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Police Science Technical Abstracts and Notes

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POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

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The Profilograph in Police Science—The fourth paper in this series is published in the *Fingerprint Magazine*, 32:3-8 (Oct., 1950). J. E. Davis discusses a modification of the Timken Profilograph which can be produced in moderately well-equipped laboratories. With this instrument a horizontal magnification of 40X and a vertical magnification of 100-1000X is possible when applied to a test tool mark or the plastic replica of a bullet. Photographs accompany the article.

Radiation Hazards of Radioactive Isotopes in Fire Emergencies—The International Association of Fire Chiefs have prepared a report of the hazards and personnel protections necessary in combatting fires where radioactive isotopes are involved. This introductory report may be obtained for twenty-five cents by writing to the International Association of Fire Chiefs, 22 East 38th Street, New York 16, N. Y.

The Decimal System of Classifying Single Finger Prints—The decimal system of classifying single fingerprints in the Identification Bureau of the State Police at Sao Paulo, Brazil is described in the *Fingerprint Magazine*, 32:15-20 (Oct., 1950) by T. D. Cooke. This system, developed by Roberto Thut, has been in use since 1935: "It is based on combinations of numerals according to the fundamental types and sub-types of finger print patterns in our ten finger system of classification."

Medical Identification in the Noronic Disaster—A detailed description of the work of pathologists, X-ray technicians, and fingerprint experts in the identification of all but three of 119 victims of a ship fire is contained in an article by T. C. Brown in the *Fingerprint Magazine*, 32:3-14 (Dec., 1950). Extensive use of X-ray identification establishes the place of this technique in solving identification problems. A graphical method of exclusion proved to be very helpful in showing the identification teams which bodies required additional emphasis and additional information such as denture data, old X-ray films, and the like. Brown points out the necessity for slow, deliberate and sure methods of identification and cautions against the temptation to yield to the pressure of relatives and friends to make hasty identifications based upon incomplete data. Some degree of caution should also be exercised by police and fire authorities against too hasty removal of bodies before adequate facilities are available for the identification of personal property and the exact location of recovery of the body. Several interesting examples of identifications are given.

Checkwriters—A brief but informative discussion of identification problems involving checkwriters appears in the *Bulletin of the Bureau of Criminal Identification of the New York State Police* [15(3):3-7 (1950)]. Identification of the make of checkwriter from its work and of the individual machine through its operating defects is described and clearly illustrated (O.H.)

Ball Point Pens—How the ball point pen is constructed, composition of its ink, and something of its writing quality is to be found in an article in the

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Bulletin of the Bureau of Criminal Identification of the New York State Police [15(3):7-8 (1950)]. The writer warns officers against using ball point pens to obtain writing standards, generally excellent advice, but unfortunately fails to suggest that some such specimens should always be obtained when the disputed matter is written with this class of instrument.

Scientifically written article, of interest to all document examiners, on the examination of ball point pen writing is to be found in Dr. Jacques Mathyer's "Ball Pens and the Expert Appraisal of Written Documents" (*International Criminal Police Review*, English Ed., No. 43, 357-360 (Dec. 1950)). Both physical and chemical examination of the writing is discussed. Subjects considered are character of writing done, resistance to light, resistance to heat, ultraviolet examination, chemical reagents, eradication, chloride and sulphate migration tests, and transferring of ink. (O.H.)

Multipurpose Method of Spectrographic Analysis—V. G. Perry, W. M. Weddell, and E. R. Wright describe a quantitative spectrographic technique of general applicability based on sodium nitrate as a common matrix. Three different procedures are described: Sodium salts; Nitric Acid-Soluble Materials, Organic Materials; Refractory Materials. The claim is made that 42 elements may be determined with an accuracy of 5% of the amount present. *Analytical Chemistry*, 22(12):1516-18 (Dec., 1950). Clemens R. Maise, St. Louis Police Laboratory.)

Carbon Monoxide and Carbon Dioxide Gaseous Mixtures by C. H. Toensing and D. S. McKinney.—A method is described by the authors for the determination of carbon monoxide in a mixture with carbon dioxide. The procedure is gravimetric using copper oxide to oxidize the monoxide to dioxide. The dioxide is then absorbed on ascarite. This procedure could be modified to include carbon monoxide determinations in blood. *Analytical Chemistry*, 22(12):1524-26 (Dec., 1950). (Clemens R. Maise.)

Colorimetric Determination of Ethyl Alcohol—A simple accurate spectrophotometric method is described by Max B. Williams and H. Darwin Reese for the determination of 0.0010 to 5.800 milligrams of ethyl alcohol per milliliter. Alcohol is oxidized with sulfuric acid dichromate reagent and the unused chromate determined by adding S-diphenylcarbide. A violet colored complex is formed which follows Beers Law. The complex is measured at 540 millimicrons. This procedure is applicable to blood alcohol, urine alcohol, and breath alcohol determinations. Forensic laboratories will want to give this method a try. *Analytical Chemistry*, 22(12):1556-61 (Dec., 1950). (Clemens R. Maise.)

Police Fatalities Throw Light on Patrol Methods—R. H. Kirkwood and Bruce Smith state in the *F. B. I. Law Enforcement Bulletin*, 19:2, 3, 25 (Nov., 1950) that single motorized patrols produce fewer homicidal attacks than are produced by dual patrols. Excluding New York, the rates are 2.8 deaths per 1000 one-man patrol car units, and 3.11 deaths for 1000 plural patrol units. Further study will be made to correlate crime pattern, work assignments, and the like to this problem.

Rubber Stamps—The problems of the identification rubber stamps are discussed in the *F. B. I. Law Enforcement Bulletin*. In addition to defects,

accumulated foreign matter can be used as individual identifying characteristics. Some comments are to be found on stamps composed of individual movable letters; in this type of stamp alignment is also important. It is imperative in all stamp cases that the stamp be preserved in its recovered state of cleanliness and alignment.

NEW PRODUCTS

EDITOR'S NOTE: It is the purpose of this additional service to our readers to call their attention to new products deemed helpful in the 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 an endorsement by the Journal.

Anti-Human Precipitin Serum—The Hyland Laboratories, 4534 Sunset Blvd., Los Angeles 27, California, have modified the processing procedure for producing serum and now manufacture for police use the Hyland Dried Anti-Human Precipitin Serum. This serum is prepared by hyperimmunizing rabbits against whole human serum. The nonspecific antibodies are absorbed out, using the method described by Walker. Factors causing turbidity have been removed and stability has been enhanced by further purification. The finished serum contains less than 1.00% moisture and is sealed under dry nitrogen to improve stability. The finished product is of high titer and is readily restored for use by the addition of 1.0cc of distilled water. Each vial of dried serum is enough for one test.

Vu-Graph—The Vu-Graph is an overhead projector that combines the advantages of the slide projector and the "blackboard" into one visual tool. It allows the speaker to face his audience at all times. Transparencies or slides prepared from any copy may be projected and interpretive notes relative to the subject can be placed upon a wide moveable transparent tape which serves as a "blackboard." Thus it would be possible to develop a sketch of a crime scene or traffic accident before a class of police recruits without losing sight of audience attention.

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

Compiled by
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International criminal police review. *Revue internationale de police criminelle*. Official organ of the International criminal police commission. Paris, nos. 41, 43, Oct., Dec., 1950. (no. 42, Nov., 1950, listed in previous check list). English edition.

T. Toivonen & Onni Takko, *Counterfeiters at work in Finland* (no. 41, p. 263-273).—Fritz Schwartz, *Forensic medicine and fatal traffic accidents* (no. 41, p. 274-280).—F. Coimbra, *Determination of blood-group on the scene of crime* (no. 43, p. 330-339).—Jean Gayet, *The individual identification of typewriting machines* (no. 43, p. 340-351; to be continued).—Jacques Mathyer, *Ball pens and the expert appraisal of written documents* (no. 43, p. 357-360).—L. Ducloux, *The second Criminology congress, Paris, Sep. 10-18, 1950* (no. 43, p. 362-365).

Kriminalistik. *Zeitschrift für die gesamte kriminalistische wissenschaft und praxis*. Heidelberg. 4th year, nos. 23/24, Dec. 1950.

Rudolf Mally & Franz Windhaber, *Kriminaltechnische papier untersuchung* (Criminological-technical investigation of paper) (p. 274-279).

Die neue polizei. Munich. 4th year, nos. 10-12, Oct. 15-Dec. 15, 1950.

Wilhelm Ruml, *Die erholung von schriftproben* (The procurement of specimens of handwriting) (no. 10, p. 146-147, no. 11, p. 165-167).—Hanns Bellavic, *Identifizierung von schusswaffen* (Identification of firearms) no. 12, p. 177-181).

Prison journal. English translation (mim.) of "Zeitschrift für strafvollzug." A monthly journal of correctional philosophy and practice. Bad Nauheim (Germany). Published by a German editorial staff for the Office of General Counsel, U.S. High Commissioner for Germany. Vol. 1, no. 9, 1950.

E. Duckwitz, *Penal execution for juveniles in Land Bremen* (p. 3-8).

Revue de criminologie et de police technique. Geneva. Vol. 4, no. 4, October-December, 1950.

V. Gonsenberg, *L'interrogatoire psychiatrique* (Psychiatric interrogation) (p. 273-280).—C. G. Chabat, *Détermination du calibre des projectiles se trouvant dans le corps humain* (Determination of the caliber of projectiles found in the human body) (p. 280-282).—Charles Sannié & Jacques Pinel, *La recherche des lavages sur les documents* (The research of washings on documents) (p. 283-294).—J.-J. Furrer, *Croisements de traits d'encre avec un texte dactylographié* (Crossings of ink and typewritten characters) (p. 295-299).

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

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