such as the ingredients in a drink that might have had GHB added to it) could be a problem. GC/MS will not give a positive ID without derivitization of the sample; simply shooting GHB will result in it degrading to GBL (probably from the heat of the injection port). BSTFA can be used to make a derivative of GHB that is stable on the column, and can be used for identification. However, the chemicals involved are toxic and water reactive, and the derivitization procedure is time consuming. Additionally, since GHB exists in equilibrium with GBL, even pure GBL will yield a small GHB-BSTFA peak.

## MICROCRYSTAL TEST

### History

Due to the limitations of other methods for analyzing GHB, we looked for a quick, inexpensive and accurate alternative: microcrystal tests. We began by testing all of the microcrystal tests and color tests in use at the San Bernardino lab with no results. Then Evans found a reference for a crystal test for butyric acid, which is structurally related to GHB. A solution of concentrated cupric nitrate should produce hexagonal crystals with butyric acid, and we hoped that it might give some result with gamma-hydroxybutyric acid. At this point serendipity came into play. There was no cupric nitrate at the lab, so I made some by mixing appropriate amounts of silver nitrate and cupric chloride and then filtering off the silver chloride that precipitated out [ $2\text{AgNO}_3 + \text{CuCl}_2 \rightarrow \text{Cu(NO}_3)_2 + 2\text{AgCl}_{(s)}$ ]. This solution grew some very nice rectangular crystals with GHB. However, when we finally obtained some cupric nitrate from Sigma, I was unable to duplicate these crystals with a solution of pure  $\text{Cu(NO}_3)_2$ , while the makeshift reagent still worked. Speculating that there may have been some excess silver ions remaining in the *ad hoc* cupric nitrate solution, I mixed an equal amount of silver nitrate into the pure cupric nitrate solution. This solution grew the same rectangular crystals as the *ad hoc* solution. The final formulation of the crystal reagent was 100 milligrams of  $\text{AgNO}_3$  and 100 milligrams of  $\text{Cu(NO}_3)_2$  in 10 milliliters of water. (This is a 1% w/v mixture of silver nitrate and cupric nitrate.) The best technique for growing the crystals is to combine a drop of the reagent and a drop of GHB in aqueous solution via a "neck" without a coverslip. The crystals grow at



Winner, Most Outstanding Presentation, Spring Seminar, Oakland 1999. Presented by Kevin Andera (left), Orange Co. Sheriff-Coroner Forensic Science Svcs. Based on research by Kevin Andera, Hiram Evans and Cathy Wojcik at the San Bernardino Co. Sheriff Scientific Investigations Division.



the edges of the drop in under 5 minutes (Fig 2). They are best viewed using a polarized light microscope (Fig 3).

## Testing

The most important aspect of testing was selectivity, to see if this reagent actually could distinguish GHB from other substances. First we made sure that the crystals obtained on drying the reagent (Fig 4) are different from the crystals obtained from GHB. Next the reagent was tested by Wojcik against 22 controlled substances. These included commonly encountered drugs (e.g. methamphetamine, cocaine, etc.), drugs simi-

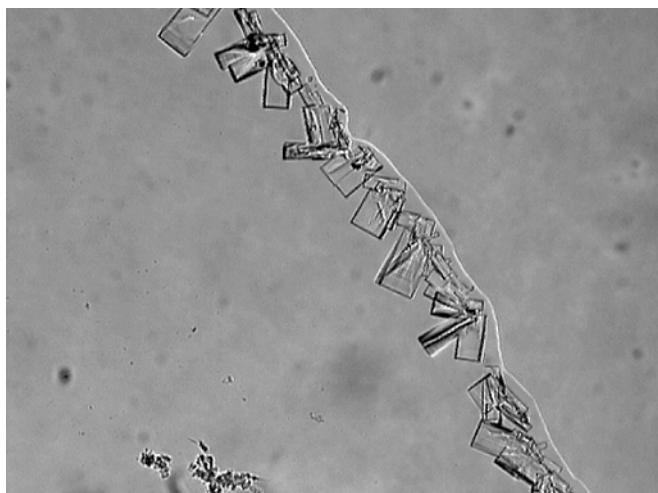


Figure 2.

lar to GHB in effect (e.g. flunitrazepam, barbiturates, etc.), two structural isomers of GHB (alpha- and beta-hydroxybutyrate), and the GBL precursor. (Note that the barbiturates are sodium salts of acidic drugs, as was the GHB we used.) Most of these substances gave no crystals at all, and none of them produced crystals similar to those grown with GHB. The reagent is specific to GHB, doesn't react with GBL, and the reagent crystals are not easily mistaken for a positive result. The next step was to set up a blind test to see how useful the reagent would be for unknown samples. Ten samples, including controlled and non-controlled chemicals, were prepared by Andera and tested by



Figure 3.

Wojcik. There were two positive identifications, one false negative and no false positives. Since no samples were mistakenly identified as GHB, and two of the three GHB samples were correctly identified, we concluded that the reagent is selective for GHB. (The missed GHB sample may have been due to an interfering precipitate.) The final stage of testing was determining the sensitivity of the reagent. Using a GHB standard obtained from Sigma, we prepared serial dilutions ranging in concentration from 125 mg/ml down to 2 mg/ml. Crystals formed in under 5 minutes with concentrations down to 4 mg/ml, and no crystals were observed after 10 minutes at 2 mg/ml. Note that 125 mg/ml is about a 1 molar solution, while most clandestine recipes for GHB yield a 6 to 12 molar concentration. Sensitivity can also be affected by the presence of negative ions or the precursor, GBL. Silver ions form precipitates with  $\text{Cl}^-$  and  $\text{OH}^-$ , both of which might be present from the manufacturing process. These precipitates may interfere with or mask the crystal growth, and are not easily removed. While GBL does not

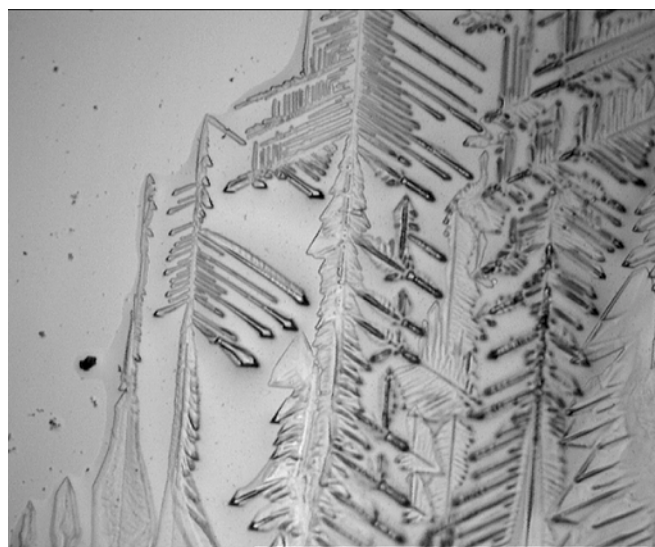


Figure 4.

form crystals or precipitates with the reagent, its presence does inhibit crystal formation. However, it can be removed from solution by a few simple washes with toluene or chloroform.

## CONCLUSION

The crystal test described here is a fast, accurate and inexpensive method of testing for GHB. If the limitations of interference and sensitivity are kept in mind, it should provide a positive identification of GHB, especially if used in combination with one of the instrumental methods described above. Additional testing of this reagent will include its utility on GHB in ethanol solutions, non-neutral solutions, and on any other analogs of GHB that come to the attention of law enforcement in the future. A more detailed version of the information presented here will be published in the *Journal of Forensic Sciences*, tentatively scheduled for May 2000.

## Endnotes:

1. As presented at the 93rd Semi-Annual CAC Seminar, Oakland, CA; May 1999
2. Photomicrographs by Wayne Moorehead, Orange County Sheriff-Coroner.

**President:**



**Hiram Evans**  
San Bernardino Co. Sheriff  
9500 Etiwanda Avenue  
Rancho Cucamonga, CA 91739  
(909) 463-5050  
Hevans@sanbernardinosherriff.org

**President-Elect:**



**Lisa Brewer**  
Santa Clara Co. Crime Lab  
1557 Berger Dr. #B-2  
San Jose, CA 95112  
(408) 299-2224  
lbrewer@crim.lab.co.santa-clara.ca.us

**Secretary:**



**Kevin Andera**  
Orange County Sheriff's Dept.  
320 N. Flower St.  
Santa Ana, CA 92703  
(714) 834-4510  
kma@fss.co.orange.ca.us

**Treasurer:**



**Michelle Fox**  
Forensic Analytical Specialties  
3777 Depot Rd. Ste 409  
Hayward, CA 94545  
(510) 887-8828 x148  
mjf@forensica.com

**Regional Director:  
(North)**



**Ann Murphy**  
Sacramento Co. DA Crime Lab  
4800 Broadway, Ste 200  
Sacramento, CA 95820  
(916) 874-9240  
amsquared1@aol.com

**Regional Director:  
(South)**



**Jim Stam**  
San Diego Police Dept.  
1401 Broadway MS725  
San Diego, CA 92101  
(619) 531-2605  
jns44@hotmail.com

**Membership  
Secretary:**



**Pennie Laferty**  
Orange County Sheriff's Dept.  
320 N. Flower St.  
Santa Ana, CA 92703  
(714) 834-4510  
pil@fss.co.orange.ca.us

**Editorial  
Secretary:**



**Nancy McCombs**  
CaDOJ Fresno  
6014 N Cedar Ave.  
Fresno, CA 93710  
(559) 278-2982  
MCCOMBSN@hdcdojnet.state.ca.us

**Immediate  
Past President:**



**Ron Nichols**  
Oakland Police Department  
455 7th St. Rm 608  
Oakland, CA 94607  
(510) 238-3386  
rgnichols@oaklandnet.com



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## Tongue Firmly in Cheek Dept.

A NEW COMPUTER VIRUS IS SPREADING THROUGHOUT THE INTERNET, AND IT IS FAR MORE INSIDIOUS THAN LAST WEEK'S CHERNOBYL MENACE. Named Strunkenwhite after the authors of a classic guide to good writing, it returns e-mail messages that have grammatical or spelling errors. It is deadly accurate in its detection abilities, unlike the dubious spell checkers that come with word processing programs.

The virus is causing something akin to panic throughout corporate America, which has become used to the typos, misspellings, missing words and mangled syntax so acceptable in cyberspace. The CEO of LoseItAll.com, an Internet startup, said the virus has rendered him helpless. "Each time I tried to send one particular e-mail this morning, I got back this error message: 'Your dependent clause preceding your independent clause must be set off by commas, but one must not precede the conjunction.' I threw my laptop across the room."

A top executive at a telecommunications and long-distance company, 10-10-10-10-10-123, said: "This morning, the same damned e-mail kept coming back to me with a pesky notation claiming I needed to use a pronoun's possessive case before a gerund. With the number of e-mails I crank out each day, who has time for proper grammar? Whoever created this virus should have their programming fingers broken."

A broker at Begg, Barow and Steel said he couldn't return to the "bad, old" days when he had to send paper memos in proper English. He speculated that the hacker who created Strunkenwhite was a "disgruntled English major who couldn't make it on a trading floor. When you're buying and selling on margin, I don't think it's anybody's business if I write that 'i meetinged through the morning, then cinched the deal on the

cel phone while bareling down the xway.' "

If Strunkenwhite makes e-mailing impossible, it could mean the end to a communication revolution once hailed as a significant timesaver. A study of 1,254 office workers in Leonia, N.J., found that e-mail increased employees' productivity by 1.8 hours a day because they took less time to formulate their thoughts. (The same study also found that they lost 2.2 hours of productivity because they were e-mailing so many jokes to their spouses, parents and stockbrokers.)

Strunkenwhite is particularly difficult to detect because it doesn't come as an e-mail attachment (which requires the recipient to open it before it becomes active). Instead, it is disguised within the text of an e-mail entitled "Congratulations on your pay raise." The message asks the recipient to "click here to find out about how your raise effects your pension." The use of "effects" rather than the grammatically correct "affects" appears to be an inside joke from Strunkenwhite's mischievous creator.

The virus also has left government e-mail systems in disarray. Officials at the Office of Management and Budget can no longer transmit electronic versions of federal regulations because their highly technical language seems to run afoul of Strunkenwhite's dictum that "vigorous writing is concise." The White House speechwriting office reported that it had received the same message, along with a caution to avoid phrases such as "the truth is. . ." and "in fact. . ."

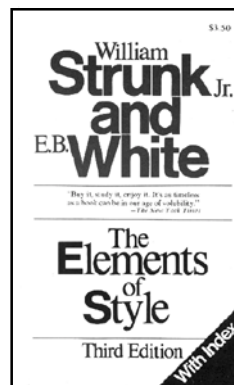
Home computer users also are reporting snafus, although an e-mailer who used the word "snafu" said she had come to regret it.

The virus can have an even more devastating impact if it infects an entire network. A cable news operation was forced to shut down its computer system for several hours when it discovered that Strunkenwhite had somehow infiltrated its TelePrompTer software, delaying newscasts and leaving news anchors nearly tongue-tied as they wrestled with proper sentence structure.

There is concern among law enforcement officials that Strunkenwhite is a harbinger of the increasingly sophisticated methods hackers are using to exploit the vulnerability of business's reliance on computers. "This is one of the most complex and invasive examples of computer code we have ever encountered. We just can't imagine what kind of devious mind would want to tamper with e-mails to create this burden on communications," said an FBI agent who insisted on speaking via the telephone out of concern that trying to e-mail his comments could leave him tied up for hours.

Meanwhile, bookstores and online booksellers reported a surge in orders for Strunk & White's "The Elements of Style."

—Found wandering on the web



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## Famous Names in Microscopy:

(Top row, l-r) Emile Monnin Chamot; Friederich J. Becke; Walter McCrone (really!); (bottom row, l-r) Ernst Abbe; August Koehler; Auguste Michel-Levy.

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