



NEWLETTER California Association of Criminalists NEWLETTER

OFFICERS ROSTER 1986-1987

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SEPTEMBER 1986

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2. Serologists organization questionnaire
3. Announcement of General Membership Meeting
4. Minutes, Board of Directors Meeting, March 14, 1986
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CONFERENCES AND SEMINARS

NORTHWEST ASSOCIATION OF FORENSIC SCIENCE

October 8-10, 1986

The NWAFS Fall meeting will be held at the Red Lion Riverside, Boise, Idaho. Contact Pam Server, Forensic Section, Bureau of Laboratories, 2220 Old Penitentiary Road, Boise, ID 83712. (208) 334-2231.

MIDWESTERN ASSOCIATION OF FORENSIC SCIENTISTS

October 8-10, 1986

The 15th Anniversary meeting will be held in Springfield, Illinois. For further information, contact Ted Elzerman or John Klosterman, Illinois Department of State Police, Bureau of Forensic Sciences, 726 South College Street, Springfield, IL 62707. 217-782-4649.

CALIFORNIA ASSOCIATION OF CRIMINALISTS

October 8-11, 1986

Gene Autry Hotel, Palm Springs, California. For further information contact Faye Springer, CA Department of Justice, P. O. Box 3679, Riverside CA 92519 (714)781-4170.

LEGAL ROLE OF THE EXPERT: FOCUS ON CHILD ABUSE

October 18-19, 1986

This two day conference has been designed for practicing attorneys and medical and scientific experts who might be faced with consultation and testimony in child abuse cases.

RECOVERY OF HUMAN SKELETAL REMAINS

October 22-24, 1986

University of South Alabama, Mobile Alabama. For registration and other information write or call: Dr. Ed Waldrup Department of Pathology, University of South Alabama, College of Medicine, 2451 Fillingim Street, Mobile, Alabama 36617, (205)471-7780

SOFT/CAT MEETING

October 29-November 1, 1986

A joint meeting of the Society of Foren-

sic Toxicologists and the California Association of Toxicologists will be held October 29-November 1, 1986, at the MGM Grand Hotel, Reno, NV. For further information, contact Norman A. Wade, California Department of Justice, Bureau of Forensic Services, Sacramento, CA, 94203. (916) 739-5123.

FORENSIC SEROLOGY: DETECTION, COLLECTION, PRESERVATION AND ANALYSIS

November 11-12, 1986.

This course is being sponsored by the Michigan State University, School of

Criminal Justice. Contact, Paul S. Embert, School of Criminal Justice, 560 Baker Hall, Michigan State University, East Lansing, MI 48824.

INTERNATIONAL ASSOCIATION OF FORENSIC TOXICOLOGISTS

July 1987

The 8th Triennial meeting will be held in Banff, Alberta, Canada. For further information, contact N. Dunnett, Home Office Forensic Science Laboratory, Aldermaston, Berkshire, RG7 4PN, UK.

INTERNATIONAL ASSOCIATION OF FORENSIC SCIENCES

August 2 - 7, 1987

Vancouver, British Columbia, Canada. Contact International Association of Forensic Sciences, 801-750 Jervis Street, Vancouver, B.C., Canada V6E 2A9. 604-681-5226.

THE THIRD INTERNATIONAL MEETING OF THE PAN AMERICAN ASSOCIATION OF FORENSIC SCIENCES

August 10-14, 1987.

The conference will be held at the Holiday Inn Plaza, Wichita, KS. For further information, contact Dr. William G. Eckert, P.O. Box 8282, Wichita KS 67208.

THE FIRST WORLD MEETING OF POLICE SURGEONS AND MEDICAL OFFICERS

August 10-14, 1986

The purpose of this conference, meeting concurrently with the Pan American Asso-

CONFERENCES AND SEMINARS (continued)

ciation of Forensic Sciences, is to discuss and compare the medical aspects of law enforcement and policing in various countries of the world.

40TH ANNUAL MEETING OF THE AMERICAN ACADEMY OF FORENSIC SCIENCES

February 15-20, 1988.

This conference will be held at the Wyndham Franklin Plaza, Philadelphia, PA. Contact AAFS, 225 South Academy Blvd., Colorado Springs, CO, 80910. (303) 596-6006.

41ST ANNUAL MEETING OF THE AMERICAN ACADEMY OF FORENSIC SCIENCES

February 20-25, 1989.

This conference will be held at the Riviera Hotel, Los Vegas, NV. Contact AAFS, 225 South Academy Blvd., Colorado Springs, CO, 80910. (303) 596-6006.

ANNOUNCEMENTS

CALL FOR PAPERS

International Forensic Meetings

In 1982, the CAC hosted the first Inter-American Congress of Forensic Sciences in Sacramento. All of those who came quickly discovered what a unique experience such an international meeting can be. The CAC has had many compliments on that meeting and we can be very proud of our contributions. Everyone who attended has been looking forward to the next meeting. Less than a year from now, we will have a rare opportunity to participate in not one, but two, international meetings on our end of the Continent. The 11th International Meeting of Forensic Sciences is planned for Vancouver B.C. for August 2-7, 1987. It is expected to be an even bigger meeting than Oxford and the Criminalistics section, chaired by Doug Lucas, should be most memorable. Other sections of interest to CAC members include Hair, Blood, Body Fluids, Stat-

istics, Paternity, Documents, Crime Scene Investigation, Explosions and Fires, Fibers, Firearms/Toolmarks, Pathology and "I've Always wanted to Give a Paper On..." (the IAFS answer to the last Word Society). Notices for this meeting have already been sent out. If you have not received any notice contact the Secretariat:

IAFS
Suite 801
750 Jervis St.
Vancouver, BC V6E 2A9
Canada

Of equal importance is the joint meeting planned for Wichita for the following week August 10-14. This is to be the First World Meeting of Police Surgeons and Police Medical Officers and the Third Meeting of the Pan-American Association of Forensic Sciences. There are a number of reasons for participating in these Wichita meetings. The Police Surgeons (whom many of us never knew existed until Sacramento) were among our biggest supporters in Sacramento. Being right in 'on top' of crimes of violence, they deal with much of the same evidence we do and their familiarity with crime lab practices improves their work and can make ours easier and more productive. Some of our techniques (such as p30) were completely unknown to the police surgeons, and they are eager to learn what we've come up with since '82. There are several sections in which CAC participation would be specially rewarding: Drugs, Wounds and Injuries and Deaths. The Pan-American Meeting is the first since ours in 1982. We have shared a lot of resources with our South American colleagues since then and it would be nice to renew acquaintances. Since many of our forensic (read: drug) problems originate there, learning more about their enforcement situations can only help us. Wichita is a fine location for a meeting. The headquarters hotel has just been completely remodeled as a confer-

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INTERNATIONAL MEETINGS (continued)

ence center and there are many other excellent hotels nearby. Most important is the hospitality. Anyone who went to the IAFS meeting there in 1978 can vouch for the splendid effort put out by Bill Eckert and the law enforcement agencies of Wichita. Efforts are being made to keep registration and hotel costs to a minimum and there is a possibility of funding the participation of some speakers of special interest. Also there will be special air fares for travel from Vancouver to Wichita.

One of the problems of any big meeting is not having enough time to see many of the people "you've wanted to meet for years". With two such major meetings as this, you can get more time to discuss those technical problems and still not miss the sightseeing and social events. John DeHaan will be acting as Chairman of the Criminalistics Program for the Wichita meetings so please contact him with your ideas and suggestions. When you're planning your paper(s) for Vancouver, please consider coming to Wichita to keep the momentum going. Abstracts forms for papers are available from, and should be returned to, John Dehaan at BATF-Forensic Lab, Bldg. 233, Treasure Island, CA 94130. The Secretariat for both of the meetings in Wichita is

Secretariat - PAAFS
P.O. Box 8282
Wichita KS 67208 USA

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NORTH AMERICAN FORENSIC SEROLOGISTS ORGANIZATION PROPOSED

Recently several people have expressed an interest in forming an association of forensic serologists, the main purpose being the dissemination of various types of information. A group including a member from each of the regional societies in the United States and the Canadian Society, together with

Dr. R.C. Allen, Dr. Bruce Budowle and Dr. Moses Schanfield met to discuss means of implementation. The general feeling of this meeting was that, to start out, the thrust of the association should be to publish a newsletter, possibly on a bimonthly basis. It was the feeling of the group that the association should originally limit itself to the publication of the newsletter. Later other types of functions, such as planning workshops, assisting in programs for multi-regional and national meetings, etc., could be assumed by the organization.

A "folksy" format was proposed for the newsletter, for which a minimal annual charge would be required. The format could be as follows:

1. Short communications pertaining to methodology (one page or less).
2. Meeting announcements of interest to serologists.
3. Titles of articles of interest to serologists from various journals and regional society newsletters. (possibly even short abstracts)
4. Announcements of positions currently open and persons seeking employment.
5. Items of personal interest (i.e. marriages, births, etc.)

A questionnaire to assess the level of interest in this proposed association is enclosed with this newsletter. Please fill out the questionnaire and return to:

C.R. Longwell
SEMO Regional Crime Laboratory
SEMO State University
Cape Girardeau, MO 63701

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JOB OPENINGS

(Job openings are obtained from a variety of sources. Given publication deadlines and delay in receiving announcements from other parts of the country, some of the openings announced here may be filled by the time this Newsletter is received. Job announcements will normally be run only one time. Members actively seeking employment are encouraged to contact the editorial secretary for information about openings which become available between newsletters.)

TRACE EVIDENCE EXAMINER

An individual is sought to perform trace evidence examinations and supervise the section in the Northern Virginia Regional Laboratory. Contact Department of General Services, Bureau of Personnel, Ninth Street Office Building, Room 220, Richmond VA 23219. (804) 786-3910.

FORENSIC SCIENTIST II (Serologist)

An individual with a Bachelor's Degree and 3 years experience, or an equivalent combination of education and experience, in the performance of forensic serological examinations is sought for a position as forensic serologist. Contact Richard L. Tanton, Director, Palm beach Sheriff's Crime Lab, 3228 Gun Club Road, West Palm Beach FL. (305) 471-2220.

FORENSIC SCIENTIST II (Drug Chemist)

An individual with a Bachelor's Degree and 3 years experience, or an equivalent combination of education and experience, in the analysis of controlled drugs and narcotics is sought for a position as forensic chemist. Contact Richard L. Tanton, Director, Palm beach Sheriff's Crime Lab, 3228 Gun Club Road, West Palm Beach FL. (305) 471-2220.

CRIME LAB ANALYST - Microanalysis

Five positions are available in the fields of paint analysis (4) and hair-/fiber analysis (1). The positions are in laboratories in either Tallahassee or Orlando. A Bachelor's Degree and one year's experience is required. Contact FDLE Orlando Crime Laboratory, 500 West Robinson Street, Orlando FL 32801. (305) 423-6800.

FORENSIC SCIENTIST II (Toxicologist)

An individual with a Bachelor's Degree and 3 years experience, or an equivalent combination of education and experience, in the analysis of controlled drugs and narcotics is sought for a position as forensic chemist. Contact Richard L. Tanton, Director, Palm beach Sheriff's Crime Lab, 3228 Gun Club Road, West Palm Beach FL. (305) 471-2220.

POSITIONS WANTED

Graduate of University of Mississippi, B.S. Forensic Sciences, May, 1986. Internship New Orleans Crime Lab. James H. Stacy, P.O. Box 5822, University, Mississippi 38677. (504) 466-9168.

B.S. in Criminalistics and Internship at Chicago Police Department Crime Laboratory. Nicholas McNamara, 5424 Grace St., Chicago IL 60641. (312) 777-0756.

CAC BOARD OF DIRECTORS MEETINGS

All members are invited to attend these meetings. The current schedule is

October 7, 1986 - Palm Springs
January 15, 1987 - Orange County
March 19, 1987 - Orange County
May, 1987 - preceeding the Seminar

CERTIFICATION OF CRIMINALISTS

The CAC Board of Directors has prepared the following proposal to implement a process by which criminalists would be certified by the CAC. The Board solicits comments and will present the plan at the Business meeting during the Seminar in Palm Springs.

----- Procedure for Certification

by the

California Association of Criminalists

Whereas, the application of the natural sciences to the examination of physical evidence and the interpretation of law-science matters is of fundamental importance to the administration of justice, and;

Whereas, the membership of the California Association of Criminalists has expressed a desire to develop a program for the Certification of Criminalists,

Be it, therefore, resolved that the California Association of Criminalists shall establish, as set forth below, a procedure for formally establishing a Certificate of Professional Competency to be granted to those individuals who meet the qualifications and requirements herein set forth:

Article I: ORGANIZATION

A. The President of the California Association of Criminalists (hereinafter referred to as the President) shall appoint, subject to the approval of the Board of Directors, a Committee (hereinafter called the Certification Committee) to be a standing committee of the Association

B. The Certification Committee shall consist of six members of the Association, serving three-year terms.

Of the initial six members, two shall serve one-year interim terms, and two shall serve two-year interim terms. Committee members will not succeed themselves, and will not be re-appointed for at least three years following the end of their prior service.

C. Certification Committee members can only be removed from the Committee by termination of membership under Article II, Section 6, paragraphs (a), (b) and (c) of the by-laws of the Association. Termination of Association membership pursuant to those sections shall include termination of Certification Committee membership and the President shall, with the approval of the Board of Directors, appoint a new Certification Committee member to fill the vacated seat.

D. The Certification Committee shall have the general responsibility of administering the Certification program, in addition to those specific responsibilities designed in Articles II through VII, below.

E. Members of the Certification Committee and Board of Examiners shall serve without compensation, except for actual expenses.

F. The Certification Committee may, on its own initiative, or at the request of Board of Examiners, and with the approval of the Board of Directors, retain such professional, technical or clerical assistance as it deems necessary to perform its function as outlined below.

Article II: QUALIFICATIONS OF APPLICANTS FOR CERTIFICATION

A. All applicants shall be Members of the Association, as defined in Article

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CERTIFICATION (continued)

le II, Section 1(a) and Article II, Section 2(a) of the by-laws of the California Association of Criminalists.

B. Occupational Qualifications

1. All applicants shall be employed in a professional capacity in a laboratory primarily engaged in the examination of physical evidence and technical consultation for litigation purposes.
2. The applicant's principal activity must be (a) the examination of physical evidence, (b) interpretation of data, or (c) technical consultation.

C. Educational Qualifications & Experience

1. Applicants shall hold an earned baccalaureate or higher degree in a natural science from an accredited college or university.
2. In addition, all applicants shall have a minimum of 5 years experience pursuant to Article II, Section B, above, or equivalent experience acceptable to the Certification Committee.
3. The Certification Committee may, with the approval of the Board of Directors, establish such additional criteria for education and/or experience as they deem necessary.

D. The Certification Committee shall review the applicant's qualifications under Sections A, B and C above, and shall accept or reject the application for Certification based upon the criteria in these sections.

E. In the event the application for Certification is rejected, the Certification Committee shall provide the applicant with a written statement

outlining the reason for such rejection.

F. If the application is accepted, the applicant thereby becomes a Candidate for the Certification Examination, pursuant to Article III., below.

Article III: CERTIFICATION EXAMINATION

A. Board of Examination: This Board shall be composed of a number of members of the Association determined by the Certification Committee who meet the guidelines set forth in Article II.

1. Composition: The composition of the Board of Examination shall be determined as follows:

a. Each member of the association may nominate no more than 3 Members for the Board of Examination. Such nominees shall not be from the member's current laboratory of employment.

b. From the list of nominees a ballot shall be prepared which contains a number of nominees equal to twice the membership of the Board of Examination. These nominees will be selected based on the total number of nominations. In a secret ballot, each member shall vote for no more than the total number of members on the Board of Examination. The Board of Examination shall be composed of those nominees with the most votes.

c. The candidate receiving the most votes shall be named chairman. Subsequent seniority shall be based on the number of votes received.

d. In June of each year the Board

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CERTIFICATION (continued)

of Directors shall replace the most senior member of the Board of Examination by election from a list of three names submitted by the Certification Committee.

(1) For the first four years of its existence such replacement shall be made of the members with least seniority based on the original vote.

(2) Other vacancies on the Board of Examination shall be filled in the same manner.

2. Function: The function of the Board of Examination will be to define the level of competence to be certified and to devise the written examination necessary to measure that level of competence.

B. The certification examination shall include the following general subject areas:

1. The philosophical, conceptual, and scientific basis of Criminalistics.

2. Basic technical subjects of criminalistics.

3. Specific technical procedures.

4. Ethics

5. Those appropriate areas of Civil and Criminal Law

C. The examinations shall be given to applicants by the Board of Examination meeting at such locations and frequency dictated by applications for certification.

D. The Board of Examination shall score the test of each Candidate. Any section of the test not scorable on a strictly objective basis shall be

scored independently by at least three members of the Board of Examination.

E. The numerical results of each Candidate's examination shall be forwarded to the Certification Committee within 60 days of the administration of the examination.

F. Custody of the examinations shall be with the Board of Examination. The Board of Examination shall make available, under supervision of one of the members of the Board of Examiners, to any Candidate who fails to pass the examination, a copy of the examination, together with the Candidate's answers and scores on each section. The Candidate shall have 90 days from the time of notification of failure to review examination.

G. Six months after each test is given, the Board of Examination shall automatically destroy all tests, unless otherwise instructed by the Certification Committee.

H. Unsuccessful candidates may repeat the examination again at any time it is scheduled, provided all requirements of Article II, above, are still met.

I. The certification committee shall determine the frequency and manner of recertification.

ARTICLE IV: GRANTING OF CERTIFICATION

A. All applicants who successfully complete the requirements of Articles II and III above, will be issued an appropriate Certificate by the Certification Committee.

Article V: APPEALS

A. Any applicant whose application is rejected under Article II, above, has

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CERTIFICATION (continued)

the right to appeal such rejection at the next meeting of the Certification Committee, which shall be no longer than six months after the date of such rejection. The applicant must present his appeal personally, together with any necessary documentation. If the appeal is rejected by the Certification Committee, the reasons for such rejection shall be provided in writing to the applicant.

- B. The applicant who fails to successfully complete the Certification Examination may not appeal, unless a clerical error in the computation of the score has been made. Such appeal shall be made to the Certification Committee.
- C. All decisions of the Board of Examination and Certification Committee shall be considered as final.

Article VI: FEES

- A. The fees to be charged for application, examination and certification shall be set by the Certification Committee and approved by the Board of Directors.

CAC Certification Questions and Answers

James Norris
CAC President

The above document sets forth the details of how certification will be administered. It doesn't address the reasons for certification, or give details about why certification is desirable in this form.

I'd like to address some of these questions, so that all members will understand, and hopefully support, this effort.

Q: Why do we need certification by the CAC?

A: Many people believe that some form of certification will enhance the professional reputation of Criminalists and, possibly, help identify those individuals who need additional training in various areas of the profession. Others may not care about these issues, but realize that certification is coming. If we don't do it, the State of California may well do it for us. Which is better, a certification plan that we control, where the Board of Examiners is elected by us, or one that is imposed on us by a governmental agency.

Q: Why now?

A: Forensic science, and Criminalistics in particular, is coming under increasing scrutiny. It is likely that some form of certification will come about in the near future. We still have time to act to build a program that is acceptable and fair to everyone, but we must act soon.

Q: Who will be grandfathered in under the proposed plan?

A: No one, not even the Board of Examiners. Everyone will have to take the test, if they wish to be certified.

Q: Who will prepare the test?

A: The Board of Examiners will be asked to hire a professional testing service to prepare and administer the test. The Board of Examiners will oversee the preparation of the test to ensure that it is relevant and fair.

Q: What areas will the test cover?

A: Five areas will be covered. See Article III, B of the proposed procedure for specific details.

Q: What kind of test will this be? What materials should I study?

A: The test will be written. The Board of Examination will be asked to

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CERTIFICATION (continued)

prepare a list of references or a syllabus so that everyone will know what areas to study.

Q: Why not certify people in various specialty areas of Criminalistics?

A: We anticipate doing just that. Once an individual is certified as a Criminalist, he/she would be able to attempt to qualify to be a certified specialist in one or more specific areas of Criminalistics. The additional qualifications and testing procedures would be developed at a later date. Remember, that Criminalistics is a lot more than just specific technical procedures. It is these other aspects of the profession, as well as some relevant technical aspects, that will be covered in this first phase of certification.

Q: How much will it cost?

A: Since the test will be written, and the Board of Examination will only be paid for out of pocket expenses, the cost should be relatively modest.

Q: Will I ever have to be re-certified?

A: Under the present plan, the Certification committee will determine the frequency and manner of any recertification. One method might employ continuing education requirements.

Q: I'm not a CAC member, will you certify me?

A: No, we plan only to offer this service to our members. Besides wanting to make certification a benefit of membership, CAC members have agreed to abide by the CAC Code of Ethics. Certification and the Code of Ethics are inseparable.

Q: I only work in one area of Criminalistics, how can I be certified if the test covers areas of the profession that I'm not all that familiar with?

A: The test will be written. By read-

ing the literature and studying the references supplied by the Board of Examination, you can brush-up on the areas that you are less familiar with.

Q: If I'm not certified, will I still be able to testify in court?

A: Experience in other fields indicate that certification will go to the weight, not acceptance of your testimony.

Q: Why the five year experience requirement?

A: By and large, there are no internships or other formalized training programs after college in criminalistics. The five year requirement allows individuals time to reach the journeyman level. This plan is then designed to certify you as a journeyman criminalist.

Q: Will this plan remove incompetents from the field?

A: To some extent yes, however one need only look at the legal profession, with its Bar Examination, to realize that no testing procedure can remove all incompetent and/or unethical practitioners.

Q: What do I get out of all this?

A: Two main things. It will probably be easier for certified criminalists to qualify as experts in court. More importantly, certification will cause us to be perceived as "more professional" by the other professions we deal with.

Q: How will the certification process be carried out?

A: This plan will be reported on at the October Seminar in Palm Springs. The certification committee will then be appointed and arrangements will be made for the nomination and election of the Board of Examination.

Finally, if you have any further

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CERTIFICATION (continued)

questions, comments, or whatever, please contact me, or another member of the Board of Directors, prior to the October

meeting. We want all members to fully understand this plan and welcome your suggestions.

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The Austrian Connection

The Contributions of
Landsteiner, Pregl, and Gross

J.I. Thornton and E.O. Espinoza
Forensic Science Group
Department of Biomedical and
Environmental Health Science
University of California
Berkeley, CA 94720

The highest honor in science is universally acknowledged to be the Nobel Prize. There have in fact been two recipients of the Nobel Prize by individuals with a decided forensic bent; both were contemporaries, and both were Austrian.

Neither of them, during their respective lifetimes, would have labeled themselves "forensic scientists" to the exclusion of other disciplines, but an examination of their professional activities and areas of research clearly demonstrates their interest over a long period of time in forensic problems. Forensic scientists of the present age can, without straining credulity in the least, point to the forensic contributions of these two great men as an indication of the serious regard they gave to forensic work.

Of the two, the name of Karl Landsteiner is the more familiar. Landsteiner was born in Vienna in 1868. From 1898 to 1908 he was an assistant at the Pathological Anatomical Institute at

the University of Vienna, and from 1908 to 1919 he was Posektor (Chief Pathologist) at the Wilhelminen Spital in Vienna. The forensic significance of his discovery in 1900 of isohemagglutination is patent; both the blood group typing of dried stains and paternity typing stem directly from Landsteiner's work. He received the Nobel Prize in Medicine in 1930. What may not be appreciated by many forensic scientists at the present time is that Landsteiner himself understood the implications of his work to forensic problems. In 1903, only three years after the publication of his initial paper dealing with blood types, Landsteiner made pointed reference to the application to his new serology to "forensic practice" [1].

Nor was this a transient interest on the part of Landsteiner. He continued until his death making comments on the forensic application of blood groups [2-5]. He was no stranger to the forensic

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THE AUSTRIAN CONNECTION (continued)

journals, and published in the American J. of Police Science and the Deutsch Z. ges. gerichtl. Med.

Fritz Pregl, another Austrian, was born in 1869. He was awarded the Nobel Prize in Chemistry in 1923 for his work in the development of microchemical methods of analysis. In common with Landsteiner, Pregl's training was as a physician, and like Landsteiner, Pregl studied for a time under Emil Fischer in Berlin. Microchemistry was Pregl's principal interest, however, and with the exception of two short periods at Leipzig and at Innsbruck, he taught microchemical analysis at the University of Graz, Austria, from 1904 until his death in 1930. His work on the adaptation and refinement of microscale methods to classical organic analysis was, and is, of enormous significance to problems of pure chemistry, physiology, medicine, toxicology, industry, and forensic science.

Although an energetic researcher, Pregl was shy about publishing his observations. His classic Die quantitative organische Mikroanalyse [6] was published in 1917, but it principally fell to his students to describe many of these methods in the open literature. (Parenthetically, the 4th English edition of Pregl's 1917 work was edited by Julius Grant, a name which will of course be instantly recognized within the forensic community). A point which many forensic scientist have missed, however, is that for the last ten years of Pregl's life he was actively engaged in research dealing with forensic chemistry [7], and was the medical examiner for the city of Graz [8].

Pregl is not the only name connected with forensic science that emerged from Graz. Graz was also the home of Hans Gross, to whom some have attributed a unique roll in the history of forensic science. The person responsible for coining the word criminalistics, Gross studied law and later served as the

examining magistrate at Graz. In 1893 he published a textbook dealing with police science and the phenomenon of crime. This text, entitled Handbuch fur Untersuchungsrichter, als System fur Kriminalistik continued to be published into the second half of the 20th Century under the shortened title of Handbuch fur Kriminalistik or by the English title Criminal Investigation [9]. Gross was also the editor of the first forensic journal, which began publication in 1898 under the titled Archiv fur Kriminalanthropologie und Kriminalistik; in 1916 the title was changed to Archiv fur Kriminologie. The principal contribution of Gross to forensic science was his recognition that problems of physical evidence could be approached as scientific problems rather than as police problems. Within the small professional community of Graz in the early 20th Century, and principally in view of the fact that Gross was the criminal magistrate and Pregl the medical examiner, it is very likely that Pregl and Gross had some professional contact.

These three individuals, whose interests were so closely aligned with those of forensic scientists of today, contributed a legacy of their uncommon talents to the practice of forensic science as we know it today. Because they were exceptional people in their own right, they helped establish a quality ethic to forensic work. All the world owes them respect as forensic scientists, we owe them our gratitude as well.

References

- [1] Landsteiner, K., and Richter, M. Ueber die Verwertbarkeit individueller Blutdifferenzen fur die forensische Praxis. Z. Medizinalbeamte 16:85-89 (1903).
- [2] Landsteiner, K., and Levine, P. The application of blood groups in forensic medicine. Am. J. Police Sci. 3:157-158 (1932).

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THE AUSTRIAN CONNECTION (continued)

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ANTI-SPERM ANTIBODIES

Appellate Court Upholds Use Technique

What follows is the portion of the appellate court decision that deals with the scientific evidence in this case.

Appeal from the United States District Court for the Central District of California. Honorable Pamela Ann Rymer, District Judge, Presiding. Argued and Submitted January 9, 1986- Pasadena, California.

Before: WALLACE, FARRIS and NORRIS, Circuit Judges. FARRIS, Circuit Judge:

At about 5:00 p.m. on January 11, 1982, twenty-three year-old Robin Bishop departed Los Angeles driving alone to her home in Las Vegas. AT 9:23 p.m. on the same date, defendant George Michael Gwaltney, then an officer with the California Highway Patrol, reported by radio that he had discovered a woman's body beside a frontage road just off Interstate 15 some 30 miles northeast of Barstow, California. Robin Bishop had been Killed by a single bullet that entered the back of her head. Bruises on her wrists indicated that she had been handcuffed ten to twenty minutes

before she died. Autopsy revealed fresh semen in her vaginal cavity.

Two state-court murder trials in which Gwaltney was defendant culminated in hung juries. A federal indictment was thereafter returned charging that Gwaltney, acting under color of law, wilfully assaulted and shot Bishop, thereby causing her death and violating her constitutionally protected right not to be deprived of live or liberty without due process of law. 18 U.S.C. 242. Gwaltney pleaded not guilty and the matter proceeded to trial. On May 10, 1984, after six weeks of trial and one day of deliberation, a jury found Gwaltney guilty as charged. On June 25, 1984 the district court entered judgment on the verdict and committed Gwaltney to Prison for a period of ninety years, "the defendant to become eligible for parole pursuant to 18 U.S.C. 4205(b)(1)

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ANTI-SPERM ANTIBODIES (continued)

[after] serving a minimum term of 30 years." Gwaltney filed a timely notice of appeal on July 2, 1984. Fed. R. App. R. 4(b). He Challenges the conviction and the sentence.

The district court had original jurisdiction pursuant to 18 U.S.C. 3231. Jurisdiction in this court is based on 28 U.S.C. 1291.

THE CONVICTION

I

At trial the government adduced considerable evidence concerning the characteristics of defendant's semen, the semen removed from Bishop's Vaginal cavity during autopsy, semen stains found on the back seat of the patrol car driven by Gwaltney on the night of the murder, and semen stains found on the blue jeans worn by Bishop on the night of her death. Analysis of the semen removed from Bishop's vaginal cavity revealed that the donor had type A blood and secreted his typing antigen into his semen. It is undisputed that some 29% of the male population are type A secretors. Dried semen found on the back seat of the patrol car was also found to have been donated by a type A secretor, as was the dried semen found on Bishop's blue jeans. An enzyme found in the semen of 40% of the population, PGM 1+1+, was also identified in the semen stain found on the back seat of the patrol car. According to undisputed expert testimony, the occurrence of this enzyme is independent of blood type and secretor status. Analysis of a semen sample taken from Gwaltney revealed that he is a type A secretor exhibiting the PGM 1+1+ enzyme. Additionally, Dr. Edward Blake, the prosecution's forensic serologist, testified that using a relatively new procedure known as an immunobead assay, he detected anti-sperm antibodies in a sample of Gwaltney's semen, as well as in the semen stains found on Bishop's jeans and on the back seat of the patrol car. According to the testi-

mony at trial, anti-sperm antibodies occur in less than 5% of the male population.

Gwaltney contends that no evidence concerning detection of anti-sperm antibodies should have been admitted for any purpose as the government failed to demonstrate that the principle upon which such evidence was based was "sufficiently established to have gained general acceptance in the particular field to which it belongs." *United States v. Kilgus*, 571 F.2d 508, 510 (9th Cir. 1978), quoting *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923). Additionally, he contends that the trial court erred in admitting statistical evidence concerning the percentage of the population sharing Gwaltney's seminal characteristics as such evidence was confusing to the jury and unduly prejudicial.

A.

The general test regarding the admissibility of expert testimony is whether the jury can receive "appreciable help" from such testimony. *United States v. Solomon*, 753 F.2d 1522., 1525, (9th Cir. 1985). See also *United States v. Awkard*, 597 F.2d 667, 669 (9th Cir.), cert. denied, 444 U.S. 885 (1979) and 444 U.S. 969 (1979); *United States v. Amaral*, 488 F.2d 1148, 1152 (9th Cir. 1973). Testimony concerning the results of a fundamentally unreliable test procedure is of scant value to a jury. See generally *United States v. Downing*, 753 F.2d 1224, 1237-39 (3d Cir. 1985). The trial judge "has wide discretion in determining whether particular scientific tests are sufficiently reliable to permit expert testimony based upon their result." *United States v. Bowers*, 534 F.2d 186, 193 n.7 (9th Cir.), cert. denied, 429 U.S. 942 (1976). See also *Solomon*, 753 F.2d at 1525 ("The necessary balancing of the probative value of the evidence against its prejudicial effect

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ANTI-SPERM ANTIBODIES (continued)

is committed to the discretion of the trial court."). Her decision to admit evidence concerning anti-sperm antibodies will not be disturbed unless "manifestly erroneous." See *Salem v. United States Lines Co.*, 370 U.S. 31,35 (1962). See also *Hambling v. United States*, 418 U.S. 87, 108 (1974); *United States v. Falsif*, 724 F.2d 1339, 1341 (9th Cir. 1983).

We agree that as the immunobead assay has yet to gain general judicial recognition, "the proponent of such evidence has the burden of laying a proper foundation showing the underlying scientific basis and reliability of the expert's testimony." *United States v. Marshall*, 526 F.2d 1349,1360 (9th Cir. 1975) cert.denied,426 U.S. 923 (1976). See also *Falsif*, 724 F.2d at 1341 ("The burden of laying a proper foundation showing the underlying scientific basis and reliability of expert testimony is on the proponent of such evidence."). Having reviewed in meticulous detail the transcripts of the pretrial hearing on Gwaltney's motion to exclude and the government's lengthy offer of proof at trial, we conclude that the government presented ample evidence that the immunobead assay is sufficiently reliable to warrant admission of Dr. Blake's testimony concerning the detection of anti-sperm antibodies.

Gwaltney did not contest the validity of the antibody theory expounded by the government's experts. The testimony of Dr. Blake, together with that of Dr. Richard Bronson, established the scientific basis underlying the immunobead assay procedure. To the extent Gwaltney complains of the application of the procedure in this instance, he does so in the wrong forum. Criticism of the application of a valid test in a particular instance bears on weight, not admissibility. *Bowers*, 534 F.2d at 193-94. Gwaltney had ample opportunity to cross-examine the government's experts concerning the controls employed by Dr. Blake and to present conflicting expert

testimony. The jury was properly instructed to give the expert testimony such weight as it deserved.

B

Gwaltney's contention that the government impermissibly established his identity "by mathematical formula," is without merit. He "has no quarrel with the statistical evidence that he was part of the 29% of the population who are Type A secretors or that his PGM 1 plus 1 [sic] group constitutes 40% of the population." Instead, he contends that the court erred in admitting testimony that these independent characteristics occur together in only 12% of the male population. While "the interjection into the criminal trial process of sophisticated theories of mathematical probability raises a number of serious concerns," *United States ex rel. DiGiacomo v. Franzen*, 680 F.2d 515, 518 (7th Cir. 1982), Gwaltney has not suggested how simple multiplication of the percentages of the population sharing the seminal characteristics exhibited by Gwaltney was so potentially confusing or misleading as to require exclusion. Statistical evidence is not inadmissible per se. See, e.g., *United States v. Kennedy*, 714 F.2d 986,971 (9th Cir. 1983), cert. denied, 465 U.S. 1034 (1984); *Scott v. Perini*, 662 F.2d 428, 430 (6th Cir. 1981), cert. denied, 456 U.S. 909 (1982). Any potential prejudice was not so pronounced as to render admission of the testimony an abuse of discretion, particularly in light of the instruction given by the trial judge concerning the permissible use of this evidence. Nor is there any record support for Gwaltney's implication that the government employed the statistics in an attempt "to assign a number to the probability of guilt or innocence." *People v. Collins*, 68 Cal. 2d 319, 330, 438 P.2d 33, 40, 66 Cal. Rpts. 497, 504 (1968). The prosecution did not argue, or even obli-

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ANTI-SPERM ANTIBODIES (continued)

quely suggest, that the percentage of the population sharing the seminal characteristics exhibited by Gwaltney could in any way be used to predict the "odds" that Gwaltney was Guilty.

Gwaltney further contends that reversal is warranted because the prosecutor, in violation of the trial court's instructions, multiplied the 12% figure by the 5% of the population believed to have antisperm antibodies thereby further limiting the class of individuals who could have contributed the semen found on the seat of the patrol car. During closing argument, the prosecutor suggested the multiplication to the jury, though he did not perform it explicitly:

The defendant is in a group of 12 percent of the population when you take the Type A blood and the PGM 1 plus 1 plus that could be responsi-

ble for the semen on that patrol car seat, and he is in 5 percent of that 12 percent that have the antisperm antibodies, and those are independent variables, as you learned.

The suggestion is neither misleading nor confusing. Nor does the context betray an attempt by the government to reduce the ultimate question of innocence or guilt to one of mathematical probabilities. Whether the prosecutor violated an explicit instruction from the trial judge is a matter between judge and prosecutor. It does not infect the conviction. It was not plain error for the trial judge to allow this argument in the absence of a defense objection.

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