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## Police Science Technical Abstracts and Notes

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## POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

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Edited by  
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### Abstractors

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**The Study of Human Hairs, as an Aid to the Investigation of Crime**—D. Noel Jones, *Journal of Forensic Medicine*, 3 (2): 55 (April-June, 1956). This article details the various physical tests which may be applied to human hair as an aid in identification, and it also presents brief summaries of a number of cases which were investigated and in which hair or material on hair were important in arriving at the solution of a crime. (FRD)

**Blood Spot Identification, Experiences in the Police Laboratory**—R. B. H. Gradwohl, *Journal of Forensic Medicine*, 3 (2): 72 (April-June, 1956). This paper is a summary of the manner in which Dr. Gradwohl handles blood stains in his laboratory. Nothing new is presented. There is one practice which is mentioned to be condemned. In one part of the paper, he discusses the difficulty of certain determinations when dealing with dried blood. However, under his discussions of procedure, he suggests that moist stains be dried quickly for subsequent examination. In the opinion of this reviewer, the procedure of choice would be to carefully wash the stains into clean containers using small amounts of saline, in order to obtain suspended cells for the examinations which are difficult or impossible when only dried blood is available. (FRD)

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**Identification of Occult Blood**—John D. MacPhail, *Identification News* (I. A. I.), 6 (8): 4 (August-September, 1956). The author describes the use of the reagent, *p,p'*-benzylidenebis (*N,N'*-dimethylaniline) in the identification of occult blood. A sensitivity of 1 to 1,000,000 and reaction only to mammal blood is claimed. (WEK)

**Gypsies Fake It, But You Can Use It**—M. N. Bunker, *Law and Order Magazine*, 4 (9): 10 (September, 1956). The title of this article is as misleading as the article itself. It is a discussion of graphology, and the author, who is the founder of the International Grapho Analysis Society, Inc., makes claims that graphology has a definite place in police investigation. In this article, the author states "grapho analysis is not an Aladdin's Lamp—it performs no miracles." If the author would make these conclusions and stick to them, everyone might agree with them. However, he immediately continues and states "it merely provides a complete and authentic picture of each writer's mental habits. That picture can be read the same in Australia, South Dakota, or Capetown. The findings of one analyst will be the findings of the others because there are no hunches, merely proved principles, based on individual strokes that make up a handwriting, and their proper evaluation in relation to one another." Articles such as this appearing in police publications are extremely dangerous and misleading. They can lead gullible and ignorant persons to erroneous conclusions as to the limitations of document examination. It would be ideal if the police, or any person, could from an analysis of any handwriting, obtain a complete analysis of the personality of the writer. (WEK)

Is Hypo Rough to Your Hands?—Anon., *Royal Canadian Mounted Police Gazette* 18 (7): 9 (July 15, 1956). Skin irritation from photographic chemicals is a serious problem to some photographers and darkroom technicians. The qualifications of a "barrier cream"—"Kerodex 71" are discussed. It is claimed to be easy to use, safe, economical, water repellent, invisible when applied to the hands, and elastic as the skin itself. Reports from those who have been using Kerodex 71 indicate that the cream had a healing effect on seriously irritated areas, as well as a preventive effect on areas not previously affected. (WEK)

Study of Firing Pin Impressions and Extractor Markings in .22 Caliber Rifles—Stanton O. Berg, *Identification News* (I. A. I.), 6 (8): 5 (August—September, 1956). This report of extensive study supplements Part 1 which originally appeared in *Identification News*, November, 1955. The author reports several physical measurements of firing pin impressions and describes individual type of impression. As a result of these studies, variations in length of firing pin impressions were found. The factors affecting the length are advanced as follows:

- (1) The tightness or looseness of the chamber on the cartridge.
- (2) The positioning of the bolt or breech face against the breech.
- (3) The positioning of the firing pin hole in the bolt or breech face.
- (4) The tightness or looseness of the firing pin in the firing pin hole.
- (5) Tolerances employed in manufacturing the firing pin striking surface.

The author concludes that the greatest value or aid obtained from examining fired cartridge cases is of a negative nature in so far as determining make and model of weapon. (WEK)

Mobile Crime Laboratory—George J. Maxin, *F. B. I. Bulletin*, 25(9): (September, 1956). This is a description of equipment and operation of the new mobile crime laboratory put into service by the Youngstown, Ohio Police Department. (WEK)

Use of Color Photography Increasing—Harris B. Tuttle, *Identification News*, 6(4): 3 (July, 1956). The author describes the nationwide trend toward the use of color photography in police work. The author points out that there is no uniform set of standards at the present time, and feels that a fact finding committee, to consider all angles, should be set up to make extensive study and proper recommendations. (WEK)

High Speed Photography—Burton D. Munhall, *Finger Print and Identification Magazine*, 38 (1): 3 (July, 1956). The author, one of the foremost ballistic research authorities, describes the operation of high speed photography equipment and its application to the study of ballistic problems. The author believes that high speed photographic demonstrations of such simple occurrences as the breaking of glass by a bullet, the splashing of blood, or the dropping of a glass tumbler would be of inestimable value in the administration of true justice, especially when presented to jurors so that they fully understand the meaning of the evidence placed before them. In the writer's humble opinion, the possibilities of high speed photography are limited only by one's imagination. (WEK)

Gas Content Analyzer—*The Scientific Monthly*, official publication of the American Medical Association for the Advancement of Science, September, 1956. This is an announcement of a new scientific instrument in which quantitative determinations of carbon dioxide, oxygen, carbon monoxide, and nitrogen in blood, plasma, or other fluids may be obtained for 0.03-ml. samples. The instrument is highly portable, is called a microgasometer, and adapts the Van Slyke method to microanalyses. (WEK)

Deciphering and Photo-Recording of Indented Writings—*Royal Canadian Mounted Police Gazette*, 18 (8): 11 (August 15, 1956). Describes a new method for the deciphering and photography of indented writings which have previously presented problems. The advantage of the new method is that the instrumental set-up simultaneously deciphers and photographically records indented writings with a minimum

of preparation and, consequently, a saving of time. Illustrations of the equipment and description and instructions for construction are contained in the article. (WEK)

**Evidence Collection Kit**—*Royal Canadian Mounted Police Gazette*, 18 (9):9 (September 15, 1956). This article, which enumerates contents of an evidence collection kit, ideally suited for arson investigations, originally appeared in the *Law Enforcement Bulletin* of the Wisconsin State Crime Laboratory, Madison, Wisconsin. Suggestions for collection of certain types of arson evidence, and explanation of use of the miscellaneous containers, is presented. (WEK)

**Serological Seminar**—*Royal Canadian Mounted Police, Crime Detection Laboratories, Seminar No. 3, 1955*. In 1953, the Royal Canadian Mounted Police inaugurated the first of a series of seminars. This first seminar pertained to the spectrophotometric and x-ray diffraction methods of identifying small quantities of alkaloids. The first meeting was such a success that a second seminar, dealing with the isolation and purification of toxicologically important drugs, was held. In 1955, it was decided by the Royal Canadian Mounted Police to enter into still another aspect of forensic laboratory work. This resulted in Seminar No. 3, which was held at Regina, Saskatchewan, during May of 1955. The Seminar was attended by 21 outstanding authorities from Canada and the United States. The Seminar was conducted on an informal round table discussion basis, and after presentation of the individual papers, a question-and-answer period followed. The individual papers and remarks were recorded and presented in the form of a report. The various papers discussed were as follows:

"Some Principles Underlying Immunological Techniques," C. E. RICE, PH.D.

"Identification of Mammalian Bloods by a Turbidimetric Technique," D. GEMEROY, PH.D., A. BOYDEN, AND R. DEFALCO.

"Techniques for the Grouping of Dried Bloodstains," B. WHITE, PH.D.

"The Application of Electrophoresis to Analysis of Biological Materials in Forensic Work," W. MCKINLEY, PH.D., AND C. FARMLO, PH.D.

"The Identification of Dog Seminal Stains," E. FENNEL, M.S.A.

"A Discussion of the Acid Phosphatase Test," B. COLDWELL, PH.D.

"Newer Knowledge of the Blood Groups," B. CHOWN, M.D.

"Discussion on The Collection and Preservation of Specimens for Transportation to the Laboratory," D. GEMEROY, PH.D.

**Alcohol and the Police**—William E. Kirwan, *Bull. of BCI, N. Y. State Police*, 20, 21 (3, 4, 1): (1955-56). This is a general review of alcohol and law violation describing alcohol properties, preparations, medical and industrial uses, roles in causing death, and the primary human physiology of ethanol including the classic syndrome chart for various levels of blood alcohol. The author discusses alcohol production by the body, blood and urine preservatives, the insulin-blood alcohol relationship, and blood, urine, saliva, and breath as to sampling method and validity of analysis. Illustrations, descriptions, and operating instructions are presented for five breath-testing devices.

There follows a discussion of classes of crimes in which alcohol is a factor, suggestions on DWI arrest procedure, maintenance of evidence continuity, prevention of sample decomposition, and human error. The author gives extended treatment to pertinent N. Y. State legislation, its evolution, and prime features: first offense, a misdemeanor; second offense, a felony with heavy fines and/or imprisonment (60 days-2 years and/or \$200-\$2000); implied consent to chemical test on receipt of driver's license; local option of type of test but must be conducted within two hours of arrest. The usual, recommended blood alcohol levels, 0.05, 0.05-0.15, 0.15 plus are followed. (EW)

**Breath Alcohol Determination as an Analytical Problem**—H. Grosskopf, *Angewandte Chemie*, 66: 295-297 (1954). The test material ("Alcotest") consists of a glass tube 60 mm. in length which is closed at both ends and has 15 mm. of an indicating substance which is

silica impregnated with sulfuric acid and dichromate. Whenever alcohol is present in the breath, there will be a zone of coloring by which the alcohol content of the breath is determined.

The tube is broken off and on one side a mouthpiece is attached and on the other end a measuring bag. The subject blows into the bag and then the result is noted. One breath is all that is used and care must be taken so that no air escapes.

The tube must be breathed on directly so as to avoid moisture. If not breathed into directly, 20 per cent of the alcohol will be lost. The length of the colored zone is related to the alcohol content of the incoming air only at a certain limit of speed that the air is coming in. The little tube has therefore a resistance of one liter per minute resistance per 50 mm. of the water column. This relatively high resistance was chosen to force the subject to blow into the measuring bag with the full pressure of his lungs in order to get the real alcohol content. Short puffs are inadequate. It has been shown that under these circumstances moisture was curtailed. Experiment shows that with more alcohol concentration, the deeper will be the green.

The test should be used as a preliminary test. If nothing is indicated, there is no reason to take the blood test. The blood test should be administered if the presence of alcohol is noted in the breath test. (CAS)

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Integrity and Character—Anon., *Spring 3100*, 27 (8): 19-20 (Sept., 1956). A discussion of the importance of high moral character for a police officer. (JDN)

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Laundry and Dry Cleaner Marks—W. E. Kirwan and D. Hardy, *Bulletin, B. C. I. New York State Police*, 21 (2): 3-8 (1956). A discus-

sion of laundry and dry cleaners marks and their interpretation. (JDN)

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Saw Traces—R. Pelz, *Kriminalistik*, 10: 171-173 (May, 1956). The identification of a saw cut is based upon the number and set of the teeth. If the teeth are set more on one side than on the other, a curved cut occurs. If the set differs from front to rear, a skew cut results. The roughness or smoothness of the cut surface will give some clue as to the experience of the operator. Of course, sawdust on the clothing of the operator is of considerable importance. (JDN)

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A Practical Experiment on the Effects of Alcohol on Driving Skill—R. F. Borkenstein. Published by The Southern Police Institute. A report on the driving tests conducted by the participants of the seminar on Alcohol and Road Traffic at the Southern Police Institute, February 23, 1956. All drivers over 0.15 per cent definitely impaired with a mean increase of 40 errors as compared to a mean increase of 3.5 for non-drinkers. Tests supported the possibility of measurable impairment in the range of 0.07 to 0.14 per cent. (JDN)

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Arson Investigation Seminar—The Annual International Seminar on Arson Detection and Investigation will be conducted at Purdue University, West Lafayette, Indiana, April 29 and May 3, 1957. Inquiries for further details and registration applications should be addressed to Professor Shelby Gallien, Director, Public Safety Institute, Purdue University. (OH)

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IAAI Annual Meeting—The 1957 Annual Meeting of the International Association of Arson Investigators, Incorporated, will be held in the ballroom of the Purdue Memorial Union, Purdue University, West Lafayette, Indiana, on Tuesday, April 30, at 7:30 p.m. (OH)