

1970

Police Science Technical Abstracts and Notes

Follow this and additional works at: <https://scholarlycommons.law.northwestern.edu/jclc>

 Part of the [Criminal Law Commons](#), [Criminology Commons](#), and the [Criminology and Criminal Justice Commons](#)

Recommended Citation

Police Science Technical Abstracts and Notes, 61 J. Crim. L. Criminology & Police Sci. 316 (1970)

This Criminology is brought to you for free and open access by Northwestern University School of Law Scholarly Commons. It has been accepted for inclusion in Journal of Criminal Law and Criminology by an authorized editor of Northwestern University School of Law Scholarly Commons.

POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

Edited by
Gary D. McAlvey¹

Abstractors

William E. Kirwan²
Ordway Hilton²
Joseph D. Nicol⁴
Paula J. Cardosi⁵

Susan M. Komar⁵
Sally I. Dillon⁵
Gloria⁵H. Kraatz⁵

Michael J. Kreiser⁵
Edgars Rudzitis⁵
Bruce W. Vander Kolk⁵
Fredrick R. Aubey⁵

Utilization of Dogs for the Detection of Drugs—H. J. Friebel, *Kriminalistic*, 24(1): 29–35 (January 1970). Dogs are used widely in Europe and the Middle East for the detection of hidden drugs. Although dogs can be trained to find a variety of drugs, their highest aptitude seems to be toward marijuana. The most extensive use of dogs and the best training facilities (established in 1936) are encountered in Sweden. Because of superior temperament and ease of training, German Shepherds and Labrador Retrievers are the breeds most often used. The author describes in some detail the methods of training and field work emphasizing that besides good sniffing ability of the dog, expert handling is important. It is probably of interest to note that a Swedish trained “Guaranteed Marijuana Sniffer” can be obtained for 5000 D M or approximately \$1000. (ER)

Laser-Microspectral Analysis in Criminalistics—H. Neuninger; *Archiv fur Kriminologie*, 144(5,6): 121–133 (November–December 1969). A method of emission spectral analysis utilizes a laser beam for pre-excitation followed by spark-source emission. The advantages over the existing methods including electron microprobe analysis are in the small amount of sample and in the absence of special sample preparation. The procedure consists of evaporating a small amount of sample by a (ruby) laser beam into the space between two

¹ Superintendent, Illinois Bureau of Identification, Joliet, Illinois

² Superintendent, New York State Police, Albany 1, New York

³ Examiner of Questioned Documents, 15 Park Row, New York, New York

⁴ Professor, University of Illinois Circle Campus, Chicago, Illinois

⁵ Crime Laboratory Analyst, Illinois Bureau of Identification, Joliet, Illinois

charged carbon electrodes. The highly energetic beam partly ionizes the evaporated material, which in turn, causes discharge of the electrodes and produces an emission spectrum. The author claims having achieved a beam diameter of 10 μ m and evaporation of only a few mg of sample. He lists the following applications: paint layer analysis, non-destructive analysis of jewelry, and micro-analysis of metals, alloys, glass, and minerals. (ER)

New Staining Technique for Demonstration of the Presence of Sperm—E. Oppitz, *Archiv fur Kriminologie*, 144(5,6): 145–148 (November–December 1969). The method utilizes successive staining with “kernechtrot” and picroindigocarmine which causes different coloration of sperm parts; the head turns red, the middle section red to green, and the tail green. This enables microscopic identification even of damaged sperm and eliminates color interferences present in earlier staining methods. (ER)

The Penetration Depth of Projectiles in Bones—K. Sellier, A. Knuepling, *Archiv fur Kriminologie*, 144(5,6): 155–160. The penetration distance in skull by 6.35 mm. (25 caliber) and 7.65 mm. (32 caliber) Browning and 9 mm. (38 caliber) parabellum ammunition was investigated as a function of the energy of the projectile. A minimum threshold with no penetration was established as 0.60, 0.87, and 1.4 respectively (arbitrary energy units). For 1 cm. penetration the energies were: 2.3, 3.2, and 4.9 for the calibers as listed. A more quantitative evaluation is prevented by insufficiently defined units. (ER)

The Determination of Erythrocyte Acid Phosphatase in Old Blood Alcohol Probes and Blood

Traces—M. Smerling, *Archiv fu Kriminologie*, 144(5,6): 161-166. A slightly modified application of the earlier (1963) reported method had shown that the electrophoretically observable pattern of isoenzymes in old blood probes was detectable much longer than expected. It was possible to determine the type of phosphatase in blood alcohol probes stored for 12 months although for dried blood the method became ineffective after 30 hours. (ER)

Hairs and Wools—John Glaister, *The Criminologist*, 4(14): 23-30 (November 1969). The introduction by Professor Glaister to his book *A Study of Hairs and Wools (Belonging to the Mammalian Groups of Animals, including a Special Study of Human Hair, Considered from the Medico-Legal Aspect)* is reprinted and his works cited as being a leading contribution to the origin of one branch of the forensic sciences. The introduction deals with the necessity of undertaking the study and the need for a photographic record of all available hairs and wools belonging to the mammalian group of animals. The method adopted for the investigation and the photographic methods employed are discussed. (BWV)

What Is an Expert Witness?—Michael Gilbert, *The Criminologist*, 4(14): 71-74 (November 1969). Various types of expert witnesses from the pretenders of knowledge to the genuine expert witness who is not only an expert in his sphere but also an expert at giving evidence are discussed. The author also warns about the harmful probability that an expert of long standing may be invested with an atmosphere of infallibility by juries and judges. An expert can be best characterized as one who is brisk and upright, answering each question carefully but never elaborating, unless elaboration would be helpful. He follows the advice of "Stand Up, Speak Up, and Shut Up!" (BWV)

Murder or Accident—Allan Henderson, *The Criminologist*, 4(14): 121-126 (November 1969). A case history is cited which deals with the question of murder or accident in the violent death of an elderly man. First impressions based upon visual examination of the case points almost exclusively to murder, but after patient police investigation, extensive research by a forensic science laboratory, and a detailed autopsy examination, the death is ruled accidental. (BWV)

Identification of a Decomposed Body—F. G. Hails, *The Criminologist*, 4(14): 58-60 (November 1969). The merits of identification of deceased persons by fingerprints, particularly those who have been injured or grossly decomposed, is discussed. An illustrated case is given in which a technique employing a method of mounting a section of skin from a decomposed finger between two glass plates and using it as a negative provided a means to obtain a print usable to establish identity beyond doubt. (BWV)

The Agglutination of Abantu and Other Human Erythrocytes by Reagents from Snails—H. J. Grace and G. Uhlenbruck, *Journal of Forensic Medicine*, 16(4): 139-142. (October-December 1969). Reports the agglutination of Abantu cells which showed no reaction with the usual anti-A reagents. Pretreatment of the cells with certain proteases caused the cells to react with *Helix* snail agglutinins, the reaction being explained by the uncovering of A specific terminal d-N-acetyl-galactosaminyl structures. Human B and O cells did not usually react after similar treatment, due to the uncovering of terminal B-N-acetyl-galactosaminyl structures. The method is recommended for the study of other weak A types. (SID)

The Antigen M₁—Marjorie E. leRoux and M. Shapiro, *Journal of Forensic Medicine*, 16(4): 135-138 (October-December 1969). The authors give results of both serological and population studies that have been performed with a patent anti-M₁ serum. Results of serological study confirmed that M₁ is to M as A₁ is to A in the ABO grouping system. The M₁ antigen which has a high incidence in South African Bantu, is infrequent in Whites. (SID)

Identification of Glass Fragments—Sarverio Wermelinger and Jacques Mathyer, *Revue Internationale de Criminologie et de Police Technique*, 23(3): 227-236 (July-September 1969). Deals with a preliminary examination of glass fragments, then discusses the study and comparison of densities of fragments and the determination of refractive indices. The value of these two methods is discussed and the study of glass by spectrography is presented. (SID)

Trophoblastic and Decidual Cells in Vaginal and Endometrial Smears after Abortion—G. D. Montanari, B. Viterbo and G. F. Moscolo, *Medicine*,

Science and the Law, 9(2): 107-109 (April 1969). The authors examined cytologically 150 patients who had aborted. They found trophoblastic elements in 16% of the vaginal and endometrial smears. Thirty-six days was the longest time after the abortion when such cells could still be found. (SID)

The Detection of A, B, and H Group Specific Substances in Stains from Body Fluids by Absorption-Elution and Mixed Agglutination Techniques—Margaret Pereira, Barbara E. Dodd and Jean V. Marchant, *Medicine, Science and the Law*, 9(2): 116-121 (April 1969). Outlines the application of two methods in detecting A, B, and H group specific substances in dried stains. Results with over 100 experimental saliva stains and 29 seminal stains are given. A comparison is also presented on a number of stains tested by both techniques which have been found satisfactory in saliva and seminal stains from secretors. With non-secretors A and B were detectable by mixed agglutination when enzyme treated A and B cells were used and H substance was detectable in stains of all ABO groups. By absorption elution, A and B were readily detected, but H was not usually detected unless enzyme treated O cells were used. (SID)

A Question of Taste—D. C. J. Horncastle, *Medicine, Science and the Law*, 9(2): 99-101 (April 1969). Gives an illustration of an interaction of medicine, science and the law regarding an inquiry relating to professional misconduct with respect to adultery and drugs with alcohol. (SID)

Analysis for Drugs of Abuse—Some Applications and Limitations—F. Fish and B. Caddy, *Journal of the Forensic Science Society*, 9(1 and 2): 48-52 (July 1969). The authors reiterate problems of two years ago in relation to the rise and abuse of drugs. They look at the problems again now and evaluate the progress. (SID)

Medico-Legal Systems in the U. S. A.—A. Keith Mant, *The Criminologist*, 4(12): 87-95 (May 1969). Deals with the Coroner's System and the Medical Examiner System in relation to the investigation of sudden and unnatural deaths in the U. S. Aspects such as a short history and differences between the two systems are also given. (SID)

A Potent Snail Haemagglutinin with Anti-A Specificity—H. J. Grace, *Journal of Forensic Medicine*, 16(3): 100-104 (July-September 1969). Describes a potent haemagglutinin with Anti-Z specificity from the snail *Helix aspersa*. A reaction is not obtained with weak Group A subgroups. It also does not distinguish between A₁, A₂ or A_{int} cells. It does, however, detect a racial variation in the amount of red cell A substance. (SID)

The Case of Regina V. Austin and Pedrini—R. W. Imalldon, *Journal of the Forensic Science Society*, 9(1 and 2): 41-42 (July 1969). Gives details of a robbery case incorporating the part that scientific evidence played in the conviction. Evidence included glass fragments, a button, matches, and cigarette ends. (SID)

Crime Statistics—Uses and Abuses—G. N. G. Rose, *The Criminologist*, 4(12): 96-105 (May 1969). Illustrates how statistical analysis of time-series data can lead to unreliable results. (SID)

The Quinlan Case—Francis E. Camps, *The Criminologist*, 4(12): 75-86 (May 1969). Narrates the circumstances surrounding the death of a 16 year old boy who succumbed to carbon monoxide poisoning. A roommate, aged 51, was charged with the death and buggery under the Sexual Offenses Act 1956. A detailed scientific investigation of the poisoning is given. (SID)

Check Frauds—Wilson R. Harrison, *The Criminologist*, 4(12): 123-125 (May 1969). The author discusses the professional forgers who travel the country leaving a trail of worthless checks. Precautions are given for handling and accepting checks. The worth of a check file is also discussed. (SID)

The Pressures Developed in the Ronan Point Explosion—H. J. Yallop, *Journal of the Forensic Science Society*, 9(1 and 2): 45-47 (July 1969). Relates the investigation into an explosion at Ronan Point in East London. The determination of a pressure/deflection relationship is also noted. (SID)

Subnormality and Crime—D. J. Power, *Medicine, Science and the Law*, 9(2): 83-93 (April 1969). Evaluates the standards of assessment for subnormality and severe subnormality, then refers to

various types of crime committed by subnormals with the stress on homicide, sexual offenses, fire-raising, and theft. (SID)

A Screening Test for Antibodies Using 2-Mercaptoethanol—P. Moores and B. G. Grobelaar, *Journal of Forensic Medicine*, 16(4): 143-146 (October-December 1969). Presents a simple and rapid method to differentiate between 7S and 19S blood group antibodies using 2-mercaptoethanol. (SID)

Abrus Precatorius Poisoning in Mice—S. K. Niyogi, *Journal of Forensic Medicine*, 16(4): 130-134 (October-December 1969). An aqueous extract of *Abrus precatorius* Linn. in different doses was injected subcutaneously to mice. The agglutination of red blood cells, hyperaemia of the intestine associated with bloody contents and degeneration of parenchymatous organs was revealed in post-mortem examination. (SID)

All-Purpose Gas-Liquid Chromatographic Column for Pharmaceuticals—Larry L. Alber, *Journal of the Association of Official Analytical Chemists*, 52(6): 1295-1300 (November 1969). The results of the use of a 6' column containing 3% OV-17 on Gas Chrom Q for the GLC separation of pharmaceuticals are presented. Using isothermal conditions the following classes of pharmaceuticals have been successfully chromatographed on this column: alcohols, anesthetics, anticholinergics, antihistamines, antiseptics, barbiturates, sterols, steroids, sulfonamides, sympathomimetics, and xanthine alkaloids. This column does not solve all the problems of the chromatography of drugs. Chlorpheniramine, methapyrilene, and cyclizine have similar retention times, as do theophylline and phenobarbital. (PJC)

An Investigation of Combined Patterns from Diverse Analytical Data Using Computerized Learning Machines—P. C. Jurs, B. R. Kowalski, and T. L. Isenhour, *Analytical Chemistry*, 41(14): 1949-1953 (December 1969). The application of a computerized learning machine to the interpretation of patterns produced by combining mass spectra, infrared spectra, and melting and boiling points is described in this paper. (PJC)

Computerized Learning Machines Applied to Chemical Problems—Interpretation of Infrared

Spectrometry Data—B. R. Kowalski, P. C. Jurs, T. L. Isenhour, *Analytical Chemistry*, 41(14): 1945-1949 (December 1969). This paper describes the application of learning machine methods for the interpretation of 4500 infrared spectra and the classification of compounds into chemical classes. (PJC)

Complete Gas Chromatographic Analysis of Homo- and Copolymers of Polyamide Resins—Sadao Mori and Motohisa Furusawa, *Analytical Chemistry*, 42(1): 138-140 (January 1970). The method described in this article gives qualitative and quantitative results for the G. C. determination of all components recovered from the hydrolyzed copolyamides. (PJC)

The Bar's Aid to Police: Too Little Too Late—Peter Smith Ring, *American Bar Association Journal*, 55: 461-463 (May 1969). The author points out that problems faced by law enforcement need immediate attention if our legal system is to attain the proper administration of criminal justice. Police officers receive little assistance in their day to day work from the organized bar, and the author suggests ways by which this can be corrected. (OH)

The Drug Problem in Sweden—O. Jörnander and C. Persson, *International Criminal Police Review*, 232: 235-241 (November 1969). The Swedish drug problem and the action taken by law enforcement authorities to control it are presented. A number of interesting tables and facts are included. (GDM)

Methods of Determining the Age of Inks—N. K. Iyengar and P. C. Maiti, *International Criminal Police Review*, 232: 246-251 (November 1969). Beginning with the historical facts of inks, the author continues on to provide the chemistry and methods used to determine the age of inks. Coverage of modern instrumental methods is included. (GDM)

The Meaning of Hallmarks and Other Symbols on Articles Made of Precious Metal—G. M. Van Kaam, *International Criminal Police Review*, 232: 242-245 (November 1969). A discussion of hallmarks and trademarks used in European countries on items of precious metals. Also includes a thorough coverage of alloys used in each of the

precious metals including the platinum group, gold and silver. (GDM)

Recovery of Intact Respiratory Epithelium from a Cloth Pillowcase Four Days Following Its Utilization as a Smothering Instrument—James L. Luke, *Journal of Forensic Sciences*, 14(3): 398-401 (July 1969). Intact cellular elements which included respiratory epithelium were recovered from the surface of a cloth pillowcase four days after its utilization as a smothering instrument. The methods employed in the preparation of the specimen are described. (WEK)

Trichloroethane Poisoning: Observations on the Pathology and Toxicology in Six Fatal Cases—Charles J. Stahl, Abdullah V. Fatteh, and Abel M. Dominguez, *Journal of Forensic Sciences*, 14(3): 393-397 (July 1969). Six cases of fatal 1,1,1-trichloroethane poisoning are presented, with brief descriptions of the circumstances leading to death, the autopsy findings, and the results of toxicologic analyses. (WEK)

The Non-Litigant Patient's Right to Medical Records: Medicine vs Law—Donald G. Hagman, *Journal of Forensic Sciences*, 14(3): 352-369 (July 1969). The law should be sensitive to the view of medical personnel on the right of patient access to medical records, so that an undue burden is not imposed on medicine. Generally, the law will make information from the record available unless it is contrary to the best medical interest of the patient. Many in the medical profession do not apply this general rule, either in letter or spirit, though enlightened self-interest may dictate its observance. However, since the law generally allows medicine to determine what is in the best medical interest of the patient, medicine should not expect greater leniency from the law. (WEK)

Toxicity and Analysis of Air Pollutants—M. Feldstein, *Journal of Forensic Sciences*, 14(3): 337-350 (July 1969). The encountered concentrations and toxicities of common air pollutants have been discussed. The principles of the analytical procedures used for the determination of these have been summarized. (WEK)

Pathology of Temporal Bone Hemorrhage in Drowning—Willys F. Mueller, *Journal of Forensic Sciences*, 14(3): 327-336 (July 1969). Hemorrhage

into the middle ear and mastoid air cells has been described as a distinctive sign of death by drowning. Since in only 26 of the 633 cases reviewed was there an examination of the temporal bones, it is believed that this feature is either ignored or is little known by pathologists. Greater attention to temporal bones is advocated in autopsies. (WEK)

Pulmonary Arteriole Foreign Body Granulomata Associated with Angiomatoids Resulting from the Intravenous Injection of Oral Medications, e.g. Propoxyphene Hydrochloride (Darvon (R))—William C. Butz, *Journal of Forensic Sciences*, 14(3): 317-326 (July 1969). 1) A case of sudden death due to multiple foreign body granulomata in the pulmonary arterioles caused by intravenous injection of propoxyphene (Darvon (R)), and to sudden acute congestive heart failure has been reported. 2) The obliterative pulmonary arteritis due to the injection of oral medications, containing magnesium trisilicate (talc) crystals identified by X-ray diffraction and starch granules identified by special stains and polarization, is differentiated from infectious granulomata due to schistosome ova which produce a delayed hypersensitivity reaction. 3) The process of development of angiomatoids surrounding granulomata in the pulmonary arterioles and the altered dynamics of the cardiopulmonary blood flow leading to acute congestive heart failure and massive pulmonary edema have been reviewed. 4) Talc crystals which induce foreign body granulomata show no contrast from the surrounding tissues in the lungs and cannot be visualized in X-ray films. 5) Toxicologic analyses for propoxyphene are best conducted on bile, liver, lungs, kidneys, and brain. (WEK)

Workmen's Compensation Problems: Causal Relationship in Cardiac Deaths—William C. Wilentz, *Journal of Forensic Sciences*, 14(3): 302-308 (July 1969). The medico-legal problems in fatal heart attacks encountered in industry have been reviewed. Causal relationship between sudden death and the occupation of the deceased is frequently difficult to establish beyond a reasonable certainty. The most common lesion of the heart found was progressive coronary atherosclerosis with narrowing of the lumen of the vessels. In view of the fact that no definitive criteria have been proposed and accepted by the medical and legal professions, the courts have found it necessary to render diverse decisions over the years. (WEK)

A Statistical Review of Court-Appointed Psychiatric Examinations—Louis H. Gold, *Journal of Forensic Sciences*, 14(3): 294-301 (July 1969). A study of 100 psychiatric examinations performed recently by appointment of the circuit courts revealed that over 50% of the offenders had a mental illness requiring hospital care. The various arms of the court have accepted the value of psychiatric study of offenders when indicated and have made frequent use of this service. (WEK)

A Simple Chemical Method to Identify Marihuana—R. F. Turk, H. I. Dharir, and R. B. Forney, *Journal of Forensic Sciences*, 14(3): 389-392 (July 1969). Naturally occurring cannabinolic components of marihuana and synthetic THC are identified by solvent extraction, concentration of solvent extract, followed by TLC on plates prepared on microscope slides. After development, the characteristic spots of marihuana components are visualized by using an aqueous solution of naphthanal diazo Blue B. (WEK)

Alcohol and Other Factors in California Highway Fatalities—Julian A. Waller, E. M. King, George Nielson, and Henry W. Turkel, *Journal of Forensic Sciences*, 14(4): 429-444 (October 1969). Blood alcohol concentrations, social, demographic, and medical characteristics of the persons and the types of crash were studied for 1251 highway fatalities age 15 or older who survived less than 6 hours. These comprised all such deaths among 2069 consecutive highway fatalities in three California counties. Between 35 and 69 percent, depending on the type of crash, had alcohol in their blood, usually in high concentrations in fatally injured persons who were age 20-59 males. (WEK)

XYY Chromosome Genetics—Robert C. Baumiller, *Journal of Forensic Sciences*, 14(4): 411-418 (October 1969). An XYY chromosome makeup has been correlated with violent criminal behavior. Significantly more XYY men are found in maximum security prison hospitals than would be expected by chance. However, less than five percent of living XYY men have been found confined in such institutions. "Normal" men can have an XYY karyotype as well as man with hypogonadism or undescended testes. Thus, the range of reaction of this particular genetic type is broad, and the factors which determine where any affected individual will eventually fit are unknown. (WEK)

Suicidal Gunshot Wounds of the Abdomen—Thomas M. Canfield, *Journal of Forensic Sciences*, 14(4): 445-452 (October 1969). A group of cases was reviewed in respect to a relatively rare phenomenon to alert the pathologist and investigator to the potential of abdominal gunshot wounds being suicidal in nature. Certain aspects of these cases have been discussed and compared with those of homicidal gunshot wounds. The rare occurrence of gunshot wounds of the abdomen as suicidal may be properly classified as to manner of death by the combination of complete information on the scene of death, investigation of the circumstances, and careful observation by the prosecutor. (WEK)

Report on Two Early United States Firearms Identification Cases—Paul M. Dougherty, *Journal of Forensic Sciences*, 14(4): 453-459 (October 1969). Two early significant reports on firearms identification have been discussed. These are the earliest papers known to be published in the United States, one in 1900 based on comparison of projectiles and the other in 1907 based on comparison of cartridge cases. (WEK)

Fatality in an Adult from Vocal Cord Polyps—Edward F. Wilson, *Journal of Forensic Sciences*, 14(4): 460-462 (October 1969). Death of a subject suffering from laryngeal dyspnea due to bilateral vocal cord polyps following operative intervention has been described. (WEK)

Forgeries over Genuine Signatures—Linton Godown, *Journal of Forensic Sciences*, 14(4): 463-468 (October 1969). The problems and general principles of examination of documents in which forgery over a genuine signature is suspected are presented. (WEK)

The Historical Development of Insanity as a Defense in Criminal Actions (Part II)—Stephen R. Lewinstein, *Journal of Forensic Sciences*, 14(4): 469-500 (October 1969). The historical development of insanity as a defense to criminal liability has been depicted. Although certain trends can provide one with an indication as to what may be lurking ahead, no one can definitely say what the future has in store for humanity. Inevitably, however, the future will become the present and finally the past. When this transition takes place, legal history will be made. Only then will be known for certain what we did not know before. If, how-

ever, we use the past as a guide to the future, we will realize that the law must be stable but, as Dean Pound has said, "It cannot stand still, (for) . . . continual changes in the circumstances of social life demand continual new adjustments to the pressure of other social interests as well as to new modes of endangering security. Thus the legal order must be flexible as well as stable. It must be overhauled continually and refitted continually to the changes in the actual life which it is to govern." (WEK)

The Use of Medical Examiner-Coroner's Cases as Transplant Donors—John E. Hauser, *Journal of Forensic Sciences*, 14(4): 501-605 (October 1969). The use of Medical Examiner-Coroner's cases as transplant donors has created a number of problems still lacking solutions. Several of these have been discussed. The guidelines for handling such cases in Santa Clara County, California, are found in "Procedure for Use of Medical Examiner-Coroner's Cases as Transplant Donors" which has been presented. (WEK)

Comparative Studies of Postmortem Barbiturate and Meprobamate in Vitreous Humor, Blood and Liver—S. Felby and J. Olsen, *Journal of Forensic Sciences*, 14(4): 507-514 (October 1969). Determination of postmortem barbiturate and meprobamate concentrations in vitreous humor and blood from 19 subjects indicates that these substances are distributed by diffusion. When diffusion equilibrium has occurred, the concentrations in the ultrafiltrate from blood and in vitreous humor are identical. The fractions of drug bound to protein varied from case to case; for aprobarital the values were in the range of 40-73 percent; for barbital, 25-33 percent. In blood, meprobamate occurred exclusively in ultrafiltrable form. The maximum liver/blood ratio observed in this series was 2.7 for barbiturate. The determination of barbiturate and meprobamate in vitreous humor is technically more convenient than in blood, especially in the presence of putrefaction. (WEK)

Foreign-Body Reaction in the Liver of a Drug Addict—Beatrice W. Ishak and Kamal G. Ishak, *Journal of Forensic Sciences*, 14(4): 515-520 (October 1969). A foreign-body reaction to talc, silica, and calcite was found in biopsy material from the liver of a habitual user of multiple drugs. The foreign material was found in cells of the reticulo-

endothelial system, chiefly portal macrophage cells, and was identified by the powder method of x-ray diffraction. There was an associated lymphocyte portal inflammatory infiltrate. No evidence of hepatocellular injury or fibrosis was found, and all tests of liver function were within normal limits. The functional and morphological abnormalities of the liver in habitual users of drugs as reported by others have been discussed. (WEK)

Shot Penetration from Ballistic Data—B. N. Mattoo, *Journal of Forensic Sciences*, 14(4): 521-527 (October 1969). Literature data on the ballistics and shot penetration of diverse ammunition have been analyzed and correlated. It is seen that over a wide range of mass, energy and area of presentation of the missiles in question, penetration is proportional to the energy/area of presentation function. For comparing or correlating penetration by a given missile in various target materials, penetration may be taken as inversely proportional to the target density, provided the threshold penetration velocities and drag coefficients are comparable. (WEK)

Colorimetric Determination of Imipramine in Biologic Specimens—Jack E. Wallace and John D. Biggs, *Journal of Forensic Sciences*, 14(4): 528-537 (October 1969). A rapid, sensitive method for quantitative determination of imipramine in tissues and body fluids is described. A blue color is produced when cerium ion reacts with the drug in the presence of concentrated sulfuric acid. Color stability, data on lack of interference by other drugs, and the distribution of the drug in the rat have been presented. The procedure is recommended for use in determining concentrations of the drug in biologic specimens from suicidal or accidental poisonings as well as in the urine from patients receiving therapeutic amounts of the drug. (WEK)

Modification of the Berg Acid Phosphatase Test—Arthur Frederick Schiff, *Journal of Forensic Sciences*, 14(4): 538-544 (October 1969). A brief review of the evolution of the acid phosphatase test for seminal fluid is presented. A modification of procedure in use of the Berg Technic is described. (WEK)

The Detection of Drugs at Therapeutic Concentrations as Applied to Aviation Accident Toxicology