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Police Science Technical Abstracts and Notes

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POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

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The Structure of Hackle Lines in Glass—J. W. Thompson, *International Criminal Police Review*, (226): 62-64 (March 1969). The character and nature of hackle lines is discussed. The photography of hackle lines and their use to effect a physical match is also included. (GDM)

Caseless Cartridges—Burton D. Munhall, *Fingerprint and Identification Magazine*, 50(6): 3-7 (December 1968). The three caseless cartridge systems currently under development are discussed. Included are schematic drawings and actual photographs of both systems and cartridges. (GDM)

A Procedure for Determining Barbiturates in Urine or Serum in Only One Hour—J. D. Calavan, *Current Laboratory Practice*, 1(1): 13 (January 1969). Using a simple extraction procedure and thin-layer chromatography the barbiturates are identified in one hour. Detection is by acid charring, differential spot reactions, or u.v. fluorescence. (GDM)

Natural Death at the Wheel—Irma West, George L. Nielsen, Allan E. Gilmore, and John R. Ryan, *Police*, 13(4): 89-96 (March-April 1969). A study of 1026 drivers who died in auto accidents indicates a considerable number died of natural

causes. The many variables included in the study are listed as well as numerous tables and several case studies. (GDM)

Security Demands Public Education—Leon Kotch, *Police*, 13(4): 84-87 (March-April 1969). The more important security features of all common locking devices are discussed. Security procedures with regard to these devices are also listed. (GDM)

Qualitative Thin-Layer Chromatography of Some Irritants—William D. Ludemann, et al, *Analytical Chemistry*, 41(4): 679-681 (April 1969). TLC procedures for the identification of α -bromobenzyl cyanide (CA), o-chlorobenzamalonitrile (CS), α -chloroacetophenone (CN), diphenylamunochloroarsine (DM), and diphenylcyanoarsine (DC) are described. CA, CN, and CS are separable from one another on an acid alumina plate using 5% CHCl_3 in benzene as the developing agent. Indicator spray after development was quinone. A subsequent spray with 5% NaOH visualized all three of these chemicals. Other TLC systems and results are described. Tables of Slurry Compositions used and Rf values are included. (PJC)

The Analysis of C_6 to C_{10} Aromatic Hydrocarbons in the Presence of C_1 to C_{11} Saturated Hydrocarbons by Open Tubular Column Gas Chromatography—Charles L. Stuckey, *Journal of Chromatographic Science*, 7(3): 177-181 (March 1969). The method described in this article is applicable to studies of straight run naphthas and gasolines. The analysis time was 38 minutes. Column was 300 foot by 0.01 in. stainless steel open tube coated with TCEP (1, 2, 3-tris-2-cyanoethoxy propane). (PJC)

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Arsenic Content in Hair and Nails—H. A. Shapiro, *The Criminologist*, 4(11): 43-50 (February 1969). Gives an analysis of toxicological data in a case of murder by arsenic. Follows the deposition of circulating arsenic in hair and nails in the light of normal content. (SID)

Death after Road Traffic Accidents—Simon Sevitt, *Medicine, Science, and the Law*, 8(4): 271-287 (October 1968). Describes in detail the results of a survey and study of 250 road accident victims. Figures and percentages of various injuries and complications are given, especially those factors contributory to death. (SID)

Identification of Blood Stains Using Anti-Allotypic Antibodies and Mixed Antiglobulin Reaction: A Model Study on Rabbit Blood Stains—E. W. Hill, R. R. Coombs, and A. S. Kelus, *Medicine, Science, and the Law*, 8(4): 296-299 (October 1968). Future study of IgG allotypes (Gm and Inv) in human bloodstains is opened by the model system of mixed antiglobulin reaction and rabbit allotypes. Rabbit bloodstains are differentiated by their IgG allotypes. Antisera against the varied allotypes are used and testing is done by the mixed antiglobulin reaction. (SID)

The Detection of the Rh Antigens, C, C^w, c, D, E, e and the Antigen S of the MNSs System in Bloodstains—P. J. Lincoln and Barbara E. Dodd, *Medicine, Science, and the Law*, 8(4): 288-295 (October 1968). The absorption elution method is used successfully to detect Rh antigens C, C^w, c, D, E, and e in dried bloodstains. The experimental stains, except E and e, were successfully grouped up to the age of six months. Successful typing seems to be dependent on the choice of antisera which must be highly specific. (SID)

Modern Techniques for the Detection and Estimation of Drugs of Addiction—A. S. Curry, *Medicine, Science, and the Law*, 8(4): 257-260 (October 1968). Gives detailed information on modern techniques in chemical analysis including both old techniques such as color tests and new techniques for detection of the various drugs. (SID)

Criminalistics at the Crossroads—Paul L. Kirk, *The Criminologist*, 4(11): 35-41 (February 1969). Discusses the state that criminalistics is in

today stressing that we must decide now to proceed to more effective operation. Ideas are given in order to advance to greater knowledge, more skill, and proper education. (SID)

The Study of Seminal Stains by Means of Ultrasonic Apparatus—Jonathan Gluckman, *Journal of Forensic Medicine*, 15(4): 144-147 (October-December 1968). An evaluation of a method for dislodging spermatozoa from suspected seminal stains by using standard ultrasonic apparatus is given. (SID)

Abnormality of Hair Shaft Due to Disease: Its Forensic Importance—S. K. Niyogi, *Journal of Forensic Medicine*, 15(4): 148-151 (October-December 1968). Abnormality of the hair shaft due to trichorrhhexis nodosa, monilethrix, and an unknown disease is described and its forensic importance discussed. (SID)

The Distribution of the ABO Blood Groups in Persons with Lewis Antibodies—Richard H. Walker, Larry D. Griffin, and Mark Kashgarian, *American Journal of Clinical Pathology*, 51(1): 3-8 (January 1969). Outlines methods and results of a study of ABO blood groups in relation to Lewis antibodies. ABO phenotype frequencies in persons with Lewis antibodies tend to be inversely proportional to the amount of the substance H which is present in different ABO phenotypes. (SID)

Fiber-Tipped Pens and the Crossing of Strokes—P. M. Veillon, J. Mathyer, *Revue Internationale de Criminologie et de Police Technique*, 22(4): 317-328 (October-December 1968). This article discusses fiber-tipped pens in general and the aspects of the strokes, also resistance to light and chemicals. A chemical examination of the ink is also given. The prime concern of the article is the study of sequence of strokes between fiber-tipped pens and pencils, ink pens, ball point pens, and type-written material. (SID)

Definition and Scope of Work of the Examiner of Questioned Documents, Document Examiner, or Document Analyst—Alwyn Cole, Examiner of Questioned Documents, Office of the Treasurer of the U.S., Washington, D.C.

One who makes critical examinations, comparisons, and analyses of documents: to establish

genuineness or to expose forgery, or to reveal alterations, additions or deletions; to identify persons through documents or parts of documents, as by showing the authorship of handwriting, or the source of typewriting; to aid in fixing liability or culpability for any kind of fraud that makes use of documents, and generally to help protect the integrity of documents. Typical problems in this field are the identification of handwriting, typewriting, ink, paper, writing instruments, and establishment of the date, source, history, and relationships of documents. Other problems are the decipherment and sometimes restoration of obscure, deleted, or damaged parts of documents. Use is made of the microscope and other optical aids, of photographic cameras, and of a wide variety of photographic material adaptable for use with a variety of lighting methods including radiations in infrared and ultraviolet. Questions about documents are answered through the application of knowledge gained from experience and through application of knowledge and techniques in a number of other fields, such as chemistry, physics, mathematics, language studies, etc. The field of interest embraces manufacturing processes and the materials that go into the production of documents, as well as the methods, machines, instruments, and human agencies by which the parts of documents are formed or brought together. The work often includes a study of the information carried by a document for discovery of evidence of spuriousness, or identification of persons, or to show significant relationships. The results of work are usually incorporated into written reports for use by administrative and executive officers, boards, commissions, lawyers, and individuals, and are often made the subject of testimony under oath in civil and criminal trials which require the demonstration, by use of visual aids, of reasons for conclusions or determinations and require further explanation under cross-examination. Upon occasion workers in this field are known by the term "handwriting expert". Document examination as here defined includes expertise in handwriting identification. It does not involve the employment of calligraphic or engrossing skills, nor does it involve a study of personality. Questions about documents arise in business, finance, civil and criminal trials, or in any matter affected by the integrity of written communications and records.

This statement concerning the examiner of questioned documents was prepared for and pre-

sented at the annual business meeting of the American Society of Questioned Document Examiners, Toronto, Canada, June 1969, and was adopted as a description or definition of the document examiner by the Society at that meeting.

Science and the Product Liability Claim—Irving F. Hazard, *American Bar Association Journal*, 54: 981–985 (October 1968). A discussion of testing laboratories and design consultants in determining product defects in civil lawsuits and expert testimony on engineering questions. (OH)

The Problem of the Drinking Driver—Roger C. Cramton, *American Bar Association Journal*, 51: 995–999 (October 1968). A discussion of the growing hazards of alcohol and driver impairment in which the author discusses the effectiveness of existing programs to overcome this problem and proposes possible countermeasures for the future. (OH).

Blood Alcohol: A Unique Court Case—P. K. van Gent, *Journal of Forensic Medicine*, 15(4): 157–160 (October–December 1968). The accused claimed his exposure to diethyl ether was responsible for a blood alcohol level of 0.31%. The experimental work of the author indicates the impossibility of the claim by the accused who was convicted. (GDM)

Photometric Recording of Single Crystal Values and Other Fusion Phenomena—H. P. Vaughan, *The Microscope*, 17(1): 71–6 (January 1969). A method of photometrically recording fusion phenomena is described. A continuous record as a function of time or temperature can be produced. (CRT)

Measuring the Refractive Indices of Subnanogram Particles—W. C. McCrone and A. Teetsov, *The Microscope*, 17(1): 83–90 (January 1969). Two methods, a slide procedure and a rotational apparatus procedure are described for refractive index determination of particles in the 1–10 micron size order. (CRT)

Expanded and Revised Tables for the Determination of Unknowns by Dispersion Staining—L. Forlini, *The Microscope*, 17(1): 29–54 (January 1969). The article gives a listing of the dispersion staining data of various chemical substances using

Cargille refractive index liquids from 1.30 to 2.11. (CRT)

The Shell Lake Murders—Cpl. E. A. Kuhn, *The Criminologist*, 4(11): 21-29 (February 1969). Relates the details of a mass murder of August 15, 1967 in the Shell Lake district of Canada. It follows the work done by police and laboratory to apprehend the murderer. (SID)

Recent Advances in Forensic Science—H. J. Walls, *The Criminologist*, 4(11): 7-20 (February 1969). Cites primary functions and standard methods in two main operations of forensic science—the increasing use of instrumentation and the development of characterization of body fluids, especially blood. Main areas of concentration include chromatography, blood alcohol determination, X-ray analysis, spectrophotometry, and blood grouping. (SID)

Fakes and Forgeries of British Antique Silver Ware—J. S. Forbes, *The Criminologist*, 4(11): 71-85 (February 1969). The process of hall-marking is discussed. Examples of three types of offending wares are explained in detail: (1) pieces bearing forged hall-marks; (2) pieces bearing transposed hall-marks; and (3) pieces bearing illegal alterations and additions. (SID)

Tar Oil Immersion—Francis E. Camps, *The Criminologist*, 4(11): 109-116 (February 1969). Narrates details of a body being found in a tank filled with tar oil. Describes steps that were taken to facilitate identification. Gives an explanation of

how sexing, ageing, and height estimation are done by study of the skeleton. (SID)

Unusual Deformations on Fired Ammunition Components—Jakob Brandt, *Kriminalistik* (23): 126-129 (March 1969). Deformations of bullets and cartridge cases due to intentional alteration, impact, and variations in the diameter of the weapon and the cartridge are discussed. Twenty-one photographs illustrate the types of deformations discussed. (SMK)

Detection of Narcotic Drugs, Tranquilizers, Amphetamines, and Barbiturates in Urine—V. P. Dole, W. K. Kim, and J. Eglitis, *Journal of the American Medical Association*, 198: 349-52 (1966). Reeves Angel SA-2 Ion Exchange Resin Loaded Paper is used to extract drugs and drug metabolites from urine. Solutes are eluted at pH, 22; pH, 9.3 and pH, 11.0. The sample collection can take place at one site and the elution at another. Technique will identify narcotic drugs, quinine, amphetamines, barbiturates, and some tranquilizers. (JDN)

Fakes, Forgers, and Filters—Ulf von Bremen, *The Professional Photographer*, 95(1877): 45-9 (October 1969). A discussion of the application of ultraviolet and infrared to forensic problems by the proper match of filters and film. Author points out the image recovery possibilities from Polaroid carbons discarded in this process. Cameras can be identified by the irregularity of the mask or film gate, using known photographs as standards. (JDN)

POLICE SCIENCE BOOK REVIEWS

Edited by
Melvin Gutterman*

POLICE RECORDS ADMINISTRATION. By William H. Hewitt; Rochester, New York, 1968; Aqueduct Books. 941 pp.

In his introduction, the author points out that

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O. W. Wilson's *Police Records* was written over a quarter of a century ago, and that "to date, no one has attempted to undertake the monumental task of researching and writing a current treatise on the subject of law enforcement information management. . . . To discuss the current 'state of the