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Police Science Technical Abstracts and Notes

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POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

Joseph D. Nicol*

How to Solve More Arson Cases—R. C. Steinmetz requested opinions from twenty-four members of the International Association of Arson Investigators regarding more effective means for arson investigating. The replies represent the thinking of a representative group and should merit study by other investigators. They are available from the Mutual Investigation Bureau, 111 W. Washington St., Chicago 2, Illinois.

Interviewing Witnesses—John Kennedy presented a paper at the Seventh Annual Seminar and Training Course in Arson Detection and Investigation at Purdue University on the subject of Interviewing Witnesses. This paper is based upon the studied experiences of several years in the field of arson investigation and contains many worthwhile suggestions for investigators. Mutual Investigation Bureau, 111 W. Washington St., Chicago 2, Illinois, has reproduced it.

Tool Mark Comparisons—Technique—In the November-December issue of this Journal there appears an article describing "Special Techniques Useful in Tool Mark Comparisons." The application of magnesium smoke to paraffin test marks undoubtedly has merit, but in the experience of this laboratory a much simpler technique consists in merely dusting the paraffin test mark with aluminum or other finely divided "fingerprint" powders. This procedure permits more accurate matching of colors (between test and evidence) and gives a true metallic surface appearance. A series of simple tests will illustrate the relative effectiveness of these techniques. (Submitted by Patrick W. Fuller, Scientific Police Laboratory, Oakland, California.)

Handling Latent Friction Ridge Prints—A brief review of chance impressions is given by G. Tyler Mairs in the *Finger Print Magazine*, 32:3-8 (April, 1951).

Improvements in a Method for Preparing Plastic Powder—Sample Capillary Tubes—K. E. Beu, writing in *The Review of Scientific Instruments*, 22:62 (Jan., 1951), describes a modification of his method for making plastic diffraction tubes. In place of an ordinary solution of cellulose acetate he uses "Peel-it" (Hareo Chemical Co.). Mandrels are wires stretched about 10%, cleaned in nitric acid and stored, until used, in helium-filled glass tubes. Using "Peel-it" the capillary tubes strip easily and remain straight.

An Enzymatic Method for the Microdetermination of Ethanol—Because the Widmark method is not specific for ethanol R. K. Bonnicksen and H. Theorell developed a more specific method. Their procedure, as reported in *The Scandinavian Journal of Clinical and Laboratory Investigation*, 3: (1) 58-62 (1951), has the advantages of having a high degree of specificity for ethanol, applicability to very small quantities of specimen and facility of handling. Methanol, ethyl ether, acetane, β -hydroxybutyric acid, and ethylene glycol do not interfere. A weighed sample is distilled in a 2 ml distilling flask into

* Director, Allegheny County Crime Laboratory, Pittsburgh.

a 5 ml receiver. 1-2 ml of water is distilled from the same flask to rinse condenser. The receiver is weighed before and after. Then, into 1 cm. Beckman glass cuvettes, 0.08 ml of an aqueous sol. of diphosphopyridin-nucleotide containing 10 mg of pure DPN per ml is placed. Into six cuvettes, 0, 0.06, .12, .2, .3, .4 ml of ethanol standard solution are placed. The volumes are made up to 3.2 ml by adding a buffer-semicarbazide solution of the following composition: 3 vol. of 0.1N NaOH + 7 vol. of 0.1N glycine in 0.1N NaCl + 1 vol. of semicarbazide sol. (1.12g of semicarbazide in 100 ml. of .1N NaOH). The pH is around 9.2. At time = 0, taken on a stop watch, the following is added: 0.04 ml of pure liver alcohol dehydrogenase in 0.8 mg/ml of ammonium sulphate sol. (degree of sat. = 0.3). After 30 minutes the absorption of all tubes is read at 340 m μ . Standard curves are drawn each time, and temperature considerations are eliminated.

Mercuric Bichloride Poisoning—A review of 54 cases of mercuric bichloride poisoning is presented in the *New England Journal of Medicine*, 244:459-63 (March 29, 1951). The usual symptoms are gastrointestinal lesions ranging from mild gastritis to severe necrotizing ulceration of the mucosa. Some patients develop specific renal involvement which may progress to an anuric state and uremia. Administration of BAL and prompt gastric lavage is the best therapeutic measure.

The Estimation of Methyl and Ethyl Alcohol from Current-Voltage Oxidation Curves—An article by W. M. MacNevin and T. R. Sweet in the *Quarterly Journal of Studies on Alcohol*, 12:46-51 (March, 1951) indicate that current-voltage curves obtained using solid metal micro-electrodes can be used to estimate methyl and ethyl alcohol. Controlling variable are pH, temperature, rate of rotation of electrodes, rate of voltage increase, direction of applied potential, prepolarizing treatment, and extent of removal of oxygen. This method has been used successfully on saliva.

Sudden and Unexpected Death in Infants—A Review of this subject, by C. G. Grulee, Jr., appears in the *New Orleans Medical and Surgical Journal*, 103:243-50 (Dec., 1950). Grulee discusses status thymica lymphaticus, lymphatism, accidental mechanical suffocation, asphyxia or anaphylaxis in their historical background and improbability of answering the problem of sudden death. Infections, as disclosed by pathology, are a predictable cause as well as hemorrhage.

NEW PRODUCTS

EDITOR'S NOTE: It is the purpose of this additional service to the readers of the Journal to call their attention to new products deemed helpful in police fields. Data presented will be abstracts of the manufacturer's literature or reports of demonstrations. Only those products considered most suitable to police science will be included. The mention of any product in this Journal, however, is not to be construed as a recommendation by the Journal.

Voice Muffler—Privacy and clarity are often lacking in telephone conversations conducted at police headquarters. A snap-on device, manufactured by G. D. Labelle Associates, P. O. Box 97, Sunnyside Station, Long Island City 4, N. Y., will help eliminate this difficulty. The Voice Muffler is attached to the transmitter of the French-type telephone.

Fairchild—Polaroid Identification Camera—Photographic identification badges can now be completed within a minute after personnel report for duty through a new application of the Polaroid Land picture-in-a-minute camera. The new camera also eliminates a common loophole in most security systems—the “blind” temporary passes carrying no photograph, often issued to new employees and plant visitors. The device is an adaptation of the Polaroid Land Model 95 camera, mounted on an elevator tripod with reflector flood lamps. A telescoping positioning bar carries subject's identification name or number. An 84 mm Wollensak f/5.0 lens and No. 2 Betax shutter make up the optical equipment. 20,000 students were “processed” in three days at the University of Michigan.

Comparison Microscope, Held, Model VM 340—The Fargo Company of San Francisco, 260 Napoleon St., San Francisco 24, California, has acquired the distributorship for the Martin Held microscopes. One of the Held line is the VM 340, Comparison Microscope. Its 13 $\frac{3}{8}$ ” center-to-center stages and optics will appeal to the comparative micrographer. The bridge contains two objective mounts containing three objectives giving 15x, 25x and 145x magnification, and a movable prism in the path of the central eyepiece enables the operator to see one object in the whole field or two objects in a split field. The stages and their adjustments are supported on a sturdy cross arm and both bridge and stage supports are mounted on an upright post by dovetail slides. The weight of the entire assembly is about eighty pounds.

Comparison Microscope, Held, Model VM 100—Another in the Held line of comparison microscopes, the Model VM 100 enables the comparison of objects at magnification up to 1000x to be made. The optics consist of a bridge containing two, four objective nosepieces and a central eyepiece, and two NA 1.2 condensers fitted with iris diaphragms and filter holders. The coarse and fine adjustment moves the bridge as a whole, and any individual adjustment can be made by a fine adjustment on one stage. The mechanical stages are adjustable for scanning objects. The objectives are 5x, 10x, 50x and 100x and two eyepieces are provided. A special source of light at the base of the stand contains one bulb and two mirrors for equal illumination of both condensers.

Polaroid Land Camera, Model 95—There are many situations in which the police investigator would like to be sure he has a picture before he leaves a crime scene and when retake may be impossible. The Polaroid Land camera eliminates the anxious moments between picture exposure and development by processing the picture automatically in one minute after exposure. Thus, the effect of the exposure conditions can be studied immediately. A close-up kit, containing supplementary lenses, broadens the scope of the picture-taking possibilities of this camera.

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

Compiled by
Kurt Schwerin**

Annales de médecine légale et de criminologie. Paris. 31st year, no. 4, Apr. 1951.

Charles Romano, *Un procédé microchimique pour l'identification de l'orifice d'entrée des blessures par armes à feu* (A microchemical process for the identification of the openings of wounds inflicted by fire arms) (p.137-142).

Archivio di antropologia criminale psichiatria e medicina legale, Milan, ceased publication with Ser. V, vol. 69, fasc. IV, Oct./Dec. 1949. It is being superseded by *Minerva medicolegale*. *Archivio di antropologia criminale psichiatria e medicina legale*, Torino, vol. 70, 1950.

International criminal police review. *Revue internationale de police criminelle*. Paris. 6th year, no. 47, April 1951. (English edition.)

W. Hepner, *Invisible rays and search for traces in criminalistic practice* (p. 110-123).—B. di Tullio, *The police, an organisation of social protection* (p. 124-126).—*An interesting Swiss technique: The use of stereophotogrammetry on accident or crime scenes* (p. 127-134).

Kriminalistik. Heidelberg. 5th year, nos. 5/6-7/8, March-April, 1951.

Max Frei-Sulzer, *Mikroskopischer vergleich zweier schreibmaschinenschriften* (Microscopic comparison of two typewriter scripts) (no. 5/6, p. 49-50).—Dietrich Schäfer, *5 Jahre Institut für Kriminalistik und strafvollzugskunde an der Universität Freiburg i/Br.* (Five years Institute for criminology and penology at the University of Freiburg/Breisgau) (no. 7/8, p. 72-73).—Herbert Kalicinski, *Die kriminalpolizeiliche aufgabe des Polizei-Instituts Hiltrup* (The criminological task of the Hiltrup police institute) (no. 7/8, p. 65-67).

Minerva medicolegale. *Archivio di antropologia criminale psichiatria e medicina legale*. Torino. vol. 70, nos. 1-5/6, May-Nov./Dec. 1950.

S. Busatto, *Sulla ereditarietà delle impronte digitali e sulla sua applicazione in medicina legale* (The heredity of fingerprints and its application in legal medicine) (no. 1, p. 3-23).—E. Bocchi, *La radiografia lombare come mezzo d'identificazione personale* (Radiography of the loins as a means of personal identification) (no. 1, p. 37-41).—Renzo Gilli, *Rilievi critici sul reattivo di Szondi* (Critical remarks on the Szondi test) (no. 2, p. 63-66).

Polizei-praxis. Frankfurt a/M. 4th year, Dec. 1950, no. 23/24; 5th year, Jan. 1951, no. 1/2.

Das Polizei-institut Hiltrup: Rückblick, ausblick. (The Hiltrup police institute: Past and future) (no. 23/24, p. 353-356).—Kurt Klüter, *Zum problem der verbrecherhandschriften* (The problem of the handwritings of criminals) (no. 1/2, p. 28-31).

Revue pénitentiaire et de droit pénal. Paris. 75th year, no. 1/3, Jan/March 1951.

J.-B. Herzog, *Un point de vue brésilien sur la narco-analyse* (A Brazilian viewpoint on narco-analysis) (p. 94-97).

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

**Head, Foreign and International Law Sections, Elbert H. Gary Library, Northwestern University School of Law.