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Police Science Technical Abstracts and Notes

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POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

John D. Nicol*

Improved Ferric Chloride Test for Phenols—Saul Soloway and S. H. Wilen, *Analytical Chemistry*, 24:(6) 979-83 (June, 1952). The authors describe an improved qualitative test for phenols using chloroform solution as the reaction medium instead of water. Small amounts of pyridine is used as the alkalizing agent. Color reactions using 78 different phenols are presented in tabular form. (Submitted by Clemens R. Maise, St. Louis Police Laboratory.)

Detection of Ultraviolet-Absorbing Substances on Paper Chromatograms—A. C. Paladini and L. F. Leloir, *Analytical Chemistry*, 24:(6) 1024-5 (June, 1952). An attachment is described and construction details given for a device to be used with a Beckman Model DU Spectrophotometer. The filter paper is made translucent by first drying and then treating with paraffin oil. The authors used the accessory to detect purine and pyrimidine derivatives, but it is obvious that this device can be used in connection with many other chromatographic determinations. (Submitted by Clemens R. Maise.)

Application of Mohr-Westphal Balance to Rapid Calibration of Wide Range Density-Gradient Columns—F. M. Richards and L. E. Thompson, *Analytical Chemistry*, 24:(6) 1052-3 (June, 1952). The use of density-gradient columns in the identification of glass particles and soil specimens is well known to the forensic scientists. Here at last is a simple method for calibrating such columns. Construction details are given for an accessory to a double hook torsion balance by which accurate density measurements can be made in any part of the column. (Submitted by Clemens R. Maise.)

Comparison of Writing Inks by Chromatography—A. W. Somerford, *Identification News*, 2:(4) 4 (April, 1952). The comparison of 152 different inks representing 21 manufacturers is reported. Eighty per cent were found to be water soluble and could be examined by this method. The additional examination under ultraviolet light is recommended.

Directing Traffic—*Northwestern University Traffic Institute Bulletin* 770. A survey of traffic directing; what it embraces, and how it should function.

How Accurate is Pacing—J. M. Keneipp, *Traffic Digest*, 6: 6-7 (August, 1952). Estimations of distances of 113 feet and 17 feet by 36 experienced men indicated that the method of measuring by paces may lead to gross inaccuracies. When estimating the shorter distance, 17 feet, 97 per cent came within 10 per cent of the true value. However, only 75 per cent of the men estimated the longer distance within 11 feet of the actual value. It is recommended that where paces must be used as an emergency measure, the paces should be counted, and then later the same number be stepped out and measured with a tape.

Invisible Rays in Search for Traces in Criminalistic Practice—Walter Hepner, *International Criminal Police Review*, 6th year: (47) 110-23 (April, 1951). A review of the sources of ultraviolet and infrared radiation with a discussion of their use in comparing paper, fibers, matches, and glue. The use of ultra-

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violet radiation in detecting invisible writing, blood, and semen is also discussed. The application of x-rays to the detection of forgeries of oil paintings is related.

The Police, An Organization of Social Protection—B. di Tullio, *International Criminal Police Review*, 6th year: (47) 124-6 (April, 1951). di Tullio states that, in addition to the task of the apprehension of criminals, it is also the duty of the police to focus attention on areas of anti-social activity and to take necessary steps for remedial action. This preventive phase requires the following divisions; a section for minors, a section for women, a section for surveillance and reeducation of individuals who are socially dangerous, a section for recidivists, and a section for those paroled from prison and mental hospitals. In order to implement such a program a woman's police force is a necessity.

The Use of Stereo-Photogrammetry on Accident or Crime Scenes—Anon., *International Criminal Police Review*, 6th year: (47) 127-34 (April, 1951). By means of a stereometric camera and a stereo-autograph, it is possible to superimpose a three-dimensional picture over the plan of the scene and to obtain, automatically and accurately, measurements of width, length, and depth of the scene photographed. No measurements need be made at the scene. A special camera and plotting instrument are used.

Safety and Industrial Hygiene in the Laboratory—H. H. Fawcett, *Chemical and Engineering News*, 30: 2588-91 (June 23, 1952). A Partial List of Incompatible Chemicals is published with this article. This information should be in the hands of all fire investigators.

Protective Screen for Sheriff's Cars—Anon., *The National Sheriff*, 4: 6 (April, 1952). Prompted by incidents of deputy sheriffs being attacked by occupants of the rear seat of sedans, Sheriff Starr of Orlando, Fla. had a screen partition fabricated from one-half inch expanded steel. This protects the driver from any attack except that of small diameter objects thrust through the screen. The door handles are removed on the inside of the rear door to prevent the escape of prisoners.

The Determination of p-Nitrophenol and p-Nitrophenyl-o-s-diethyl Thiophosphate in Parathion—J. C. Gage, *The Analyst*, 77: 123-6 (March, 1952). The mixture of parathion, the s-ethyl isomer of parathion and p-nitrophenol is reduced by refluxing in toluene (sulphur-free) with zinc dust and benzoic acid. p-Aminophenol is extracted with 0.5 N HCl and coupled with o-cresol in the presence of NH_4OH to form indophenol, which is determined at 615 $\text{m}\mu$. by comparing density with standard curves. The s-ethyl isomer is extracted from the toluene solution with 0.5 N HCl and hydrolyzed to p-aminophenol with 20% NaOH. Coupling with o-cresol produces a blue indophenol color which reaches a maximum in 45 min. and is read at 615 μ . and compared to standard curves. The reduced parathion is extracted, diazotized, and coupled with N-sulphatoethyl-m-toluidine. The azo dye is extracted with two portions of isoamyl alcohol, made up to volume and read at 510 $\text{m}\mu$.

A Modified Micro-Diffusion Method for the Determination of Ethyl Alcohol in Blood—F. J. Scandrett, *The Analyst*, 77: 132-5 (March, 1952). A micro-diffusion apparatus designed by F. W. R. Bahner has been adapted to the de-

termination of alcohol in blood. The apparatus consists of a "mushroom" receiver, a condenser jacket, lower vessel, and special rubber stopper. This arrangement permits a separate temperature control of the two chambers and reduces the absorption and oxidation to 30 minutes as compared to 2 hours for the Widmark method.

Purse-Snatchers—Anon., *Spring 3100*, 23: 3-5 (April, 1952). The tactics of purse-snatchers as they apply to the populations of parks are described. Suggestions are given for coping with this problem.

Codes are Fragile—Anon., *Spring 3100*, 23: 10-3 (April, 1952). The work of the Legal Bureau of the New York City Police Department in breaking the codes of policy collectors is described. Simple substitution and complex-substitution codes are discussed.

The Isolation, Identification, and Determination of Amphetamine in Viscera—E. Rathenasinkam, *The Analyst*, 77:135-8 (March, 1952). Purer products of amphetamine are obtained by extracting with alcohol acidified with tartaric acid, evaporating the alcohol, and dissolving residue in water. Sodium chloride is added to saturation, the solution made alkaline to litmus with sodium hydroxide, and steam distilled into 50 ml. of 0.5 N hydrochloric acid. Evaporate to definite volume, take aliquot, extract with ether (discard extract), extract twice with chloroform, and shake extract with 10ml. of 0.1 N hydrochloric acid. Test residue of acid layer after evaporation for amphetamine. Several color and microchemical tests and the benzoyl derivatives are given. Volumetric determination, gravimetric determination as oxalate, or colorimetric determination by coupling with diazotized p-nitroaniline may be employed. As little as 0.03 mg. in 25 gm. of tissue may be estimated.

How Good are the Small Automatics—F. S. Allen, *The American Rifleman*, 100:19-22,42 (March, 1952). The results are given of the performance tests performed by the U. S. Army Ordnance Corps of the following weapons: U. S. M1911A1, .45 caliber; Russian Tokarev, 7.62 mm. caliber; Walther P-38, 9 mm. Parabellum caliber; Japanese M-14, 8 mm. Nambu caliber; Walther PP, 7.65 mm. caliber; Walther PPK, 7.65 mm. caliber; Mauser HSc, 7.65 mm. caliber; and the Sauer Model 35, 7.65 mm. caliber. Accuracy, stamina, freedom from jams, penetration, and muzzle energy are discussed.

The New Remington—Phil Sharpe, Elmer Keith, Rudy Etchen, *The American Rifleman*, 100: 16-8 (March, 1952). The new Remington, Model 760 Slide-Action rifle is discussed. This weapon will be manufactured in the following calibers: 35 Remington, .30-'06, and .300 Savage. All three will have six-right rifling. The new Remington Model 11-48 autoloading shotgun in 28 gauge is also discussed.

Films Cut Traffic Toll—Arthur L. Marble, *Photography*, 30: 95, 100-1 (August, 1952). The visual-aid department of the Los Angeles Police department is described. The new safety record of Los Angeles is attributed to the fine training films produced by this section.

Typewriter Type—*Print* 7 (3): (June 1952). This entire issue of *Print*, the magazine of the Graphic Arts, is devoted to a presentation of modern typewriters, their typeface, and their special uses. Illustrated discussions of the

manufacture of typefaces, of regular and proportional space types, and of examples of current forms of type should be of special interest to the document examiner. (Submitted by Ordway Hilton.)

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. The mention of any product in this Journal, however, is not to be construed as a recommendation by the Journal.

Photomultiplier Attachment for Beckman "DU"—An increase in sensitivity of several hundred fold in the 200-600 millimicron range is possible with the new photomultiplier attachment for the Beckman "DU" Spectrophotometer. Increased resolution as well as increased sensitivity is possible.

Polaroid X-Ray Pictures—Picker X-Ray Corp. and the Polaroid Corp. have adapted the 60 second Polaroid development technique to the processing of X-ray pictures. The device produces a 10 inch square picture. In present form it requires 115 volt supply for operation.

Zeiss Standard Polarizing Microscope—This new instrument embodies an inclined tube, analyzer rotating through 180°, an Amici-Bertrand lens focused with a knurled collar, and centerable objective mounts which are resilient for the protection of specimens. Controls are in the low position and are coaxial.

Cenco-Lerner Lab-Jack—A sturdy and compact adjustable platform enables light and heavy objects to be raised with ease. The platform, measuring 8x8 inches, can be raised through a range of seven inches to a maximum height of 10¼ inches. As an adjustable support for subjects in macrophotography, this device would find considerable utility.

Medatron—Photron, Inc., Portland, Oregon, has developed an assembly of an electronic flash and a Kine Exacta or Kine Exa 35 mm. camera for close-up photography. With the 50 mm. lens alone, the coverage is approximately 2x3 feet and is adaptable to identification photography on 35 mm. color or black and white film. With reflex focusing and an automatic exposure calculator, high quality results are to be expected. Closer pictures are possible through the use of extension tubes on the camera.

Specific Immune Sera—The Wisconsin Alumni Research Foundation, 506 N. Walnut street, Madison, Wisconsin, has begun production of specific immune sera for sale. This program is a response to a widespread desire for a central source of such material. To date only a few sera have been prepared (anti: horse, beef, pork, sheep, human). However, others will be prepared on request, and stocks will be built up gradually. The Foundation laboratories will also perform identification tests employing these preparations.

PROFESSIONAL ORGANIZATIONS

Society for the Advancement of Criminology

The Society for the Advancement of Criminology will hold a one-day interim meeting, February 24, 1953, at Northwestern University Law School, Chicago, Illinois. This meeting will immediately precede the 1953 meeting

of the American Academy of Forensic Sciences, February 26-28, at the Drake Hotel, Chicago. The SAC meeting will be of interest to all those engaged in police administration education programs on the college level, who have not been able to attend the annual meetings in California. The complete program will be announced shortly. All those interested in presenting papers should contact the Program Chairman, Professor Ralph F. Turner, Department of Police Administration, Michigan State College, East Lansing.

American Society of Questioned Document Examiners

The annual meeting of the American Society of Questioned Document Examiners was held in Kansas City, August 11-15, 1952. Technical papers dealing with problems of handwriting identification were presented and discussed by the membership. The committee on research reported on recent advances in ink studies including new methods of ink chromatographic analysis. Officers elected were: John L. Harris, Los Angeles, president; H. E. Cassidy, Richmond, Va., vice-president; George J. Lacy, Houston, Tex., secretary; and H. J. Walter, Chicago, treasurer. The directors include: A. D. Osborn, New York City, retiring president; Clark Sellers, Los Angeles; and John F. Tyrrell, Milwaukee, dean of American document examiners.—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. 101st year, nos. 14-16. July 12-August 9, 1952.

S. Zwarts and H. A. Vonk, *Dactyloscopische merkwaardigheden* (Dactyloscopic curiosities) (no. 14, p. 251-254)—A. Ringoir and F. Enklaar, *Macrohyperstereoscopie als toepassing van de stereoscopische fotografie* (Macrohyper-stereoscopy as application of stereoscopic photography) (no. 16, p. 285-289).

Kriminalistik. Heidelberg. Sixth year, heft 13/14, July, 1952.

Helmut Konrad, *Identifizierung eines unbekanntes menschlichen torsos* (Identification of an unknown human torso) (p. 151-152)—Max Freisulzer, *Mikrospuren bei brandfällen* (Micro traces in arson cases) (p. 157-160).

Minerva medicolegale. Torino. Vol. 72, no. 2, March/April, 1952.

A. E. Vitolo and A. Fornari, *Ricerche analitiche per la caratterizzazione degli inchiostri a scopo criminalistico* (Analytical research in the characteristics of ink for criminological purposes) (p. 59-62). The first part of this article appeared in vol. 71, no. 4, July/Aug. 1951, pp. 104-113.

Die Neue polizei. Munich. Sixth year, no. 7, July, 1952.

Herbert Schmidt-Lamberg, *Die pyromanie* (Pyromania) (p. 105-106).

*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.

Nordisk kriminalteknisk tidsskrift. Stockholm. 22d year, 1952, nos. 1-2.

A. Berglund, *Olycksfall eller självmord?* (Accident or suicide? A case of attempted insurance fraud) (no. 1, p. 1-7)—Reidar Sveen, *Bedriftstøverier. En bidrag til etterforskingstaktikken* (The author discussed the value of electrical alarm contrivances in theft cases) (no. 2, p. 13-15).

Revista de medicina legal. Madrid. Seventh year, no. 70/71, Jan./Feb., 1952.

Juan Antonio Gisbert C., *Algunos aspectos de la investigación médico-legal de pelos y cabellos* (Some aspects of the medico-legal examination of hair) (p. 20-30).

Revue de criminologie et de police technique. Geneva. Vol. 6, no. 2, April/June, 1952.

W. Luthi, *L'activité de la Commission internationale de police et ses effets pour la Suisse* (The activity of the International Criminal Police Commission and its effects for Switzerland) (p. 127-132).—Jean Pinatel, *Criminologie et police sociale* (Criminology and social police) (p. 133-136).—Louis Lemouzi, *La police motorcycliste de la Sureté Nationale* (The motorcycle police of the "Sureté Nationale") (p. 136-144).—J. B. Herzog, *Le crime dans le roman français* (Crimes in the French novel) (p. 145-153).—Ch. Sannié & Z. Moloster, *Recherches sur l'analyse de l'ancre des documents manuscrits* (Research, on the analysis of ink in manuscript documents) (p. 154-167).—René Lechat, *L'infra-rouge et l'investigation judiciaire* (Infrared and legal investigation) (p. 167-176).—W. Hepner, *Utilisation d'excréments humains dans le cadre de la recherche d'indices en criminologie* (The utilization of human excrements in the search for evidence in criminology) (p. 176-185).—Max Bobst, *L'expression du visage après la mort peut-elle avoir une signification en criminalistique?* (Is the expression of the face after death of criminological significance?) (p. 186-188).—On pp. 189-192 some new technical devices are discussed, a "Baliscope" (for examining the rifling marks on projectiles), a new Detector for examining questioned documents, and a transparent table for microscopic examinations.