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Police Science Technical Abstracts and Notes

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POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

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Pyrolysis—Gas Chromatography in the Differentiation and Characterization of Antibiotics—Thomas F. Brodasky, *Journal of Gas Chromatography*, 5 (6): 311-318 (June 1967). Both high and low temperature pyrolysis are used by the author to assist in the identification of antibiotic drugs. Columns used include 5% FFAP on Diaport S, 2% QF1 on Anakrom, 15% Carbowax 1500 on Haloport F, 2% Carbowax 20M on Chromasorb W and 5% Halcomid-Quadrol on Haloport F. The method used is suitable for quantitation in some instances. (GDM)

Studies on Differentiation of Microorganisms by Pyrolysis—Gas Liquid Chromatography—E. Reiner, *Journal of Gas Chromatography*, 5 (2): 65-67 (February 1967). Using a 10% Carbowax 20M on Anakrom ABS column, a method is suggested for use in the identification of many microorganisms. The method allows the differentiation of various strains of the same microorganisms. (GDM)

Identification of Bullet Holes by Residue Transfer—H. L. Schlesinger, C. M. Hoffman, and M. J. Pro, *Journal of the AOAC*, 50 (2): 376-380 (April 1967). Using activation analysis bullet holes can be identified through the transfer of antimony and copper as the bullet passes through its target. A correlation was found between the residue and the jacket composition, caliber, and configuration. (GDM)

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Comparison of Adhesive Tapes by Neutron Activation Analysis—J. E. Scott, C. M. Hoffman, M. J. Pro, and H. L. Schlesinger, *Journal of the AOAC*, 50 (2): 371-376 (April 1967). Activation analysis of adhesive tapes shows differentiation is possible through elemental composition. Differences between brands, batch to batch, and in batch variations were detected. Irradiation time was 1 hour at a flux of 7.4×10^{12} N/cm²/sec. (GDM)

The Identification of Wood Fragments—J. L. Fish, *Journal of the Forensic Science Society*, 6 (2): 67-75 (April 1966). A case is described in which wood used in safe insulation was found in the suspect's truck and led to a conviction. The article lists a method for the microscopic identification of wood. This method includes sectioning and staining. Also discussed is a set of multiple entry punched card keys which are used in the microscopic identification of woods. (GDM)

Identification from a Bite Mark in Cheese—J. J. Layton, *Journal of the Forensic Science Society*, 6 (2): 76-80 (April 1966). Photographs are shown of bite marks in cheese on which were found 20 points of comparison with the suspect. The identification was done using plaster casts of the evidence cheese and a known piece of cheese which the suspect took a bite of. (GDM)

A Catalytic Process for Restoration of Serial Numbers on Aluminum—W. Jerry Chisum, *Journal of the Forensic Science Society*, 6 (2): 89 (April 1966). This method for restoration of numbers on aluminum and aluminum alloys uses an acidic solution of mercuric chloride and a twenty minute application time. (GDM)

Identification of Seeds of *Ipomoea Purpurea* (Morning Glory Family Reported to Have Psychomimetic Properties) by Paper Chromatography—James W. Brackett Jr., William A. Carter, Don M. Harding, and Paul M. Daugherty, *Journal of the Forensic Science Society*, 6 (2): 90-96 (April 1966). Using an alcoholic extract, a separation is carried out in a butanol: acetic acid: water system. Development is made with p-dimethylamino-benzaldehyde and ninhydrin. The method requires 1 gram of seed and will detect milligram quantities of *Ipomoea Purpurea*. (GDM)

Problems and Advantages of Test Firing Weapons into Water—Lowell W. Bradford, *Journal of the Forensic Science Society*, 6 (2): 97-98 (April 1966). Experimentation shows that breakdown and mushrooming of lead and soft nose bullets can be minimized by using a powder load which will not exceed a velocity of 1800 ft./min. A 12 ft. \times 2 ft. vertical water tank was used. (GDM)

Identifications by Means of Pyrolysis Products—Paul L. Kirk, *Journal of Gas Chromatography*, 5 (1): 11-14 (January 1967). The theory and design of pyrolyzers as well as a listing of its use in criminalistics is discussed. Included in the uses are drugs, plastics, paint, wood, plant material, bacteria, and hair. (GDM)

Quantitative Resolution of Protein Pyrolyzates by Gas Chromatography—Maurice V. Stack, *Journal of Gas Chromatography*, 5 (1): 22-24 (January 1967). The analysis of proteins including protein fibers by pyrolysis is done on a 15% Carbowax 1500 column using temperature programming. Dental enamel was also analyzed by this method and seem to have applications in the field of criminalistics. (GDM)

The Use of Nutmeg as a Psychotropic Agent—Andrew T. Weil, *Bulletin on Narcotics*, 18 (4): 15-23 (October-December 1966). Nutmeg (*Myristica*) has been shown to have narcotic properties. The effect is compared to that of marijuana. The author covers the history of its use as a narcotic and as a legal medicine, the pharmacology and psychopharmacology of nutmeg. (GDM)

Unusual Bullet Fingerprints—D. Q. Burd and A. E. Gilmore, *The American Rifleman*, 115 (3):

24 (March 1967). Where shots are fired with either an excessively lubricated barrel or projectile, the land widths on the rifling impressions may be wider than normal. This discrepancy is particularly prominent with barrels having shallow rifling or worn rifling. These conditions could effect evidence bullets or test bullets. (JDN)

Influence of Drugs on Handwriting—Zum Einfluss von Drogen auf die Handschrift—E. Goetschel, *Kriminalistik*, 21 (1): 7-10 (January 1967). The effects of Valium (benzodiazepin derivative), Psilocybin, and LSD on handwriting was studied. Valium shows an effect after prolonged medication, while the other two drugs show an effect after only twenty minutes. The author urges document experts to work with medical experts in evaluating the effect of new drugs on handwriting. (JDN)

An Aid to Paint Flake Preparation—A. F. Humphrys, *International Criminal Police Review*, No. 208: 146-7 (May 1967). A method for preparing paint flakes for microscopic examination is described. (PJC)

Forgeries in Fingerprints—Sia Rani Gupta, *International Criminal Police Review*, No. 208: 133-9 (May 1967). The article discusses techniques used to forge fingerprints and methods of detecting forged fingerprints. (PJC)

Control of Procedures for Identifying a Suspect—Martin G. Fogelson, *Journal of Forensic Sciences*, 12 (2): 135-46 (April 1967). A person who knows he is observing a crime, whether as a victim or as a bystander, is under emotional stress. The witness may see the criminal only once for a short time. Days, sometimes weeks, may pass before the witness is asked by the police to make an identification. Identification evidence can be made untrustworthy by the use of suggestion. The method by which this type of evidence is obtained, therefore, ought to be regulated: (a) if a suspect is in custody, only corporeal identification ought to be used, (b) the man should be presented along with others of similar appearance, (c) no suggestion, by comment or otherwise, identifying the man the police suspect ought to be allowed, (d) complete records of the identification process ought to be kept. This type of regulation is common in non-American common

law jurisdictions. The absence of this type of regulation in American law thus condones the use of procedures which are agreed to be unreliable and unfair. Since the courts have not corrected this situation, constitutional doctrine is needed. What is needed is law which will bring American standards for corporeal identification up to the level of the standards of other common law jurisdictions. To do less would be to ignore a problem long known and to refuse to apply a solution long tested. (WEK)

Legal Psychiatry and Criminal Justice: The Court Clinic in Massachusetts—Jessica Wolf, *Journal of Forensic Sciences*, 12 (2): 147-77 (April 1967). The Massachusetts court clinic, as an unusual approach to criminal law and commitment procedure, adds new complexities to the criminal process in terms of administrative authority, judge-psychiatrist, and probation-clinic interaction.

Legal practitioners have always been faced with the need for some kind of dynamic balance between society and the individual, and, if institutionalized in the court clinic setting, by the need for balance between court and clinic, judicial and administrative procedure. As psychiatry gained in favor and reputation, new research indicated that the causes of crime were to a great extent socially and psychologically determined and that isolating those who had already committed offenses dealt not with the disease but with the symptoms, and with those only partially, since few provisions were made to reintegrate the "reformed" offender into the community.

A rehabilitative theory has been put into practice on a state-wide basis, treating offenders as mentally ill individuals whose character disorders lead them to commit antisocial acts. (WEK)

A Critique of the Psychiatrist's Role as Expert Witness—John M. Suarez, *Journal of Forensic Sciences*, 12 (2): 172-9 (April 1967). An insidious process which has interfered significantly with the proper and much needed collaboration between the disciplines of law and psychiatry has been discussed. The tasks of the law are difficult, at times impossible. Nothing is achieved however by reassigning some of the responsibilities to an outside agency which is clearly less able and experienced to carry out the judicial role or any of its steps. As long as psychiatrists are asked or

forced to play the legal game, they will be curtailed and prevented from making their proper contribution, which today, regretfully, remains only a fraction of what could be. (WEK)

Poisonous Marine Animals, A Synopsis—Albert H. Banner, *Journal of Forensic Sciences*, 12 (2): 180-92 (April 1967). A synopsis of the existing information regarding poisoning by marine animals has been presented. The relatively limited information regarding many of these causes of disability and death is emphasized. (WEK)

Shotgun Patterns, An Experimental Study on the Influence of Intermediate Targets—Rudiger Breitenecker and William Senior, *Journal of Forensic Sciences*, 12 (2): 193-204 (April 1967). Experiments were conducted with models and corroborated with human material, to evaluate the influence of primary or intermediate targets on shot pellet dispersion on secondary targets. Similarly sized shot patterns in the body were obtained from both close range and distant shots. As demonstrated in an actual case, an unexpectedly large secondary spread pattern does not permit ruling out a suicidal manner of death. (WEK)

Four Non-Lethal Head Wounds Resulting from Improper Revolver Ammunition: Report of a Case—M. F. Mason, Earl Rose, and F. Alexander, *Journal of Forensic Sciences*, 12 (2): 205-13 (April 1967). An unusual suicide by gunshot in which improper cartridges were employed has been reported. Failure of four projectiles to penetrate the skull and their distortions produced by impact have been demonstrated. Ballistic measurements and their appraisal have been employed to account for the various findings at autopsy. (WEK)

Postmortem Chemistry of Human Vitreous Humor—Michael S. Leahy and Edward R. Farber, *Journal of Forensic Sciences*, 12 (2): 214-22 (April 1967). Urea nitrogen, creatinine, and glucose estimations in the postmortem vitreous humor produce useful results for which correlations with clinical and antemortem laboratory data are satisfactory. Determinations of concentrations of sodium, chloride, potassium, LDH, GOT, and GPT in postmortem vitreous humor do not yield