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Police Science Technical Abstracts and Notes

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POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

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Abstractors

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Wood Moisture Detector as a Police Aid—Thomas Sachstetter, *Kriminalistik*, 11(11): 431-2 (1957). In the course of the investigation of an assault it became necessary to detect and evaluate moisture on the clothing of a suspect. By means of a moisture detector, normally used for wood, tobacco, and other similar material, the areas of moisture distribution could be ascertained. As a result of the detection of moisture only on the front of the garment and only to a height corresponding to the height of the vegetation in the field through which he fled, the suspect confessed. His alibi of stumbling while walking in the rain did not hold enough water. (JDN)

Shots From Gas and Personal Defense Pistols—Heinz Schildt, *Kriminalistik*, 11(11): 430-1 (November 1957). A .22 Short ammunition was successfully fired in a gas pistol. The .22 Short will enter the barrel of an 8.00 mm "Wadie" far enough at the breech end so that a gas cartridge with enlarged mouth will fit behind it. The heat from the gas cartridge initiates the primer of the .22 Short. Although the metal of the gun is not strong and in spite of excessive barrel size, dangerous velocities can be produced. (JDN)

Micro Traces With Moral Cases—Max Frei, *Kriminalistik*, 11(11): 428-30 (November 1957). Several interesting investigations in which micro evidence aided in their solution are discussed. The following general rules are suggested:

1. A complete trace picture must be obtained, semen alone is not enough.

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2. Clothing and shoes of suspect should be examined to establish the presence of suspect at the scene or contact with the victim.
3. Protect evidence against suspects destroying its value through "harmless" handling.
4. Negative evidence should not absolve suspect from consideration.
5. Negative evidence on victim suggests non-bonafide case. (JDN)

Identification of Piece of Metal Foil—*The Australian Police Journal*, Technical Notes, 11(4): 337 (October 1957). Aluminum foil used to short the ignition wires of a car was identified as having come from a packet of cigarettes. The comparison was based upon matching edges of an irregular tear through the quilted foil. (JDN).

Radio Aids Rescue Operations—Annon., *Radio and TV News*, 60(3): 47 (September 1958). A description of the mobile command post used to speed rescue operations by the Los Angeles County Sheriff's Office. Portable motor generators supply power for the various transmitters and receivers which link cars, helicopters, and walkie-talkie operations. Sufficient power is also available to provide contacts on all of the usual public safety frequencies in the area. (JDN)

Alcohol Determination Through Breath-Test as a Preliminary to Taking Blood Specimen—A. Ramseyer, *Kriminalistik*, 12(6): 225-8 (June 1958). A year-long trial of the Breathalyzer in Basel, Switzerland, showed the following deviations between breath and blood; for 98 tests, 45 under 10%, 32 under 20%, 16 under 30%, 2 over 30%, 3 agreed. The blood was taken some unknown interval after the breath test. At the present time, the department at Basel is using the Breathalyzer as a screening test and feels

that it has improved their enforcement against drinking drivers to a very measureable degree. (JDN)

Self-defence and Gas Revolver as a "Dangerous" Weapon—W. Naeve and H. Schildt, *Kriminalistik*, 13(2): 66-9 (1959). A gas gun of the trade name "Burgo" was tested for its hazardous characteristics when used with .22 Short ammunition. Although the cartridge can be chambered in the cylinder, the bore of the forward end of the chamber is only 4.2 mm. Therefore, the projectile is actually reduced from 5.6 mm. to 4.2 mm. Numerous shots can be fired without evidence of harm to the weapon. At distances of less than one meter, serious wounds are the rule and not the exception. The entrance hole is frequently elliptical from key-holing. As much as 14 cm of muscle and tissue can be penetrated and even 2.5 mm. thick skull can be perforated. (JDN)

Blood Group Determination from Excreta—G. Schaidt, *Archiv fuer Kriminologie*, 122(3/4): 66-68 (July-August 1958). A method for extracting blood components from soil, water, etc. previously described by Kirk et. al. (*J. of Crim. Law*, 42: 392, 1951) is applied to blood grouping substance in urine and feces. (JB)

Bullet or Stone—A. Schoentag, *Archiv fuer Kriminologie*, 122(1/2): 69-71 (July-August 1958). If no traces of the projectile can be found around a penetration in a window pane to indicate whether a bullet or a stone struck the window, an examination of the fracture lines may give the answer. The edges of the radial fractures show very pronounced, wavy stress lines in fractures caused by a stone from a sling shot (velocity under 100 m/sec). No such pronounced stress lines are seen in the fractures made by a .32 caliber pistol bullet (over 100 m/sec). (JB)

Gas Chromatography—A New Tool in Criminalistics and Toxicology—E. Weing and L. Lautenbach, *Archiv fuer Kriminologie*, 122(1/2): 11-17 (July-August 1958). A discussion of the principles of gas liquid partition chromatography and apparatus. While it has primarily found use in the laboratories of the chemical industry, gas chromatography is seen as a valuable analytical technique with criminalistic applications. A

recording chromatograph has been found a rapid solution to the difficult problem of identifying very small quantities of volatile liquids, such as alcohols, gasoline, and other incendiary accelerants. (JB)

Ultrasound—A New Method to Determine the Age of Skeletal Remains—W. Specht and S. Berg, *Archiv fuer Kriminologie*, 122(1/2): 42-65 (July-August 1958). Gross estimations of the length of time which human bones have been buried are made by means of ultrasound in conjunction with morphological examinations. Estimates are possible over a range of a few years to several thousand years. Sections of the upper femur compacta are subjected to sound impulses at 2.4 Mc from an "Echoskop", and the time lapse of the echo impulses are recorded. Several cases of actual archaeological and criminalistic applications of this technique are cited and its limitations are discussed. (JB)

Physical and Chemical Evidence in the Criminal Investigation—W. Allan Cregeen, *Police News*, Police Association of Ontario, Canada. An interesting discussion of the scientific examination of criminal evidence. Each phase is demonstrated by a narration of an actual case employing the scientific procedure mentioned. This method of presentation emphasizes the importance and value of a proper examination by a laboratory. (WEK)

Scientific Criminal Investigation Bulletin, 1(1): (October 1958)—Laboratories for Scientific Criminal Investigation, University of Rhode Island, Kingston, Rhode Island, Dr. Harold C. Harrison, Editor. This new publication is the first issue of a scientific bulletin which will be published three or four times each year. The prime purpose of the bulletin is to bring to the attention of law enforcement agencies within the State of Rhode Island up-to-date information on the various subjects concerning investigation of crimes.

The University of Rhode Island Laboratories for Scientific Criminal Investigation were established in 1953, at the request of the Attorney General of the State of Rhode Island, in order to assist his office and law enforcement officers and agencies throughout the state. Since that beginning, the laboratories have been very successful

in cooperating with the various law enforcement agencies in crime detection and prosecution.

An important activity of the laboratories has been the instruction of law enforcement officers in basic criminalistics and the collection and preservation of criminal evidence. The Scientific Bulletin issued by the laboratories will contain information of interest to all law enforcement officers.

This first issue of the bulletin contains the following articles:

1. Chemical Tests for Determination of Intoxication.

2. Announcement of anticipated course in color photography to be presented by the laboratory staff.

3. Letter of Transmittal. This article contains detailed information on proper instructions for cover letters to be submitted with evidence for examination purposes.

4. Pre-trial preparation of court cases by police. An article written by Chief George Miller, Department of Public Safety, Oakridge, Tennessee. The author points out that the police frequently fail to understand and appreciate the proper functions of prosecutors and judges, and mentions the widespread misunderstanding of their own relationship to these court officers. He suggests that establishment of channels and methods for constant exchange of information could contribute much to improving results from the efforts of all three members of the enforcement team. Adequate pre-trial scrutiny and investigation of cases by police and the furnishing of complete information to prosecutors can add immeasurably to a complete and just hearing and to prevent discharge in well founded cases.

5. Is it a Forgery? Who wrote it? This is a short discussion of the possibilities that expert document examination of criminal evidence can develop. (WEK)

A Statistical Study of the Individual Characteristics of Fired Bullets—A. Biasotti, *Journal of Forensic Sciences*, 4(1): 34-50 (January 1959). A scientific statistical study of the individual characteristics from two series of fired bullets. Examination data is summarized in table and graph form. On the basis of the data presented in this study, it appears that an identity can be made with a high degree of confidence when only a relatively few matching lines are associated by con-

secutiveness. The factual data reported in this study should contribute materially to answering the moot question of what constitutes the identity or nonidentity of two fired bullets. The reader is referred to original unpublished master theses for a more complete presentation and discussion. (WEK)

Personal and Personality Characteristics in Anonymous Letters—James V. P. Conway, *Journal of Forensic Sciences*, 4(1): 18-33 (January 1959). A narration of the investigation of a series of aggravating letters and anonymous telephone calls. This poison pen letter writer eluded detection for almost two years, during which time a variety of methods, typewriting examinations, polygraph examinations, physical searches, extensive questioning of possible suspects and interested persons, etc., was unsuccessfully employed by a number of different agencies.

The author, by means of correct interpretation of the thought content of the anonymous messages, was able to definitely identify the writer. It is by no means suggested that graphology has scored a victory. Postal Inspector Conway sites the techniques of the investigation as typical of many successful anonymous letter case solutions. With its ramifications, this investigation serves to emphasize the value of competent analysis of the personal and personality characteristics of anonymous letters in terms of technical and investigative manpower, the rights of legitimate victims, the public interest, and the treatment of the poison pen herself. (WEK)

Extraction of Alkaloids from Tissue—Harry Schwartz and David Posnick, *Journal of Forensic Sciences* 4(1): 153-5 (January 1959). An improved ethanol, acetone, N-butyl alcohol, and benzene extraction process by which small concentrations, to wit, 9.67 mgs. of alkaloids (Morphine, Codeine, etc.) in 500 gram brain tissue gave positive color tests with the alkaloidal reagents. Positive and quantitative reaction for the same quantity of codeine in 500 grams of brain tissue was obtained in the methyl orange coupling method. (WEK)

A Simple Method for Detecting and Estimating Ethylene Glycol in Body Materials: Analytical Results in Six Fatal Cases—R. N. Harger and R. B. Forney, *Journal of Forensic Sciences*, 4(1): 136-43 (January 1959). A simple colori-

metric method for determining ethylene glycol in blood and tissues is described. The tungstic acid protein-free filtrate is treated with periodic acid and the resulting formaldehyde is determined colorimetrically after adding a modified Schiff reagent. (WEK)

Procedure for the Rapid Isolation of Basic Drugs from Tissue and Their Subsequent Purification and Identification—Leo R. Goldbaum and Melvin A. Williams, *Journal of Forensic Sciences*, 4(1): 144-52 (January 1959). A simple rapid procedure for determining the presence or absence of basic drugs is presented. The tissue sample is directly extracted with ether. A purification and identification technique using paper ionophoresis is described. The sample of tissue is small (50 gms.), and the procedure can detect microgram quantities of basic drugs. (WEK)

The Presentation of Finger Print Evidence—Glen H. McLaughlin, *Finger Print and Identification Magazine*, 40(6): (December 1958). This is one of the finest discussions on presentation of scientific evidence of fingerprint identification. The author, one of this country's leading identification experts, wisely points out that the identification expert has failed unless the information which is available to him has been presented to the court and jury in such a way that it is clearly heard and fully understood. Opinion testimony—preparation of exhibits—preparation for court—cross examination—how to meet attack, are few of the many phases of evidence presentation discussed. (WEK)

The Attorney General's Laboratory—H. Ward Smith, *Police News*, Police Association of Ontario, 4th Quarter, 14(4). A very interesting resume of the history, progress, purpose, and facilities of the Attorney General's Laboratory, Province of Ontario, Toronto, Canada. The first forensic laboratory was established in 1932. The continued growth and progress of the laboratory and the consolidation of the Police of Toronto has resulted in one of the finest and most modern laboratories. The facilities available to the enforcement officers are described in detail. (WEK)

Fifth Annual Gun Guide—David O. Moreton, *Law and Order*, 6(11): (November 1958). A fairly comprehensive and complete listing of the latest

models of firearms in production, with pertinent technical data and an illustration of each. Rifling characteristics, unfortunately, are not listed. Listings also include manufacturers, importers, pistolsmiths, supplies, periodicals, textbooks, etc. Names and addresses will make it convenient for those wishing to contact directly for further information. (WEK)

The Developer and Its Composition—David O. Moreton, *Law and Order*, 6(11): (November 1958), 6(12): (December 1958). An easy to understand discussion of photographic developers and their chemical composition. Explanation of the fundamental functions of each of the chemicals and some of the problems encountered in chemical developers of photographic films and papers is included. (WEK)

A Central Registry of Forensic Pathology—William M. Silliphant, *Journal of Forensic Sciences*, 4(1): 156-8 (January 1959). Purpose of this short article is to bring to the attention of pathologists engaged in the field of forensic medicine the creation of a Central Registry of Forensic Pathology and to give them a general idea of the manner in which the Registry will operate, as agreed upon by the College of American Pathologists, the Armed Forces Institute of Pathology, and the Committee on Pathology of the National Research Council. As the Registry has been organized primarily for teaching, research, and the advancement of scientific knowledge, and as the success of a registry is dependent upon the enthusiasm with which qualified individuals contribute to the collection, it is hoped that pathologists engaged in this work will actively support this new Registry by the contribution of some of their better teaching cases. (WEK)

Toxicology of Some New Drugs: Glutethimide, Meprobamate, and Chlorpromazine—Elvera J. Algeri, George G. Katsas, and Arthur J. McBay, *Journal of Forensic Sciences*, 4(1): 111-35 (January 1959). The authors review the literature devoted to the toxicology of glutethimide, meprobamate, and chlorpromazine. Cases reported in the literature and additional cases studied pathologically and toxicologically by them involving over-ingestion of these drugs are summarized and discussed.

Quantitative determination of these drugs in