

1967

Police Science Technical Abstracts and Notes

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Recommended Citation

Police Science Technical Abstracts and Notes, 58 J. Crim. L. Criminology & Police Sci. 284 (1967)

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POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

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Cleaning, Overhauling and Securing the Fire Scene—C. P. Hill, *The Fire and Arson Investigator*, 16 (4): 43-51 (April-June, 1966). Firemen are cautioned to determine the point of origin of a fire before starting any clean-up of the premises. Once the origin has been established, clean-up can proceed outside of this area. Suggestions are made as to necessary observations and their interpretation. (JDN)

The Shape of the Future—R. Applegate, *Law & Order*, 14 (7): 28-30 (July, 1966). A variety of ammunition is available for the Smith and Wesson Mercox dart projectile gun. The basic propellant is the .22 blank, stud driver cartridge. Darts are available as follows: training dart, tear gas dart hypodermic syringe projectile, dye marker dart, explosive projectile and time delay projectile. Three velocities are possible by means of a selector switch on the gun frame. (JDN)

Ninhydrin Prints from Rubber Gloves—H. A. Speaks, *Finger Print and Identification Magazine*, 48 (3): 3-5 (September, 1966). Print developed by dipping in Ninhydrin solution. Prints appeared on inside surfaces. Printed directly through enlarger. (JDN)

Electric Wire Identification—B. Gibson, *The Australian Police Journal*, 20 (1): 70-3 (January, 1966). Surface striations and matching cut ends permitted an opinion of common origin in a case involving cut wire. Matches were made on polyvinyl chloride casing. (JDN)

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Copy-board Lighting—L. E. Varden, *Photo Methods for Industry*, 9 (6): 60-2 (June, 1966). Author states that the only correct measurement of even illumination of light on a document to be copied must be made at the focal plane. Vignetting and geometric lighting problems are discussed. (JDN)

Establishing the Point of Origin and Determining the Cause—W. R. Wetherington, *The Fire and Arson Investigator*, 16 (4): 2-7 (April-June, 1966). The location and importance of the point or points of origin of a fire is discussed. Careful observations of the char, the floor and structural members will assist in locating the origin of a fire. Where total destruction occurs, persons familiar with the building can aid in reconstruction. After the point of origin has been determined, evidence of cause, accelerants, shorts, etc., can be sought. (JDN)

Forgery by Tracing—R. Keyes, *Finger Print and Identification Magazine*, 48 (2): 3-7, 23 (August, 1966). A discussion of the equipment and methods used by forgers to trace a genuine signature and transfer it to some other document. The author points out means of detection of each type. (JDN)

Investigations of Post-Mortem Changes in Blood Distribution—H. Karplus, *Journal of Forensic Medicine*, 12 (4): 146-151 (October-December, 1965). The movement of blood after death is important not only to the pathologist but also to the investigator on the scene. Implications drawn from lividity can be very important. The author describes some experiments conducted on dogs and human cadavers. These represent only the beginning of a large research program. (EMB)

The Post-Mortem Temperature Plateau—H. A. Shapiro, *Journal of Forensic Medicine*, 12 (4):

137-141 (October-December, 1965). The author points out the gross errors that can come about when rule of thumb formulae are applied to the cooling cadaver near the beginning or end of the cooling period. When applied during the middle section of the cooling curve, the formulae can give good results. (EMB)

Intravenous Dieldrin Administration—T. G. Schwär, *Journal of Forensic Medicine*, 12 (4): 142-45 (October-December, 1965). A fatal case of intravenous Dieldrin solution poisoning is described. The article is of more interest, however, due to the listing of four criteria for the determination of poisoning in general. (EMB)

The Eastman Chromagram Sheet for Chromatography: Review and Experimentation—Joseph Tholl, *Police*, 10 (6): 6-11 (July-August, 1966). The general properties and applications to questioned document examinations of Eastman paper are discussed. The author is primarily concerned with the examination of inks. A bibliography is appended. (EMB)

Determination of Optimum Operating Conditions in Atomic Absorption Spectroscopy—K. M. Cellier and H. C. T. Stace, *Applied Spectroscopy*, 20 (1): 26-33 (January-February, 1966). A method for obtaining the optimum experimental conditions for absorption measurements is described. Since the method requires several trial runs, it might not have a great deal of application in forensic work. However, it might be applied in developing conditions for certain types of samples e.g. paint, for specific elements sometimes present in small amounts. (EMB)

Spectrochemical Analysis of Abrasive Materials—T. S. Long, *Applied Spectroscopy*, 20 (2): 114-116 (March-April, 1966). Optimum conditions for the analysis of Si, Ca, Fe, Mg, Ti and Zr are discussed. Detailed experimental procedures are given. (EMB)

A Forensic Pathology Slide Seminar—Joseph E. Campbell, *Journal of Forensic Sciences*, 11 (4): 441-73 (October, 1966). These cases are presented as illustrations of uncommon and difficult pathologic anatomy lesions associated with complex medicolegal problems.

Case I: *Jaundice During Gold Salt Therapy for Rheumatoid Arthritis*. The manner of death was a

therapeutic misadventure, an untoward reaction to a therapeutic procedure. Such a reaction is entirely different from and must not be confused with the administration of either the wrong medication or an overdose of prescribed drug.

Case II: *Renal Failure and Jaundice Following Surgery and Transfusions for Stab Wound of the Abdomen*. The manner of death is technically a homicide, since improper treatment is one of the possible consequences which might follow from infliction of an injury and for which the guilty party may be deemed responsible. Ordinarily, a defendant is not legally excused if negligent medical treatment or infection or disease merely cooperates with the antecedent cause, so that both are contributory causes of a harmful result, or if the consequences were intended as they happen, or if harm of the general kind which occurred was reasonably foreseeable at the time of the act in question.

In this case the administration of ABO incompatible blood was due to "gross" negligence, not "ordinary" negligence, and, in comparison with acceptable medical standards, manifests such a reckless disregard for the safety of the patient as to approach the concept of criminal negligence. A travesty of justice would have occurred had the person inflicting the stab wound been convicted of homicide. Whether criminal charges should have been brought against the doctors responsible is questionable. A forensic pathologist must be alert to all possibilities and ascertain all the facts, whether the end result may be to assist in the acquittal or conviction of one accused of homicide and irrespective of any other crimes which may have been committed.

Case III: *Renal Disease and Pulmonary Hemorrhage, Unrelated Pneumoconiosis with Lung Cancer(?)* The opinion was expressed that death was due to the glomerulonephritis, and that, although the subject did have some asbestosis, it neither caused the kidney disease nor was it a significant factor in causing his death. An award to the widow for a compensable occupational disease was made, however, by the referee and, perhaps, not unjustly so.

Case IV: *Lung Disease of Unknown Etiology and Head Trauma*. Death was the direct result of head injuries. As the fall may have been precipitated entirely by accidental means, and, since death was due to external violence exclusive of all other conditions, the insurance beneficiary would be entitled to double indemnity.

Case V: *Alleged Scalp Necrosis Due to Shampoo*.

It is not believed anyone would seriously assert that the "Halo Shampoo" was the cause of the cancer. This case illustrates several points.

1. Many people, including professional personnel, are overly lawsuit-conscious.

2. Because of pending litigation, information may be withheld, partial truths disclosed, or false self-serving declarations asserted. History must always be critically evaluated.

3. Efforts may be made to evade the jurisdiction of the medicolegal authority. In this case, the testimony of the treating physicians with photographs of the markedly necrotic scalp, in the absence of an autopsy, could have been overwhelming for a jury.

4. The forensic pathologist must be an independent, objective, medicolegal expert who ascertains the facts in cases where death may be the subject of litigation, whether of a criminal or civil nature, irrespective of the parties to the suit (WEK)

Investigations of Fatal Automobile Accidents from the Forensic Point of View—Donald F. Huelke and Paul W. Gikas, *Journal of Forensic Sciences*, 11 (4): 474-84 (October, 1966). Detailed investigations of fatal automobile accidents in the past four and a half years have shown that much evidence can be gleaned from an automobile accident, including data important for use in proper identification of the driver, for reconstruction of the events just prior to the accident, and for the proper legal disposition of the case. The pathologist can aid in these cases by detailed inspection of the victim and recording specific external patterns, inspection of the victims' clothes, and permanently recording these observations by photography. (WEK)

The Importance of Copies in Document Inquiries—George G. Swett, *Journal of Forensic Sciences*, 11 (4): 485-95 (October 1966). The usefulness, limitations, and changing attitudes of document examiners toward copies of instruments have been discussed. Two cases have been described in which the examinations of copies of instruments were crucial in the case solutions. The necessity for preparation of adequate copies of documents and evaluation and retention of these is emphasized. (WEK)

Paper Tapes and Labels Encountered in Document Examination—David J. Purtell and Maureen

A. Casey, *Journal of Forensic Sciences*, 11 (4): 496-605 (October, 1966). An interesting discussion of research and suggested procedure for identification of gummed products with another piece of tape or gummed paper, determination of identifying characteristics of the tape or gummed paper which could lead to its source and identifying its particular usage. The authors believe that if one fully examines and considers all the characteristics of the evidence, employs a reference file on gummed products and when necessary requests the help of the manufacturer, the solution to problems involving identification and comparison of such gummed products will be forthcoming. (WEK)

Forensic Aspects of Frangible Bullets—J. W. Graham, C. S. Petty, D. M. Flohr, and W. E. Peterson, *Journal of Forensic Sciences*, 11 (4): 507-15 (October, 1966). Fatal shooting of a youth in the head with a frangible bullet is described. Experiments were conducted with "gallery" and cattle stunning frangible bullets, firing into calf heads to determine the degree of penetration and fragmentation and the suitability of such bullets for comparison microscope identification. Variations in penetration and fragmentation were noted, but all bullets were considered unsuitable for comparison. (WEK)

Poisoning by Volatile Compounds III. Hydrocyanic Acid—R. Bonnichsen and A. C. Maehly, *Journal of Forensic Sciences*, 11 (4): 516-28 (October, 1966). The results of analyses of specimens from 40 victims of poisoning by cyanide have been presented. The methods employed for qualitative "screening" and for quantitation have been described and their limitations discussed. Four atypical instances of cyanide poisoning have been briefly summarized. The need for more quantitative data in cases of death from poisons is emphasized. (WEK)

Identification of Counterfeit Drugs, Particularly Barbiturates and Amphetamines by Microscopic, Chemical, and Instrumental Techniques—William V. Eisenberg and Albert H. Tillson, *Journal of Forensic Sciences*, 11 (4): 529-51 (October, 1966). Detection of counterfeit drugs is a natural extension of identification of the manufacturing sources of drug products. Features of drug manufacturing relevant to product source identification have been discussed. Methods of examination for assessment