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Police Science Technical Abstracts and Notes

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POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

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Expert Witness—W. V. Evans, *Industrial and Engineering Chemistry*, 46: 25A, 26A, 28A (August, 1954). A general discussion of the procedures of preparation and attitude for making the best presentation from the witness stand.—J.D.N.

Spontaneous Combustion of Metal Powders—B. Kopelman and V. B. Compton, *Metal Progress*, 63: 77-9 (February, 1953). Although metals are not usually considered to ignite spontaneously, if they are divided finely enough and if their oxidation is markedly exothermic, spontaneous ignition can take place. This is particularly true of zirconium, uranium, iron, nickel, and copper. Powders of these metals are handled industrially with safety if kept in an inert atmosphere such as argon gas. In air they will ignite. Storage under a non-polar liquid such as naphtha will render the power inert. Certain alloys of rare earths have been found to possess this pyrophoric property.—J.D.N.

Los Angeles Police Department Annual Report, 1953—The organization, functions, and future plans, as well as activities during 1953, are related. The report is attractively illustrated.—J.D.N.

Annual Report of the Division of Police, Cincinnati Police, 1953—A survey of depart-

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ment activities and a report of criminal statistics.—J.D.N.

Signals and Gestures. Hit and Run Investigation—These two new police training films have been produced on 35 mm. slide and record and 16 mm. sound movie for the Traffic Institute, Northwestern University. "Signals and Gestures" is intended to provide a base for uniform sign language throughout police service. "Hit and Run Investigation" highlights the activities of a complete hit and run investigation. The two subjects are the first in a series of police traffic training films to be produced by the National Association of Automotive Mutual Insurance Companies for the Traffic Institute.—J.D.N.

Accident Facts—The 1954 edition of *Accident Facts* is available from the National Safety Council, 425 N. Michigan Ave., Chicago 11, Illinois.—J.D.N.

Superimposition—C. E. Engel, *Medical Radiography and Photography*, 30: 20 (1954). C. E. Engel describes the use of superimposition in forensic medicine. This is the technique of printing two photographic negatives that have been bound closely together either by contact or enlargement. In the preparation of the two negatives, the scale, perspective, and lighting must be given consideration in order for the result to be convincing.

Superimposition is most useful in providing proof of the identity of fragments of evidence, such as pieces of bone which can be related to

whole bone specimens by the technique. Thus, a small piece of bone from a skull can be shown to fit perfectly into a given region of an intact skull so that there is no doubt of the origin of the fragment. (The technique was used with good results in the Ruxton Case, with the photograph of the damaged skulls being superimposed on photographs of the victims to further the evidence proving the identity of the victims. The technique can also be used in investigative procedures of non-medical type, in proving the origin of metal fragments, paint chips, etc.)—F.R.D.

Traffic Officer in Court—The Traffic Institute, Northwestern University. A new basic training manual and a new sound motion picture, both entitled "Traffic Officer in Court," are now available. The 13-page manual, which covers practical problems confronted by police officers when testifying in traffic cases in court, was written by Edward C. Fisher, associate counsel of the Traffic Institute and former judge of the Municipal Court of Lincoln, Nebraska. It is available from the Traffic Institute, 1704 Judson Ave., Evanston, Illinois, at 25¢ for single copies, with discounts allowed for quantities.

The film, which is based on and supplements the manual, was produced by the National Association of Automotive Mutual Insurance Companies for the Traffic Institute. It is a 10-minute, 16 mm. sound film. It may be purchased from Vogue Wright Studios, 237 E. Ontario St., Chicago, 11, Illinois, for \$32.50. Both the film and manual are excellent guides for improving the traffic officer's courtroom work in all of its practical aspects. The film is based on the loss of a case by an officer in court. The judge and the officer's supervisor analyze the reasons why police testimony in court cases is ineffective.—J.D.N.

Semimicro System of Qualitative and Quantitative Elementary Analysis—Ernest H. Swift and Carl Niemann, *Analytical Chemistry*, 26 (3): 538 (March, 1954). A semimicro system of qualitative and quantitative elementary analysis including some thirty-two elements is

described. This represents parts of procedures developed for Chemical Warfare Service during World War II for rapid identification of new and unknown chemical warfare agents. More complete information has been deposited with the Library of Congress, and photoprints or microfilms are available as indicated in footnote to the article.—J.F.W.

Determination of Arsenic in Biological Materials—Robert John Evans and Selma L. Bandemer, *Analytical Chemistry*, 26 (3): 595 (March, 1954). A dry ashing procedure is described in which a magnesium nitrate solution is added to the homogenized specimen followed by charring over a burner and overnight ashing in a muffle furnace at 600°C. The ash is dissolved in dilute hydrochloric acid, and the arsenic distilled as arsine into an iodine solution. The arsenic content of the solution is determined by developing the heteropoly blue compound of arsenic and reading in a spectrophotometer at 840 m μ . Consistent recoveries of from 87 to 90% of distilled arsenic were reported. This method has advantages of saving time and does not require the large quantities of nitric acid used in the wet process.—J.F.W.

Determination of Methanol in Biological Fluids by Microdiffusion Analysis—Milton Feldstein and Niels C. Klendshoj, *Analytical Chemistry*, 26 (5): 932 (May, 1954). This diffusion method eliminates the necessity of distillation to separate the methyl alcohol from the specimens. The reaction of formaldehyde with chromotropic acid (1,8-dihydroxynaphthalene-3,6-disulfonic acid) is used to determine the methanol present, readings being made in a spectrophotometer at a wave length of 580 m μ . The chromotropic acid formaldehyde reaction is quite specific since alcohols, ketones, and the following aldehydes do not give a colored solution: acetaldehyde, propionaldehyde, butyraldehyde, phthalaldehyde, isobutyraldehyde, isovaleraldehyde, chloral, glyoxal, and benzaldehyde. Quantities of specimens used are usually 0.5 ml. blood or urine. The procedure as described requires a two hour period for the diffusion at room temperature.—J.F.W.

A Survey of the Identification Characteristics of Horse Hair—E. E. James, *Royal Canadian Mounted Police Quarterly*, 20: 35-8 (July, 1954). From studies of horse hair, the author concludes that at least thirteen different types of hair are to be found on the same animal. The characteristics of horse hair are summarized as follows:

1. Whole Mount—In whole mount the pigment generally appears patchy and in longitudinal streaks, usually denser about the medulla. The medulla, although not always present, is usually narrow and continuous, but is found to be fragmentary in some instances.
2. Cross Sections—Cross section of horse hair are usually ovoid or elliptical with a clear round medulla. The pigment is concentrated around the periphery of the cortex and is usually denser on one side. The tail hairs display a star shaped medullary area with pigment distribution similar to hairs from other parts of the body.
3. Cuticular Scale Pattern—The cuticular scale pattern is either annular, irregular annular, or a combination of these types. The scale pattern is not a sufficient means of identification, but it is significant in that Patterns VI (Annular) and VII (Irregular Annular) are the only ones found in horse hair.

All three aspects must be used, with emphasis on the cross section.—J.D.N.

Law Enforcement Courses—The Law-Medicine Center, Western Reserve University, Cleveland, has announced two special courses for the fall term. One is Criminal Law for the Law Enforcement Officer, which will cover the legal rights and duties of these officers in a score of frequently met situations. The other is Medical Issues in Legal Cases, which is a course designed for physicians and attorneys.—O.H.

Effective Testimony for Scientific Witnesses—Wilmer Souder, *Science*, 119 (3102): 819-22 (June 11, 1954). The author discusses all phases of expert testimony based upon his extensive experience as a scientific witness in federal courts. Expert witnesses in all fields will find numerous suggestions of value in this paper.—O.H.

Code of Ethics Adopted by Questioned Document Examiners—Ordway Hilton and Clark Sellers, *American Bar Association Journal*, 40 (8): 690-1 (Aug., 1954). A brief article discusses and presents the Code of Ethics adopted by the American Society of Questioned Document Examiners. This code, the first formulated by any group of forensic scientists, should be of assistance to all engaged in the forensic sciences.—O.H.

Reduction of Police Vehicle Accidents—The Police Department of New York City, in an effort to reduce and eliminate accidents involving police vehicles, has recently appointed a Motor Transportation Safety Board which will hold hearings on all accidents involving department vehicles. By careful analysis of these accidents, it is hoped that the program can be extended to in-service training of recruits on the proper driving attitudes and skills.—O.H.

Procuring Handwriting Specimens during Cross Examination—Ordway Hilton, *Connecticut Bar Journal*, 28 (2): 168-72 (June, 1954). An article prepared especially for trial attorneys discusses the shortcomings of most writing standards taken during cross-examination. The author recommends having the witness comfortably seated at a table, the counsel table for example, selecting the appropriate writing instruments, and having sufficient writing prepared, not just one or two signatures.—O.H.

Professional Organizations

American Society of Questioned Document Examiners—The annual meeting of the Ameri-

can Society of Questioned Document Examiners was held at Richmond, Va., August 9-13.

Scientific papers presented dealt with several subjects, but a majority of these involved questions of writing inks and altered documents. John F. Tyrrell, Dean of American Document

Examiners, was honored by the presentation of a Life Membership. Officers for the following two years are John L. Harris, President; George J. Lacy, Vice President; Ordway Hilton, Secretary; and Herbert J. Walter, Treasurer.—O.H.

FOREIGN LANGUAGE PERIODICALS AND ARTICLES OF INTEREST IN THE FIELD OF POLICE SCIENCE*

Compiled by Kurt Schwerin†

ALGEMEEN POLITIEBLAD VAN HET KONINKRIJK DER NEDERLANDEN. The Hague. 103d year, nos. 9. 11, 16; May 1 and 29, August 7, 1954.

J. W. Verburgt, *Het congres over het onderzoek naar brandoorzaken de München* (The seventh criminological congress on arson investigation at Munich) (no. 9, p. 170).—W. Froentjes, *Het onderzoek van bloedsporen* (The investigation of blood traces) (no. 11, p. 203-07).—J. W. Verburgt, *De alcoholbepaling in bloed: Het rapport* (The examination of alcohol in blood: The report) (no. 16, p. 299-301).
DEUTSCHE POLIZEI. Hamburg. 1954. no. 5, May, 1954.

Volkmar Sachs, *Kritische betrachtung zur frage der blutalkoholbestimmung nach Widmark und über die zuverlässigkeit ihrer ergebnisse in der forensischen praxis* (Critical reflections on the problem of the determination of blood alcohol on the basis of the Widmark method, and on the reliability of its results in forensic practice) (p. 93-94).

INTERNATIONAL CRIMINAL POLICE REVIEW. Paris. Ninth year, nos. 78-79, May-June/July, 1954. English edition.

R. Webster, *Gemstones and jewellery* (no.

* All periodicals listed are available in the Elbert H. Gary Library, Northwestern University, School of Law, 357 East Chicago Ave., Chicago.

† Assistant Librarian, Elbert H. Gary Library, Northwestern University, School of Law.

78, p. 130-38; no. 79, p. 162-67).—A. Haslund, *Use of wire-recorder in criminal investigation* (no. 79, p. 168-70).

KRIMINALISTIK. Hamburg. Eighth year, nos. 6-7, June-July, 1954, (and Supp. Kriminalwissenschaft, 1st year, nos. 4-5).

Franz Angermayer, *Analytische untersuchungen von schreibstoffen unter besonderer berücksichtigung der papierchromatographie* (Analytic examination of inks under special consideration of paper chromatography) (supp. no. 4, p. 41-46).—Heinz Aeppli, *Tonaufnahmen von verhören statt protokollierung* (Pick-up devices for interrogations instead of protocols?) (no. 7, p. 173-74).—H. L. Costa, *Die verwendung des lügendetektors im strafverfahren* (The lie detector in criminal procedure) (p. 177-80).—S. Oehlinger, *Farbenmessungen mit dem Farbenmessgerät "Metricolor"* (Measurements of colors with the "Metricolor" chromatometer) (supp. no. 5, p. 59-64).

REVISTA DE MEDICINA LEGAL. Madrid. Ninth year, nos. 94/95, January/February, 1954.

B. Aznar, *El examen pericial de documentos ante los tribunales de justicia* (The expert examination of documents before the courts) (p. 5-77).

REVUE PÉNITENTIAIRE ET DE DROIT PÉNAL.

Paris. Vol. 78, nos. 4/6, April/June, 1954.

Charles Gilliéron (editor), *Leçons sur la psychologie du détenu* (Lectures on the psychology of the prisoner) (p. 266-311).