



California Association of Criminalists

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TO THE APPROPRIATE OFFICER

NEWSLETTER - OCTOBER, 1973

CAC Meetings

Fall '73 Seminar - The 42nd semi-annual Seminar co-sponsored by SRI and the Department of Justice is in the final stage of preparations. The three day meeting will be held October 18, 19 and 20 at SRI in Menlo Park. Technical papers by criminalists, SRI, and other scientists, promise to stimulate your interest, whether you are interested in criminalistics in general or in one of the specialties. The banquet speaker, a leading expert in his field, will speak on a topic of general interest. Arrangements for accommodations and the business meeting have been made with Rickey's Hyatt House in Palo Alto. This motel, a short distance from SRI, is one of the peninsula's finest.

Spring '74 Seminar - The 43rd semi-annual Seminar will be held at the Hotel Queen Mary in Long Beach, hosted by Seminar Chairman Martin Klein of the Long Beach Police Department.

Fall '74 Seminar - The 44th semi-annual Seminar will be held October 24, 25 and 26, 1974 at the Claremont Hotel in Berkeley. Hosted by the Criminology Department, University of California.

Other Meetings of Interest

American Chemical Society/Society of Applied Spectroscopy 1973 Pacific Conference on Chemistry and Spectroscopy is being held November 1-3, 1973 at the Town and Country Hotel and Convention Center, San Diego. With 243 papers being presented, this will be one of the largest Pacific conferences on record. The Forensic Chemistry Symposium will be held on Thursday afternoon, November 1, Chairman, Charles V. Morton. Many other papers of interest to this association will be presented throughout the three day meeting. Registration information can be obtained from Mr. James K. Baker, 8225 Aero Drive, San Diego, Ca., 92123.

Past Meetings

International Association of Coroners-Medical Examiners met in Las Vegas, Nevada, June 17-22, 1973. Wes Summerfield has requested a copy of the abstracts of papers presented, and if received will be published in the next newsletter.

The Southern Association of Forensic Scientists met September 21-22, 1973 at the Sonesta Beach Motel in Key Biscayne, Florida. The following papers were on the program:

Pyrolysis-Gas Chromatography, Dr. E. Levy, Chemical Data Systems.
Recent Clandestine Labs in No. Carolina, J. Dismukes, N.C. Crime Lab.
Toxicology of para Methoxy Amphetamine, Jones & Slighten, Ga. Crime Lab.

Ident. of Blasting Caps by Pyrol.-GC, Dr. P. Weinman, ATF Lab, Washington, D.C.
Bomb Familiarization, Thomas Brodie, Miami, Fla.
Forensic Applications of the CP6 Image Projector, Fred Weiner, EPOI.
Analysis of Safe Insulations, Mel Brewer, Miami, Fla.
Distinguishing Phenmetrazine & Phendimetrazine, A. Allen, DEA, Miami Lab.
Soil Analysis Symposium, R. Parian, Ga. Crime Lab (Moderator); V. Koziatek, Army Crime
Lab; D. Nute, FDLE Crime Lab; D. Philen, N.C. Crime Lab; V. Stygels, Mich. State Univ.
Deter. Demerol in Biolog. Material Using Gas Chromatography, Dr. G. Kananen, Hewett-Packard.
Compar. Blood Alc. Anal. by Field Breath Kits, Dr. D. Stafford, Toxicol. Lab. Univ. Tenn.
Fatal Poisoning, MDA & Demerol, D. Akin, Tenn. Dept. Public Health.
Spectrophotometric Carbon Monoxide Analysis, L. Sheplin, Alabama Dept. Toxicology.
Acute Amphetamine Death: Case Report, J. Jones, Georgia Crime Lab.

Comparison of Lead Analyses, J. Small, Montgomery, Ala.

Deter.

Simple Method for Routine Absorption-Inhibition, G. Duncan, Broward Co. Crime Lab.
England Debriefing, J. Clark, FDLE Crime Lab.
Absorption-Elution Method for Blind Studies by AOAC, C. Thomas, Miami, Fla.
Group Discussion of AAFS Serology Workshop, C. Thomas, Miami, Fla.
Aerospace Corp. LEAA Bloodstain Analysis Study, G. Denault, Aerospace Corp.

Announcements

Charles M. Wilson, a member and one of the first out-of-state supporters of this Association, has passed away. President Ragle sent a letter to Mrs. Wilson on August 28, 1973, expressing the sorrow of the members of this Association. The Board of Directors of the Association has directed that a suitable book, dedicated to his memory, be donated to the Paul L. Kirk Criminalistics Library at U.C., Berkeley. The title of the selected book will be announced to Mrs. Wilson, Mrs. Kirk, and the membership as soon as it has been selected.

The Regional Directors (Horikoshi-North; Cranston-South) are presently in the process of developing up-to-date regional mailing rosters. Members are requested to submit names of non-members who wish to be on regional mailing lists and any member's address corrections to their regional director. This will help to facilitate regional mailing and hopefully establish a better and more predictable attendance at regional meetings.

Members are reminded that if they make reservations to attend a local meeting and then do not show up the Association may have to pay for the dinners not served. If this problem gets out of hand it may require deposits from those who indicate they will attend, or some other undesirable remedy. It is hoped that firming up the mailing lists and making sure they get out well in advance of meetings will eliminate this problem. The main goal is not to more rigidly structure local meetings, but to make them as valuable to the membership as possible without burdening the Association with unnecessary expenses.

Those of you who failed to show up at the September meeting in the South missed a very interesting presentation on Human Leukocyte Antigens by Dr. Ting, as well as a very rare (sic!) bit of Veal Cordon Bleu.

President Ragle has appointed Robert Cooper as Chairman of the Nominating Committee. Members are urged to submit nominations for offices to Bob before the Fall Seminar. Other members of the Nominating Committee will be selected from members in attendance at the Seminar.

President Ragle announced that all committees of the Association are to meet for one-half hour after the technical session and before the Board of Directors meeting on October 18, 1973. The time and location will be announced during the technical sessions. Members are encouraged to submit ideas to and attend committee meetings which are of interest to them. The committees are only devices for getting things done. The ideas and attitudes of all of the members of this Association are necessary to establish directions and goals of the Association.

Positions Open

Criminalistics Educator - A faculty position is now available for a criminalist at Florida Technological University, Orlando, Florida, to assist in the planning for and development of a new B.S. degree program in Forensic Science. This position has potential to become a full time faculty position in September 1974. New laboratory and lecture facilities have been designed to house the program. The applicant should have a broad background in criminalistics, including courtroom experience testifying to some type of criminalistics examination; at least a B.S. or B.A. degree; and some previous teaching experience (e.g. university, community college or police academy). Position will require teaching and some research. Academic rank and salary are subject to negotiation. Please reply to W.W. McGee, Director, Criminalistics Project, Forensic Science Teaching Laboratory, Florida Technological University, P.O. Box 320, Sanford, Florida, 32771. Equal Opportunity Employer M/F.

Firearms Examiner - The State of Illinois, Bureau of Identification, is seeking the services of an experienced firearms examiner. The educational requirements are a B.S. with major courses in criminalistics, chemistry, biology or physical sciences. Three years of experience are required in the specific area of firearms and tool mark examinations. The position is a supervisory level position and requires the ability to conduct training programs and otherwise provide for the professional development of a subordinate staff. Annual salary range is \$13,080 to \$17,988, plus a full benefit program. Interested individuals should contact Gary D. McAlvey, Superintendent, or Theodore R. Elzerman, Assistant Superintendent, Illinois Bureau of Identification, 515 East Woodruff Road, Joliet, Illinois, 60432.

Technical Notes and Abstracts

Letter from Burroughs Wellcome Co., 3030 Cornwallis Rd., Research Triangle Park, N.C. 27709, to Wes Summerfield:

"Several months ago you inquired about the availability of a latex reagent for human globulin detection. I have obtained some samples from our Associated House in England. These are not available commercially on a routine basis; however, our research staff feels they would be suitable for marketing. I would be grateful if you would allow me to send you two or three ml. of this reagent for testing against your control sera from various animal species. I have enclosed an interim direction circular for using the latex reagent. I will be pleased to send you the material as soon as I hear from you. With kindest regards. Sincerely yours, Max D. Moody, Ph.D., Technical Director, Wellcome Reagents Division."

Latex Reagent for Human Globulin Detection - Method of Use

Blood - Cut out a small piece of stained cloth approximately equivalent to 5 mm length of thread and extract in 3-4 drops of glycine - buffer for about 30 minutes or until a very pale straw color is obtained. (If the stain is only a few days old, sufficient blood may be extracted in a shorter time than this, or alternatively if the stain is very old, i.e. several months or years, a longer period of extraction will be required, perhaps leaving for several hours, in order to obtain a pale colored extract. The same may be true of fresh stains that have been denatured or rendered nearly insoluble by some agent, eg. heat). Add one drop of the extract to one drop of latex on a glass plate and mix with a wooden spatula. Rock gently for 2-3 minutes and read against a dark background. A positive result will be indicated by aggregation of the latex particles easily visible with the naked eye. Positive controls using diluted serum of the appropriate species and negative controls using glycine buffer and cloth extract must always be included. One may also check the stain extract against a variety of species sensitized latex.

Tissue - For the examination of meat or tissue the samples are ground with five volumes of 0.8% saliva, centrifuged if necessary, fat extracted and clarified by membrane filtration prior to mixing with latex.

For those members who were not at the spring Seminar in San Diego, the abstracts of papers presented are attached to this newsletter.

Job Openings: Dr. Naresh Jain, Rancho Los Amigos Hospital, 7601 E. Imperial Hwy., Downey, CA, 90242, (Phone: (213) 922-7428) is looking for personnel to fill several openings in toxicology for a Mass Urine Drug Testing program for Los Angeles County.

Job Wanted: Mr. Mohimder Jerath has received his degree from Michigan State and is interested in a position in Criminalistics or Toxicology. Anyone who has or will have such an opening is requested to send info. to: Mohimder Jarath, c/o P. Roudoni, 2400 Sierra Blvd. #73 Sacramento, CA.

Jones and Bashinski (Professional Papers Committee) have requested that members submit their ideas on what constitutes a "professional paper" in this Association. Questions to be considered involve presentation of papers at meetings, qualification for elevation of membership, and publication in the Journal.

The President-Elect, John Thornton, will act as committee "whip" or coordinator in order to insure more productive committee work and member involvement.

The Past-President will act as Seminar Coordinator to ensure that Seminar Chairmen are kept aware of the problems and responsibilities involved in putting on a Seminar.

Members are requested to respond as soon as possible to the vitae up-date forms which will be included with this year's billing for dues. In the future the Membership Secretary will note membership status and committee assignments as they are made, but it is presently not practical to try to extract this information from past records of the Association

The Department of Justice is putting on five courses (see Board of Directors minutes), some of which have already received approval for POST funding.

Members with suggestions for workshops to be put on by or in conjunction with the Association are requested to submit these in writing to the Training Resources Committee (Longhetti, Chairman).

Walter Birkby announced that a new toxicology program has been started at the University of Arizona. He also indicated the hope that the program would eventually expand into other criminalistics areas.

The following are tentative host schedules for regional meetings:

North

November 1973	Sacramento Sheriff's Office
January 1974	Oakland Police Department
February 1974	San Mateo Sheriff's Office
March 1974	Contra Costa Sheriff's Office
May 1974	San Mateo Coroner's Office
June 1974	Institute of Forensic Science
July 1974	San Francisco

South

November 16, 1973	Riverside, DOJ Lab
December 14, 1973	L.A. County Coroner-Medical Examiner

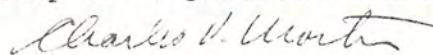
Books and Publications

"Cross-Examination of Chemists in Narcotics and Marijuana Cases," J.S. Oteri, et al, in Contemporary Drug Problems, Vol. 2, #2, pp. 225-238, Summer 1973. (Submitted by Peter Jones).

Science Against Crime, by Stuart Kind and Michael Overman, Doubleday, 1972, 149 pages with many illustrations, \$7.95. This book is an excellent overview of the field of physical evidence examination. It is well illustrated and written for the lay reader. Its major drawback is that it draws on the British experience. The book covers most common types of physical evidence with some discussion of laboratory methods, but it is in no way a textbook. The book discusses the significance of results and the oftentimes limited conclusions on evidence comparisons. It is up to date in that it includes enzyme blood grouping, laser beam spectrographic analysis, NAA. This book satisfies the need for a book that makes a comprehensive survey of the field without being a textbook. Reviewed by Robert G. Cranston.

Moenssen's, Moses and Inbau have a new book out entitled, Scientific Evidence in Criminal Cases. If I receive a copy before the next newsletter, or if someone who has a copy reviews it, a review will be printed in the next newsletter.

I would like to thank all of the members of the Association who have taken the time to submit contributions to this newsletter. I wish it was practical to thank each one individually for the effort to keep this organization a vital one.



Charles V. Morton
Recording Secretary

THE FORMATION OF BLOODY FINGERPRINTS

AUTHOR:
Jan S. Bashinski
Oakland Police Department

On occasion in cases involving bloody fingerprints, a question will arise as to whether the bloody ridge structures represent a print made by a bloody finger or whether they have resulted from the deposit of blood on top of an already present latent fingerprint. Experiments were conducted to determine what type of information about the mode of origin of bloody fingerprints could be obtained from a study of the distribution of blood in the ridges and furrows of the latent print.

Although the results were not always reproducible due to the obviously large number of variables involved, a few generalizations could be made about the manner in which structures which appear to be fingerprint ridges can be formed with blood.

The most striking observation in this series of tests was the finding that ridge structures in a latent fingerprint can be "developed" by being streaked over with a suitable bloody object. Even though the bloody "ridges" on the surface can be shown to actually represent furrows in the latent print, this type of print "developed" in blood could be mistaken for a "bloody fingerprint".

ALCOHOL ANALYSIS BY THE AUTOMATIZER

AUTHOR:
Brandon H. Armstrong
Robert T. Ekhaml
San Diego County Sheriff's Department

When you are a laboratory which decides to use a relatively new system for forensic analysis of alcohol, there are several considerations and several problems. One consideration is whether the system will provide a more efficient and economical method for analysis. A second consideration is the ease of access to the company for consultation and assistance.

One must be ready for some operational difficulties inherent in a system not tried and proven by many tests in many laboratories over extended periods of time.

Through everything, there is a constant need to convince, reconvince, assure and reassure your own organization about all aspects of the instrument.

Specific aspects of operation will be discussed.

AUTOMATICALLY INJECTED GC ANALYSIS OF BLOOD ALCOHOLS

AUTHOR:
Sharon Lynch
Los Angeles County Chief Medical
Examiner-Coroner Toxicology
Laboratory

For over the past year, the Los Angeles County Chief Medical Examiner-Coroner Toxicology Laboratory has been using an improved method of alcohol analysis based on an

automatically injected gas chromatograph. The gas chromatograph system, two methods of sample preparation, and our experiences with the system will be presented and discussed.

SPECIFICITY IN INFRARED BREATH ALCOHOL ANALYZERS

AUTHOR:
Richard A. Harte
Omicron Systems Corporation

With the introduction of breath alcohol analysis equipment operating on the principles of infra-red analysis at 3.39 microns wavelength, questions have been raised regarding possible interferences by such materials as acetone, acetaldehyde, other alcohols, etc. It can be shown by

- a) Calculations based upon data from gas tables
- b) Data from the accepted scientific literature
- c) Laboratory experimentation
- d) Experience from field operation

that

1. No substances normally found in the breath, or even occasionally found in the breath of subjects will record a false positive reading in a properly designed IR instrument.
2. No material which is capable of some infra-red absorption in the wave-length band of a properly designed instrument, is found in the breath in sufficient quantities to give a false positive reading.

APPLICATION OF SCANNING ELECTRON MICROSCOPE
TO FORENSIC PATHOLOGY

AUTHOR:
Thomas T. Noguchi, M.D.
David M. Katsuyama, M.D.
Office of the Chief Medical Examiner-
Coroner County of Los Angeles

The Scanning Electron Microscope is found to be a powerful tool in detecting elements and minute objects on the surface of the skin in the case of close range and far distant gun shooting, stab and blunt force wounds. In addition to the Scanning Electron Microscope (SEM), an emergency dispersive x-ray analyzer would encompass greater spectrum of application in Forensic Pathology and Medico-Legal investigation of sudden, unexpected, unexplained or violent deaths or injuries. The determination of age, race, stature, and sex of the skeletal remains can be determined by a standard forensic anthropology study. However, the length of time the skeletal remains have been buried in a specific location cannot be accurately determined by a conventional method. The application of SEM on this subject is under study with the view of determining a more accurate assessment of the age of the remains.

AN EVALUATION OF MODIFICATIONS TO THE COBALT THIOCYANATE COLOR TEST

AUTHOR:

Richard L. Watkins
Phoenix Police Department
Crime Laboratory

A variety of drugs that give a positive reaction with the cobalt thiocyanate reagent have been tested in the Phoenix Police Department Crime Laboratory. The drugs were reacted with modifications to the CoSCN test. Differences between a number of them in their reaction to the modified test were observed and will be described in this paper.

TEST TUBE PYROLYSIS OF POLYMERS FOR IR COMPARISONS OF FORENSIC INTEREST

AUTHOR:

L. A. Maucieri
California State Department of Justice,
Investigative Services Branch,
Sacramento, California

A simple rapid pyrolysis procedure for managing insoluble or intractable polymers for IR comparisons will be described.

The technique requires a bunsen burner, some glass tubing, a NaCl cell window, and an IR spectrometer. With this procedure IR spectra of wire insulation, construction materials in automobiles, and components of homemade weapons are readily obtained.

SIGNIFICANT BAILING WIRE CHARACTERISTICS

AUTHOR:

Allen J. Boudreau
Fresno Sheriff's Department

William C. Smith
California State Department of Justice,
Fresno Regional Laboratory

This paper deals with the operation and various differences encountered in discriminating commercial mechanized bailing machines. A rapid method of determining the class of machine from an examination of the "wire knot" is discussed.

An evaluation of the individual characteristics and origin of striae produced by bailing machines is presented.

THERMOLUMINESCENCE OF SOILS

AUTHOR:

Lucien C. Haag
Phoenix Crime Laboratory

D. D. Lawson
Jet Propulsion Laboratory,
California Institute of Technology

The Phoenix Police Department Crime Laboratory in cooperation with Jet Propulsion Laboratory, California Institute of Technology, Pasadena, has been exploring the possible usefulness of thermoluminescence (T.L.) as an adjunct to existing techniques available for the forensic examination of soil evidence.

The following subject areas will be covered:

1. Sample collection and size requirements and sample preparation.
2. The cost, design and usage of a basic thermoluminescence photometric system.
3. The results of thermoluminescence studies on approximately 100 soil samples.
4. The present limitations and value of this technique.
5. Other potential areas of application.

A PHYSICAL EVIDENCE TEXTBOOK FOR INVESTIGATORS

AUTHOR:

Charles V. Morton
California State University,
Los Angeles, California

A textbook is needed which will present Criminalistics to police investigators in a manner, and with a perspective, which will help them to maximize the effective use of physical evidence. Most textbooks presently cover this material from the standpoint of general investigation or spend excessive time discussing the laboratory analysis of the evidence. The result is that little emphasis is placed on the actual responsibilities and limitations of the police investigator in his utilization of physical evidence.

The observation and collection of physical evidence in a manner which will optimize the later reconstruction of the incident, by providing the laboratory with the best information and material, will be the major thrust of this textbook. A rough working outline of the proposed textbook and the philosophy guiding it will be presented. In addition, a questionnaire will be presented after a discussion of its objectives and intended use. The members will be asked to consider the questions and the problems involved in answering them. This would aid in the development of a more satisfactory questionnaire which would be mailed out after the meeting. Subsequently, I would ask permission to visit each laboratory this summer to help collect the data and information and to gain a better perspective of the needs of the laboratory as they relate to the field investigator.

CLANDESTINE DRUG LABORATORIES

AUTHOR:

Michael D. Miller
Dallas Regional Laboratory
Bureau of Narcotics and
Dangerous Drugs

Slide presentation of various drug laboratories encountered by Dallas Regional Laboratory in the past four years.

STEPS TO BE CONSIDERED IN DEVELOPING A SOLVENT SYSTEM FOR T.L.C.

AUTHOR:

Rodney H. Andrus
California State Department of Justice,
Fresno Regional Laboratory

This paper deals with the necessary steps that are needed in developing a thin layer chromatography solvent system. It describes the alteration of a present system to fit the individual analyst's needs.

This procedure is illustrated by a description of a new thin layer chromatography solvent system, for identification of marijuana, developed by the author.

THE STRUCTURE OF HAIR: A REVIEW

AUTHOR:

Edward F. Rhodes
School of Criminology,
University of California,
Berkeley, California

The gross morphology of hair is dependent upon the organization of cellular and molecular structures within hair. The various levels of organization, from the alpha-helix to the cell, will be described and the relationship of these organized structures to gross hair morphology will be illustrated.

STUDIES ON SPECIES DETERMINATION IN BIOLOGICAL MATERIAL

AUTHOR:

G. F. Sensabaugh
School of Criminology,
University of California,
Berkeley, California

Immunological methods are standardly used for the determination of species in evidence of biological origin such as blood stains. We have found that "species specific" antisera from different sources are not species specific and, further, are not specific for the same proteins. The former result is not unexpected from the standpoint of molecular evolution; the latter result indicates a gap in knowledge concerning what proteins best reflect species differences. Data will be presented to illustrate the limitations of immunological techniques in species determination.

ASPECTS OF COLOR PERCEPTION IN MICROSCOPY

AUTHOR:

Keith Imman
School of Criminology,
University of California,
Berkeley, California

The physics and the physiology of color are discussed with reference to the comparison of certain types of evidence, principally colored fibers, paint, and ink. The implications of hue discrimination of the human eye to evidence comparison are discussed,

and the use of a background of a complementary color in cases of low saturation is considered.

IMPACT FRACTURES IN GLASSY POLYMERS

AUTHOR:

Edward F. Rhodes
School of Criminology,
University of California,
Berkeley, California

Glassy polymers are increasingly being used in architectural and engineering situations in lieu of glass, the two polymers of principal application being acrylics and polycarbonates. The appearance of fracture surfaces of acrylic polymers is related to the direction of force applied to the surface, but significant differences are noted relative to glass. The most salient feature of fractured surfaces in polymers is hackle which is decidedly curved and quite prominent, giving the appearance of conchoidal markings with a reverse relationship to that of glass.

STUDY OF "XILO" BRICK MARIJUANA SEIZURES

AUTHOR:

Roselyn Ereneta
San Diego Customs Laboratory

The first documentation of criminalistic factors available in the above seizures was documented for Microgram, October 1972 edition. Since that time, the study has been refined to incorporate the absolute THC range for unadulterated seizures coming across our borders. In addition, a time versus degradation curve for seizures over the last 10 years, has been plotted as well as a new factor in comparison cases. This is the rapid change of THC acid to THC after harvest in a variety of proportions present in seizures thereby adding significance its use in comparing common points.

SOIL COMPARISONS IN CRIMINALISTICS. I. GENERAL CONSIDERATIONS

AUTHOR:

John I. Thornton
School of Criminology,
University of California,
Berkeley, California

A research team at the University of California has reviewed the question of the comparison of soil from the criminalistics standpoint. A number of techniques have been evaluated for the characterization of soil, most directed toward soil organic matter. Progress in this research will be reported to the California Association of Criminalists over a period of 1 1/2 years. This first report will set the stage for later discussions of soil enzymology, the kinetics of enzyme reactions in soil, oxidative susceptibility and other techniques.

TOOL MARK MODELS: EFFECT OF PHASE

AUTHOR:

James W. Brackett, Jr.
San Mateo County Coroner's Office

The effect of phase shift on ideal striated mark comparisons of identical or similar properties is studied by means of random number models in order to increase our understanding of the marks. Phase displacement of different striae sets of similar properties causes little effect; the results are simply random comparisons. The effect of phase displacement on identical striae sets is great near the identity position, and decreases in a damped oscillatory manner to become a random comparison as the phase displacement increases. These effects agree with theory for all displacements at $p = 2$, and for p greater than 2, at displacements up to and including 2 p units; but for other conditions, the effects cannot be reliably formulated. For large displacements, an algorithm based on the theory, and use of modified Pascals triangles appears to agree in a satisfactory manner with the results from the models. Implications of this behavior and limitations of this technique are discussed. Work is continuing.

A SYSTEMATIC APPROACH TO THE IDENTIFICATION OF
AMPHETAMINES AND AMPHETAMINE TYPE COMPOUNDS

AUTHOR:

Gary Cortner
California State Department of Justice
Fresno Regional Laboratory

This paper explores the general screening procedures as well as the specific crystal identification of the amphetamines and amphetamine type compounds. It presents in a systematic format similarities and variations exhibited by various color and crystal tests.

The systematic approach presented, allows the analyst to establish a fundamental basis for evaluating the employed tests. This data is particularly applicable to persons starting on drug identification training as well as individuals who have not undertaken a systematic approach toward crystal tests.

The data presented, allows one to obtain from a central reference source, the background information needed for an identification basis.

METHOD FOR DIFFERENTIATING THE OPTICAL ISOMERS OF AMPHETAMINE BY
THE SIMPLE AND DIRECT EXAMINATION OF MICROCRYSTALS

AUTHOR:

Jack H. Clark
Los Angeles County Sheriff's
Criminalistics Laboratory

Although it has been asserted and generally accepted that d - and l - amphetamine cannot be differentiated by the simple, direct examination of their microcrystal forms using ordinary light microscopy, this investigator offers a method of observation that will easily result in just such a determination.

A RAPID AND SIMPLE PROCEDURE FOR MAKING CYLINDRICAL TOOL MARK CASTINGS

AUTHOR:

Stanley D. Dorrance
California State Department of Justice

A method used for casting lead in a recent tool mark case was presented. The case involved the cutting of locks with a pair of bolt cutters. It was desired to somehow cast lead in a cylindrical manner so as to duplicate the clasp of the lock. It was found that disposable test tubes were ideal for this purpose. The size of the test tubes used was 10 mm x 75 mm. Furthermore, the hardness of the metal used for the casting had an effect on the test marks obtained. It was found that No. 2 bullet casting lead yield better characteristic marks than did pure lead.

A METHOD FOR THE IDENTIFICATION OF SMOKELESS POWDERS AND THEIR RESIDUES
BY THIN-LAYER CHROMATOGRAPHY OF MINOR CONSTITUENTS

AUTHOR:

James L. Booker
California State Department of Justice
Investigative Services Branch
Sacramento, California

Smokeless powders may be distinguished from each other by a simple thin-layer chromatography separation of their minor constituents. The characteristic components are also present in particulate fired powder residue and in non-particulate deposits. Comparisons of residues from weapons, cartridges, and cartridge cases can be easily made without disturbing any of the usual evidentiary characteristics of the artifacts.