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Police Science Technical Abstracts and Notes

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POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

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Calculating the Serial Number of the Henry Primaries—H. J. Myers, II, and F. V. Willard presented a method for calculating the serial numbers of the Henry primaries (this Journal, 41(3):337-80) and set forth two rules for finding these numbers. Workers familiar with elementary algebraic notation may find the following single formula useful and more rapid. If d is the denominator of the Henry primary fraction, n , the numerator, and S , the serial number, then: $S = n + 32(d - 1)$. Using examples discussed in the original article, the serial number of primary 1/2 is calculated: $S = 1 + 32(2 - 1) = 33$; for 9/17: $S = 9 + 32(17 - 1) = 9 + 32 \times 16 = 521$; or for 32/13: $S = 32 + 32(13 - 1) = 32 + 32 \times 12 = 416$. (Ordway Hilton.)

Tattoo Marks on Criminal—Inspector J. Dalarue of the French Surete Nationale, who has recently published a text on the subject of tattoo marks on criminals, has recently written this Journal that he would be interested in exchanging information and photographs of these marks with others working in the field of police science. Readers maintaining files on tattoo marks can communicate with Inspector Dalarue at Direction de la Surete Nationale, 11 rue des Saussaies, Paris (8°) France.

The Third Annual Meeting of the American Academy of Forensic Sciences—The American Academy of Forensic Sciences will hold its third annual meeting March 1, 2, and 3, 1951, at The Drake Hotel, Chicago, Illinois. All persons desiring to present papers are requested to contact Dr. A. W. Freireich, Chairman, Program Committee, 180 Hempstead Avenue, Malverne, New York. (Ralph F. Turner.)

The Profilograph in Police Science—In the third paper in this series J. E. Davis discusses the application of the profilograph to the field of firearms identification. Tracings show the ability of this technique to record the contour of bullets and to enable a comparison of similar areas. It is suggested that the technique might be applied to Faxfilm reproductions of the bullet surface. This investigation is reported in the *Finger Print Magazine*, 32:16-9 (Sept., 1950).

A Volumetric Determination of Barbituric Acid Derivatives—E. Pedley [*The Journal of Pharmacy and Pharmacology*, 2: 39-44 (1950)] suggests the use of a standard solution, 0.1M, of mercuric perchlorate as a precipitating agent for barbiturate derivatives in place of Millon's Reagent. The precipitated barbiturate is removed by filtration, and the excess mercury determined volumetrically with N/10 ammonium thiocyanate.

Preparation of Naphthyl Acid Phosphates—O. M. Friedman and A. M. Seligman describe the preparation of α —and β -naphthylphosphates in the *Journal of the American Chemical Society*, 72:624-5 (Jan., 1950). Since the sodium salts are water soluble their use by technicians for the detection of phosphatase activity in seminal stains is advised.

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Accident Facts—The National Safety Council has published its report of the accidents which occurred in 1949. Twenty-nine pages are devoted to the analysis of motor-vehicle accidents.

The Profilograph in Police Science—The application of a surface tester, "profilograph," to the comparison of tool markings is described by J. E. Davis in the July and August issues of the *Finger Print Magazine*, 32(1):3-8, 18, 19 (1950); 32(2):3-8 (1950). The tester, originally developed to determine the surface smoothness of bearings, consists of a sensitive diamond tracer similar to a phonograph pickup, under which the specimen moves. The movements of the tracer are magnified by a mirror-light beam arrangement, and vertical and horizontal profiles are recorded on photographic paper on a rotating drum. The fluctuations of the tracer point are magnified to show a profile reproduction having 1000x vertical amplification and a horizontal amplification of 30x. Tool marks can be compared by comparing profiles of test specimen vs. evidence mark. (Submitted by Charles Zmuda, Chicago Police Laboratory.)

Document Examiners Meet—The annual meeting of the American Society of Questioned Document Examiners was held at Houston, Texas, during the week of August 26-September 1st. Technical papers dealing with the identification of typewriting and other problems arising out of typewritten documents formed the basic program. A demonstration of testimony in disputed typewriting cases was presented by selected members, and at the final meeting, Professor Fred E. Inbau of Northwestern University Law School, an honorary member, discussed the legal aspects of testimony in typewriting problems. On Wednesday evening, before a capacity crowd in the Federal Court Room, the Society and the Houston Bar Association held a seminar on questioned document problems which featured illustrated talks by Society members. At its business meeting a formal code of ethics was adopted. Officers elected for the next two years: President, A. D. Osborn, New York City; Vice-President, J. L. Harris, Los Angeles; Secretary, G. J. Lacy, Houston; and Treasurer, H. J. Walter, Chicago. (Submitted by Ordway Hilton, Document Examiner, New York City.)

Fire Exposure Tests of Old Fireproofed Wood Doors—*Bulletin of Research*, No. 5, of the Underwriters' Laboratories, Inc., describes tests conducted on fireproofed doors from an old demolished building. The doors had been fireproofed twenty-five years before using ammonium phosphate and ammonium sulfate. Although these doors would not be regarded as sufficiently fireproofed to pass present requirements, nevertheless, the extent of fireproofing originally introduced into them was still present. The doors resisted flame exposure for 15 minutes, and then the panels fell out.

Fire Exposure Tests of Ordinary Wood Doors—*Bulletin of Research*, No. 6, of the Underwriters' Laboratories, Inc., describes fire exposure tests on ordinary flush-type and paneled doors. Paneled doors permitted the passage of flame in less than five to seven and one-half minutes. Flush doors held flame back for eight and one-half minutes. Thickness of material, clearance between the door and frame, effects of warping, type of hardware, and method of attachment are the important considerations. Poorly secured panels will fail mechanically before burned through.

Spontaneous Ignition and Its Prevention—A. H. Nuckolls discussed spontaneous ignition in *Bulletin of Research*, No. 2, Underwriters' Laboratories, Inc. This is a subject of vital interest to arson investigators. The materials in question are divided into four groups; the first group, non-combustibles (slaked lime) which react with something else producing sufficient heat to ignite combustibles; the second group, material, such as hydrides of phosphorous, which have ignition temperatures below ordinary temperature; the third division includes substances which oxidize at ordinary temperature to the extent that they will reach ignition temperatures (linseed oil, soya oil, coal); and the last group, consists of organic materials, such as hay and grain, which generate heat by bacterial action (microbial thermogenesis) and eventually reach kindling temperature.

An Unusual Identification—The x-ray photograph of the head of a shooting victim revealed wire-like fragments scattered throughout the front part of the brain. Further investigation showed these to be pieces of rosin core solder. Also found in the brain were pieces of paper. A later comparison of the pieces of paper taken from the victim's head with a paper from the suspect's trailer showed a match of the torn edge and printed material. The newspaper had been torn from a larger sheet in order to make a wad for a homemade shotgun shell. This interesting identification is reported in the *Bulletin of the Bureau of Criminal Investigation of the New York State Police*, 15:4-6 (1950).

Determination of Rare Earths—The use of copper as a supporting electrode in place of graphite is suggested by J. A. C. McClelland, writing in the *Analyst*, 75:392 (1950). This is of particular value when the elements to be detected have their strong lines in the region of the cyanogen bands. He reports some loss in the lowest limits of detectability but feels that other considerations will offset that loss. Where copper is the element under consideration graphite is indicated.

The Selenious Acid Test for Barbiturates—E. B. Parker (*The Analyst*, 75:448 (1950)) shows that the selenious acid test described by Turfitt in the *Quarterly Journal of Pharmacy and Pharmacology*, 21:4 (1948), is also given by many common drug items, among them, aspirin, phenacetin, benzocaine, and salicylic acid.

Southern Police Institute—Announcement from the Southern Police Institute at the University of Louisville has been received of the convening on January 3, 1951, of the first of three 12-week courses to be offered annually. This Institute has been established to give instruction on a regional basis to commanding, administrative, and supervisory officers in police departments of the South. Instruction will deal with all phases of modern police work—including crime detection; crime prevention; traffic enforcement and engineering; psychology, psychiatry, and social economic studies; police ethics; and handling of disorders. The Institute has the joint backing of the City of Louisville and the University of Louisville, and grants have been made by the Carnegie Corporation and the Rockefeller Foundation. The staff is to include full-time members and part-time specialists in police science and allied fields.

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.

Miles "Walkie-Recordall."—The Miles Reproducer Company, Inc., 812 Broadway, New York 3, N. Y., have produced a small battery recorder ideally suited to police work. With this instrument concealed in a bag such as a brief case, conversations up to 40 feet from the microphone can be recorded. It is possible to record continuously for one hour on each side of the plastic band. The recorder is 4 x 7 x 7 inches and weighs only six pounds, including batteries. An automatic volume control permits recording voices of varying volume.

Calcium α - Naphthyl Phosphate and Solution α - Naphthyl Acid Phosphate—The Dajac Laboratories, 3430 West Henderson Street, Chicago 18, Illinois, have prepared naphthol-free reagents for acid phosphatase determinations. Either the calcium or sodium α -naphthyl phosphates are available. Anthraquinone-1-diazonium chloride is also available.

Versatile Photomicrographic Apparatus—A Photomicrographic Apparatus, designed also to serve all other aspects of scientific photography, is announced by Silge & Kuhne, 153 Kearny Street, San Francisco 8, California. Named the Orthophot, it provides facilities for photomicrography; photomacrography; micro-projection; laboratory, clinical, and general photography; photocopying; microfilming; x-ray photocopying; and photoenlarging.

The apparatus is used with any standard microscope. It comprises three basic units:

1. A base with permanently-aligned built-in light source operating on the Koehler principle (balanced at 3200K for color work) with intensity-control maintaining constant color temperature, and with built-in color filters for black and white photomicrography. This unit is available separately as light source for exacting visual microscopy.

2. A self-aligning reflex camera with precision focusing device (for use with No. 120 rollfilm, 2 $\frac{1}{4}$ " x 3 $\frac{1}{4}$ " cut or pack film, and standard 35 mm film), automatic Rapax shutter (1 sec. to 1/200 sec., T & M): attached sensitive photoelectric exposure meter; and

3. A vertical column assembly with counterbalanced elevating device for camera, operated by rack and pinion.

Accessories convert the unit for photomacrography, cine-photomicrography, general laboratory photography, photocopying of opaque and translucent objects, and photoenlarging, by attaching lamp unit with double condenser which works through the basic camera unit.

The reflex camera itself is detachable and can be used on a standard tripod or hand-held for all forms of scientific or general photography.

Light source, camera, or vertical column are available separately for combination with existing equipment in the user's laboratory. A simplified version of the column can be had with adjustable camera holder to permit use with a wide variety of standard still and motion-picture cameras.

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

Compiled by
KURT SCHWERIN**

Algemeen politiebld van het Koninkrijk der Nederlanden. The Hague. 99th year, nos. 14-18, July 15-Sep. 9, 1950.

Reports on the 19th General assembly of the International criminal police commission, and the International conference for the suppression of counterfeiting. June 19-21 and June 15-17, The Hague (no. 14, p. 67-74).—C. Dekker, *Criminele politie statistiek* (Criminal police statistics) (no. 17, p. 331-336).—J. H. Smith, *De techniek en tactiek van de confrontatie* (Technique and tactics of confrontation) (no. 18, p. 347-349).

Kriminalistik. Zeitschrift für die gesamte kriminalistische wissenschaft und praxis. Heidelberg. 4th year, no. 13/14-no. 17/18, July-Sep. 1950.

B. Taschen, *Ueber blausäure-vergiftungen* (Poisoning through Prussic acid) (no. 13/14, p. 156-158).—Albrecht Böhme, *Ausschnitte aus der arbeit der Kriminal-technischen abteilung des Zentralamtes für kriminal-identifizierung und polizeistatistik des landes Bayern in München* (Samples from the work of the technical department in the Zentralamt für kriminal-identifizierung und polizeistatistik of the state of Bavaria in Munich) (no. 15/16, p. 179-185, no. 17/18, p. 193-198).—Heinz Lossen, *Das tatmotiv des neurotischen verbrechers als kriminal-psychologisches problem* (The motive for the actions of the neurotic criminal as a problem in criminal psychology) (no. 17/18, p. 198-201).—X. Bauernfeind, *Warum so wenig fuss-spuren?* (Why so few footprints?) (no. 17/18, p. 201-207).—Staatsanwalt Stein, *Narcoanalyse und lügendetektor; ihre zulässigkeit und ihr praktischer wert im deutschen strafverfahren* (Narcoanalysis and the lie detector; their admissibility and their practical value in German criminal procedure) (no. 17/18, p. 207/210).

Nordisk kriminalteknisk tidsskrift. Stockholm. Year 20, no. 6-7, 1950.

Arne Hanson, *Narkotiska gifter: I: Haschisch.* (Narcotic poisons. I: Marihuana) (no. 6, p. 61-64).—G. Fredriksson, *Stockholmpolisens nya brottsstatistik* (The new statistical method of the Stockholm police department. Based on the punch card system) (no. p. 73-77).

Nordisk tidsskrift for kriminalvidenskab. Copenhagen. 38th year, no. 3, 1950.

Jens Jersild, *Forebyggende politiarbejde. En undersøgelse vedrørende unge hjemløse* (Preventive police work; an examination concerning homeless young people) (p. 204-207).—Elisabeth Møllar & B. Borup Svendsen, *Psykiatrisk bistand i tilsyrsarbejdet med lovovertraeder* (The article outlines the work of the Danish probation service and discusses cases where psychiatric assistance was desirable). With Summary in English. (p. 208-218).

Rassegna di neuropsichiatria. Ospedale Psichiatrico Consortile, Nocera Inferiore (Salerno), Italy. vol 4, no. 3, May/June 1950.

Palmieri, V. M. & M. de Mennato. *Lo studio statistico dei delitti in funzione della criminalità* (A statistical study of delinquents and criminality). (no. 3, p. 270-280).

* 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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