

Fall 1962

Police Science Technical Abstracts and Notes

Follow this and additional works at: <https://scholarlycommons.law.northwestern.edu/jclc>

 Part of the [Criminal Law Commons](#), [Criminology Commons](#), and the [Criminology and Criminal Justice Commons](#)

Recommended Citation

Police Science Technical Abstracts and Notes, 53 J. Crim. L. Criminology & Police Sci. 391 (1962)

This Criminology is brought to you for free and open access by Northwestern University School of Law Scholarly Commons. It has been accepted for inclusion in Journal of Criminal Law and Criminology by an authorized editor of Northwestern University School of Law Scholarly Commons.

POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

Edited by
Joseph D. Nicol*

Abstractors

William E. Kirwan†

Ordway Hilton‡

Study of Modern Methods of Grouping Dried Blood Stains—L. C. Nickolls and M. Pereira, *Medicine, Science and the Law*, 2 (3): 172-9 (April 1962). The authors have investigated two recent methods of grouping dried blood stains, one by Kind (1960) and the other by Coombs and Dodd (1961). Critical comments on both methods are included, and the authors propose a modified method of testing. (OH)

Identification of the Pseudocholinesterase Type in Human Blood Spots—H. Lehmann and Daphne Davies, *Medicine, Science and the Law*, 2 (3): 180-3 (April 1962). The test described is designed to identify different enzymes in blood spots which may be up to several weeks or months old. The level is estimated by inhibiting the different enzymes by dibucaine, and the percentage inhibition is known as the Dibucaine Number (DN). The DN of human blood spots may occasionally be of some forensic value. (OH)

Applications of Infra-Red Spectroscopy to the Identification and Comparison of Petrols—Kenneth Jones and Colin Francis Tippett, *Medicine, Science and the Law*, 2 (3): 184-8 (April 1962). The use of infra-red spectroscopic techniques allows the immediate identification of a petrol to Commercial, Premium or Super grade with reference to two peaks on the spectrum. In the case of Premium or Super grades, petrol can be accurately identified by comparison with standard spectra. A Commercial grade petrol may be identified or limited to one or two possibilities. The effects on spectra of mixtures of petrols is discussed. (OH)

* Superintendent, Bureau of Criminal Identification and Investigation, Springfield, Illinois.

† First Deputy Superintendent, New York State Police, Albany.

‡ Examiner of Questioned Documents, 15 Park Row, New York.

Medical Investigation of Fatal Aircraft Accidents—P. J. Stevens, *Medicine, Science and the Law*, 2 (2): 101-9 (January 1962). The author discusses the application of pathological examinations of victims of aircraft accidents as a substantial aid in determining the cause of accident. Problems of identification of the victims and the difficulties arising out of inability to examine the crash scene prior to disturbance by other investigators and rescue efforts are treated. (OH)

Identification of Mutilated and Decomposed Bodies (With Special Reference to Air Crash Victims)—A. Keith Mant, *Medicine, Science and the Law*, 2 (2): 134-42 (January 1962). The author discusses general methods of identification which were applied after the last war to identify bodies buried from one to five years. In connection with air crashes it is pointed out that severe internal and skeletal injuries may be suffered by a body during an air crash and yet the skin remains intact so that a visual identification is possible. Once the decomposition of such a body has occurred, however, one may be dealing with a mass of bony fragments and little else. Means of identification includes consideration of scars and tattoos, fingerprints, dental data, and methods are discussed where greater decomposition has taken place. (OH)

Fatal Air Rifle Pellet Wound of the Brain—W. R. L. James, *Medicine, Science and the Law*, 2 (2): 153-4 (January 1962). The author describes the accidental fatal shooting of a child with an air rifle, the brain injury, and discusses the need for regulation of these weapons. (OH)

Two Seats—One Fire—J. Anderson and H. J. Walls, *Medicine, Science and the Law*, 2 (3): 189-96 (April 1962). The authors describe a suspicious fire which was extinguished before serious damage

to a bar and lounge. There were definitely two seats of the fire apparently independent which suggested arson, but no other evidence in the case pointed in this direction, and ultimate careful reexamination revealed the manner in which this fire traveled rapidly through a ventilator system causing almost simultaneous ignition at two widely separated points. The need of careful investigation and consideration of all factors in suspicious fire investigations is emphasized. (OH)

Patterns of Injury from Humane Killers—A. C. Hunt and Vanda M. Kon, *Medicine, Science and the Law*, 2 (3): 197-203 (April 1962). Two types of animal guns or "humane killers" as they are popularly called are discussed. Several makes of captive bolt pistols and free bullet pistols are described. Cases involving suicides using these weapons are noted. (OH)

What about a Mobile Crime Lab?—W. Cleon Skousen, *Law and Order*, 10 (2): 22, 25, 26, 27 (February 1962). A discussion of the value and use of mobile crime laboratories. Staff, departmental assignment, type of service, physical equipment are treated. The public relations value of the unit is indicated. (JDN)

Hypodermic Syringe Converted into a Weapon—R. J. Schoch, *Law and Order*, 10 (2): 80 (February 1962). By plugging the rear of a hypodermic needle before attaching to a syringe with extended plunger, such a unit can be converted into a weapon. Pressure on the plunger expels the needle with sufficient velocity to cause injury. (JDN)

Some Applications of Paper Chromatography in the Detection of Opium Alkaloids—George R. Nakamura, *U.N. Bulletin on Narcotics*, 12 (4): 17-20 (Oct.-Dec. 1960). Heroin is separated from interfering substances by ascending chromatography using butanol, water, and acetic acid (10:5:1). Analysis of heroin on tobacco, in soap, and in solutions in ampules is described. The heroin is detected by a iodoplatinate spray and identified by spectrophotometry and crystals. Where urine of suspect addicts could not be obtained, stains on underwear shorts were examined; positive in 3 out of 32 cases. (JDN)

Erection of a Monument to the Memory of Henry Faulds—A Distinguished Fingerprint Pioneer—Hirofumi Sekine, *Fingerprint and Identifi-*

cation Magazine, 43 (10): 3 (April 1962). Discussion of Faulds's life in Japan and his interest and contribution to the use of fingerprints in personal identification. Describes dedication of monument at his residence in Tokyo. (JDN)

Useful Hint for Latent Print Photography—H. G. Westcott, *Fingerprint and Identification Magazine*, 43 (10): 23 (April 1962). Suggests using a film holder loaded with photographic paper to reverse color of fingerprint lift. Exposures of the order of 45 sec. at f 11 with two 500 watt floods give satisfactory prints. (JDN)

A Fingerprint Camera—R. D. Ostler, *The Police Journal* (London), 35 (2): 122-4 (March-April, 1962). A 9cm x 12cm plate camera is mounted on a bed constructed of angle iron. Position of camera and lens bed is fixed so that objects at the end of the bed are in focus. Illumination is provided by synchronized electronic flash. At f 16 adequate depth of field will record fingerprints on curved surfaces. Construction permits use in confined areas and also to record tool marks. (JDN)

Tranquilizing and Related Drugs: Properties for their Identification (Part I)—Ponnusamy Rajeswaran and Paul L. Kirk, *Bulletin on Narcotics, United Nations*, 13 (3): 15-37 (July-Sept. 1961). Fifty tranquilizers and related drugs are discussed, giving chemical name, common name, manufacturer and structural formula. Color reactions, with the following reagents are given:

- | | |
|---|-----------------|
| 1. Froehde's | 2. Mandelin's |
| 3. Marquis' | 4. Mecke's |
| 5. Reickard's | 6. Flueckiger's |
| 7. Vitali's | 8. Schneider's |
| 9. Conc. H ₂ SO ₄ | 10. Wasicky's |

Further observations of the nitrated compounds reacting with alkali in chloroform or ether extracts, are reported. (JDN)

An Electrode System for the Analysis of Flammable Liquids—Richard F. Scheidemann, and John E. Shott, Jr., *Arcs and Sparks*, 7 (4): 7 (December 1961). Highly inflammable liquids, such as gasoline, may be analyzed spectrographically by cooling the specimen with nitrogen introduced through a hole in the upper electrode. A plastic tube connects the upper end of the top electrode to a source of dry nitrogen. 10 cu. ft. per hour is sufficient flow of nitrogen. (JDN)

The Universities and the Police Services—P. C. J. Price, *The Australian Police Journal*, 15 (1): 35-49 (January 1961). Although this article applies to a survey of attitudes in England, much of the material could be applied to the problem of recruitment of university graduates into police service in America. Lack of lateral insertion and points for education, low starting salary, long periods in-grade prior to promotion, lack of imaginative in-service training, programs for leaders, all contribute to the difficulty of recruiting high caliber men from the ranks of university graduates. (JDN)

Ultraviolet Light in Criminology—Jack DeMent, *The Australian Police Journal*, 16 (1): 81-88 (January 1962). A review of the application of ultraviolet light for the detection of evidence. (JDN)

Dealing with Bomb and Explosives—Thomas L. Moran, *The Fire and Arson Investigator*, 12 (3): 37-51 (January-March 1962). Discusses the handling of bombs, explosives and the investigation of bombings. Burning gasoline tanks, radio frequency energy, and sources of explosions normal to a business or dwelling are treated. (JDN)

Spot Test Detection and Differentiation of Hexahydro-1,3,5-trinitro-s-triazine and Octahydro-1,3,5,7-tetranitro-s-tetrazine—Stanley Semel, *Chemist-Analyst*, 51 (1): 6-7 (March 1962). RDX and HMX can be differentiated by their reaction with a reagent solution of quinalizarin in concentrated sulfuric acid (3 mg in 40 ml. concd. H_2SO_4). After 20 min. RDX produces a light yellow color, HMX a blue. After 25-30 min. both are yellow. Other nitrate and nitramine explosives produce interfering color reactions. (JDN)

Spot Test Detection and Differentiation of N-Methyl-N,2,4,6-tetranitroaniline and Hexahydro-1,3,5-trinitro-s-triazine—Fritz Feigl and Dora Haguener Castro, *Chemist-Analyst*, 51 (1): 5-6 (March 1962). Tetryl and Cyclonite are differentiated by the detection of nitrous acid if tetryl is heated to 150° dry. Cyclonite decomposes releasing formaldehyde and nitrogen trioxide if heated to 180° with manganese dioxide. Cyclonite, alone, can be detected by heating with benzoin and detecting nitrous acid. Tetryl heated with

hexamethylenetetramine releases formaldehyde and ammonia. Colored compounds are formed with fusion with diphenylamine if tetryl is present. Cyclonite will not react with diphenylamine. Nessler's reagent is used to detect formaldehyde, Griess reagent is used to detect nitrous acid. Tests may be performed on microgram quantities. (JDN)

Forensic Neuropathology—Mechanisms of Craniocerebral Injury and their Medicolegal Significance—Cyril B. Courville, *Journal of Forensic Sciences*, 7 (1): 1-28 (January 1962). Traumatic lesions of the skull and brain are found so frequently in medicolegal autopsies that it is vitally important for the medical examiner to understand how structural alterations are produced by injuries as well as to know how to record such lesions properly. In order to bring the several aspects of the mechanisms of craniocerebral injury within a limited discussion it may be said that each particular type of injury produces its own train of lesions which are more or less characteristic of that mechanism. A critical study makes it possible in most cases to reconstruct the mechanism of the injury. This is true even of the more complicated lesions produced by traffic accidents and falls (coup-contrecoup lesions). Since these accidental injuries must be distinguished from those due to felonious assault, a clear understanding of the causative coup-contrecoup mechanism is of vital importance. Because the lesions resulting from this latter condition are still so typical that there is no excuse for a medicolegal pathologist to confuse them with traumatic lesions of other mechanisms. It should be remembered that a direct blow to the quiescent head will not produce actual brain damage unless the skull itself has been fractured, usually with depression and comminution of bone. The problem of accompanying traumatic intracranial hemorrhage must await further discussion. (WEK)

The Case Against Narcointerrogation—John C. Gall, Jr., *Journal of Forensic Sciences*, 7 (1): 29-55 (January 1962). Narcointerrogation is the practice of administering drugs to an accused person for the purpose of questioning him under conditions of impaired judgment. The procedure involves invasion of the body and mind of the accused for purposes not at all concerned with his medical benefit. There is therefore no physician-patient

relationship, and a physician who participates is probably committing assault and battery. At the very least he is in violation of medical ethics. Morally the procedure is reprehensible in that it places more value on the apprehension of criminals than on the safety, dignity, and privacy of citizens. Legally it is in violation of constitutional rights in that it attempts to circumvent the "contest" concept of American justice, deprives the accused of his faculties, invades the privacy of his mind, and in the manner of an inquisition extracts from a helpless subject a wholesale and indiscriminate confession. It puts the accused in bodily danger and is thus a form of ordeal. Finally, in terms of social tendency, the practice could lead to an intolerable state of affairs in which the police, using the techniques of medical science, would acquire a death-grip on the community. Physicians should refuse to put their skills at the service of the State for any purpose except the direct medical benefit of individual patients. (WEK)

Carbon Monoxide Poisoning—Review of the Literature and Presentation of a Case—Theodore Rowan, and Frank C. Coleman, *Journal of Forensic Sciences*, 7 (1): 103-130 (January 1962).

A case of carbon monoxide poisoning is presented which illustrates some of the difficulties encountered in assessing the severity of poisoning, especially where compensation is a factor. The literature is reviewed to demonstrate the protean manifestations that may be found. Blood samples should be taken from patients as soon as possible where the possibility of CO poisoning exists and if possible, a sample of the supposedly vitiated atmosphere. A comprehensive list of references included. (WEK)

Estimating the Time of Death—The Rectal Cooling after Death and its Mathematical Expression—Thomas K. Marshall, and F. E. Hoare, *Journal of Forensic Sciences*, 7 (1): 56-81 (January 1962). It is generally assumed that a dead human body cools according to Newton's Law of cooling. Analysis of experiments carried out on over 100 dead naked bodies showed that this was not so during the first twelve hours of cooling when cooling proportional to the temperature excess of the body over that of its environment is modified to a varying extent by some process which opposes cooling, and which, by virtue of a decay mechanism, becomes insignificant after about twelve hours. The modification is probably due both to

postmortem metabolism and the development of temperature gradients in the surface layers of the body, the latter playing the major role. Their effect on the rectal or liver temperature curve is to change its shape from the exponential one associated with Newton's Law to one of sigmoid shape.

After about twelve hours, the rate of loss of heat becomes directly proportional to the excess temperature of the body over that of its surroundings and the rate of cooling per degree of temperature difference (the cooling factor) is then proportional to the ratio of the effective radiating surface of the corpse to its mass (the size factor). This enables the cooling factor to be determined graphically for any body.

A formula has been devised which will express the type of cooling encountered in these experiments. It contains two exponential terms; one expressing the cooling proportional to the temperature excess of the body over its environment, the other expressing the influence of the modifying factors. This formula, when used with the experimental data, was found to reproduce the cooling observed in the experiments with considerable accuracy. (WEK)

The Use of a Succinic Dehydrogenase Stain in the Autopsy Diagnosis of Early Acute Myocardial Infarction—Willard Aronson and Thomas Pharmakis, *Journal of Forensic Sciences*, 7 (1): 140-46 (January 1962). The use of a relatively simple histochemical stain for succinic dehydrogenase in the pathologic diagnosis of early myocardial infarction is described. It promises to be of value in the study of acute myocardial infarction, of infarctions without demonstrable vessel occlusion, and in cases of focal myocardial necrosis of 4-6 to 24-48 hours duration. (WEK)

Handwriting and the Mentally Ill—Ordway Hilton, *Journal of Forensic Sciences*, 7 (1): 131-39 (January 1962). Identification of the writing of an incompetent or someone suffering from some mental disorder can be accomplished. It may well require special care and especially writings prepared during the period of this illness, but under these conditions a reasonably accurate conclusion, if not a firm scientific determination, can be reached.

In contrast to this, attempts to determine from the handwriting that the individual is suffering from some mental disorder lacks accuracy, especially when an attempt is made to pinpoint the

condition by simply examining the handwriting. These findings are usually rejected by our courts. Whether in the hands of a careful, conscientious, well-trained worker, they may give some supplementary assistance to accepted psychiatric determinations warrants further consideration. For the most part, however, graphological determinations represent wishful thinking and often biased or absurd conclusions. (WEK)

The 3rd International Meeting of Forensic Immunology, Medicine, Pathology and the 1st International Meeting of Forensic Immunology and Toxicology—London, England, April 16-24, 1963. Subjects already scheduled include: "Organization of the Investigation of Sudden and Unnatural Death." "Drugs and Driving." "Stains by Body Fluids." "Immunology and Haematological Causes of Death." "Injuries-Perimortal and Other Complications." "Mass Deaths from a Single Cause." "Evaluation of the Investigation of the Chemistry of Postmortem Blood." "The Modern Conception of Diagnosis and Treatment of Accidental and Suicidal Poisoning in the Home." "Rapid Screening and Related Methodology." "Microbiological and Plant Poisons in Relation to Animals." "Biological Methods in Toxicological Analysis." "Modern Occupational Poisons." "Recent Advances in Instrumental Techniques."

Titles of proffered papers and of exhibits to-

gether with a pre-registration fee of \$6.00 (check: "3rd Int. Meetg. F.I.M.P. & T."), including the main papers in full and abstracts of the other papers, must be forwarded immediately to The Secretariat, 3rd. Int. Mtg. in F.I.M.P. & T., 28 Portland Place, London W. 1, England. The program, additional details and registration can also be obtained by writing to the same address.

A chartered, round trip, Boeing 707 Sabena jet flight, leaving Idlewild Airport, New York City at 7:00 P.M., Thursday, April 11, 1963, arriving 6:00 A.M., London time, April 12 and returning from Paris, 7:00 P.M., Paris time, May 4, 1963, arriving Idlewild Airport, 9:30 P.M., May 4, has been arranged. The round trip fare will be only \$210! Your reservation with a deposit of \$50 should be sent promptly to Milton Helpfern, M.D., 55 East End Avenue, New York 28, New York.

International Association of Traffic Accident Medicine—At the conclusion of the London meeting, there will be a meeting of The International Association of Traffic Accident Medicine in Rome from April 25 to April 30, 1963. A flight will leave London for Rome on April 24 (\$89.90) and leave Rome for Paris on April 30 (\$60.50). Further details of this meeting may be obtained from the President: Professor C. Gerin, Istituto di Medicina Legale, Del' Universita, Viale Del' Universita 32, Rome, Italy.

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

Compiled by
Kurt Schwerin†

ARCHIV FÜR KRIMINOLOGIE. Lübeck.

Vol. 126, July/Aug.-Nov./Dec., 1960: Ellinor Reckenzaun, *Die Retardierung der kriminellen Frau als kriminalbiologische Erscheinung* (The retardation of the criminal woman as a criminal-biological phenomenon) (pp. 1-11); K. Jarosch & F. Stitz, *Die Mikroschmelzpunktbestimmung in der forensischen Praxis* (The microscopic determination of the melting-point in forensic practice) (pp. 12-14, 17-20); W. Schwerd & L. Lautenbach, *Mord mit*

elektrischem Strom in der Badewanne (Murder with electric current in the bath tub) (pp. 33-49); A. Schöntag & E. Mätzler, *Zur Beweiskraft der Abdruckspuren von Zwillingreifen* (On the evidence of marks of twin tires) (pp. 50-52); J. F. A. Bessemans, *Identifizierung von Streichholzresten, die an einer Brandstelle gefunden wurden* (Identification of residues of matches found at the place of a fire) (pp. 70-72, 77-81); K. Bosch & B. Mueller, *Die Möglichkeiten einer Differenzierung von Kugelschreiberschriften durch Papierchromatographie* (Possibilities of differentiating ball point pen handwriting through paper chromatography) (pp. 75-76, 85-89); W. Rumml, *Strichkreuzungen (bei Überschneidungen von Handschrift und Maschi-*

* All periodicals listed are available in the Northwestern University Law Library, 357 East Chicago Avenue, Chicago.

† Associate Professor of Law and Assistant Librarian, Northwestern University School of Law.

nenschrift) (Line crossings between handwriting and typewriting) (pp. 134-145).

Vol. 127, Jan./Feb.-May/June, 1961: G. Machata, *Anwendung neuerer Verfahren in der naturwissenschaftlichen Kriminalistik* (The application of newer methods in scientific criminalistics) (pp. 1-21); E. Weinig & G. Schmidt, *Besondere Identifizierungsmerkmale bei Kraftfahrzeugreifen* (Special identification marks on automobile tires) (pp. 22-34); A. Schöntag, M. Lechner & J. Roth, *Spektrographischer Beweis der Schussrichtung anlässlich eines Jagdunfalles* (Spectrographic proof of the direction of a shot in a hunting accident) (pp. 156-60); Steffen Berg, *Untersuchungen zum Beweiswert von Textilfaser-Mikrospuren* (Research on the evidential value of textile fiber micro-traces) (pp. 97-106).

Vol. 128, nos. 1/2-3/4-5/6, July/Aug.-Nov./Dec., 1961: Swarup Narain Tewari, *Der papierchromatische Nachweis von Arsen, Antimon und Zinn in der forensischen Toxikologie* (A chromatographic technique for the detection of arsenic, antimony & tin, as applied to toxicological analysis) (pp. 30-32); Swarup Narain Tewari, *Der papierchromatische Nachweis von Nitriten in der gerichtlichen Medizin* (Detection of nitrite by paper chromatography) (pp. 33-37); Mario Marigo, *Über die Anwendung der Dünnschichtchromatographie im Rahmen der gerichtlich-medizinischen Toxikologie organischer Verbindungen* (On the application of the chromatoplate method in the toxicological analysis of organic compounds) (pp. 99-107); M. Ortega, *Die Messung des elektrischen Widerstandes von Papier bei Urkunden-Untersuchungen* (The mensuration of electric resistance of paper in the investigation of documents) (pp. 132-36).

CHRONIQUES INTERNATIONALES DE POLICE—
INTERNATIONAL POLICE CHRONICLE (REVUE
MODERNE DE LA POLICE). Paris.

Vol. 9, no. 47, March/April, 1961-no. 52, Jan./Feb., 1962: P. Villetorte, *The police and the right by virtue of which no person can be arbitrarily arrested or detained* (no. 47, pp. 7-13); R. Hilgert, *The new Ethiopian Penal Code* (pp. 14-17); *Mobilphone: indispensable aid for the police force* (pp. 20-22); *Third International Congress of traffic police: Program* (pp. 23-24); E. Klemm, *Cooperation between the police and the safety authorities in the field of road accident prevention in Germany*

(pp. 25-29).—V. Hadzi, *The individualization of penal responsibility* (no. 50, pp. 7-16).—M. Baroin, *For an international code of police deontology* (no. 51, pp. 35-40; 52, pp. 19-26). All articles in French and English.

INTERNATIONAL CRIMINAL POLICE REVIEW. Paris.

[English edition] Vol. 16, nos. 150-152, Aug.-Nov., 1961: Séverin-Carlos Versele, *The treatment of recidivists* (pp. 194-204); E. Martin, *Watermarks on paper, their value as criminalistic evidence* (pp. 205-11); E. Lapagesse, *Testing for human blood* (pp. 212-16); E. Güven, *How to identify sharp instruments* (pp. 217-19); L. L. Lerich, *When experts do not agree: a case of handwriting expertise* (pp. 248-53); H. Piette, *The identification of a tyre-track* (pp. 284-85).

KRIMINALISTIK. Hamburg.

Vols. 14, no. 9-15, no. 2, 1960-61: A. Cuelenaere & H. Baert, *Fernphotographie als Hilfsmittel der polizeilichen Beobachtungspraxis* (Telephotography in the practice of police observation) (pp. 396-98, 488-91); E. Angst, *Untersuchungen zur Bestimmung des Alters von daktyloskopischen Spuren auf Papier* (Research on determining the age of dactyloscopic traces on paper) (vol. 15, pp. i-xii).

REVUE DE LA SÛRETÉ NATIONALE. Paris. No. 40,
Nov./Dec., 1961.

R. Herriot, *Le centre de documentation criminelle: La mécanographie au service de la police judiciaire* (The center of criminal documentation: Type-writing in the service of the criminal police) (pp. 19-24); Guy Battini, *Le 2^e Congrès français de criminologie: Les aspects juridiques de l'état dangereux* (The Second French Congress of criminology: Legal aspects of the "dangerous state") (pp. 41-46).

REVUE INTERNATIONALE DE CRIMINOLOGIE ET DE
POLICE TECHNIQUE. Geneva. Vol. 15, no. 4,
Oct./Dec., 1961.

C. Moretti, *Macro- et microphotographie en criminalistique* (Macro and microphotography in criminalistics) (pp. 311-13).