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## Police Science Technical Abstracts and Notes

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## POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

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Abstractors

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**Scorching of Fabric Surfaces by Close Proximity Gunshots**—S. Berg, *Archiv fuer Kriminologie*, 124(1/2): 5-8 (July-August 1959). Various synthetic fabrics, cotton, and wool were fired into with three types of automatic pistols in order to study the heat effects of the muzzle blast at distances up to 5 cm. Scorching of fibers occurred to an unexpected degree in synthetic or mixed fabrics. The manifestations of tearing, discoloration, melting, and the formation of gas bubble in the fibers are illustrated in several photographs and photomicrographs. (JB)

**Differentiating Glass Cutting Tools**—S. Oehlinger, *Archiv fuer Kriminologie*, 124(1/2): 14-22 (July-August 1959). While a diamond point glass cutter leaves a fairly shallow, fine line on the glass surface, the wider and duller steel wheel cutter creates a coarse cut with chipping of the edges. A magnified side view of sheets of glass cut by these instruments shows that the diamond cut consists of minute, shell-shaped chip marks along the top surface underneath which numerous fine, parallel cracks extend deep into the glass without connection with the surface marks. The steel cut glass, on the other hand, shows coarse shell-like marks connected with irregularly spaced, triangular cracks of fairly low depth. (JB)

**The Psychologist's Contribution in Crime Investigation**—A. Trankell, *Nordisk Kriminalteknisk Tidsskrift*, 29(10): 257-270. The author advocates a greater use by police of the services which can be provided by trained psychologists. Such specialists are said to be able to help in-

vestigators by eliminating certain suspects from consideration and by pointing out investigative leads. A detailed discussion is presented of a case involving anonymous letters which had been under investigation by the police over a three-year period without the letter writer being uncovered. The author began a thorough analysis of the letters from a psychological point of view and similarly looked into the personal backgrounds of the principals involved. The totality of "psychological evidence" pointed to an individual who was interviewed by the author and told that the identity of the anonymous writer was known to him. No confession was obtained, nor were any more objectionable letters mailed. (JB)

**Alginate and Silicone Impression Materials**—K. Luff and B. Hess, *Archiv fuer Kriminologie*, 123(5/6): 146-152 (May-June 1959). A detailed survey of several types of dental impression media useful in medicolegal and criminalistic work. Shrinkage data are given for each of the tested brands. (JB)

**Flying Glass**—K. Lamprecht, *Archiv fuer Kriminologie*, 123(5/6): 128-132 (May-June 1959). In the investigation of a homicide where the fatal shot had been fired through a window pane, the laboratory was asked to determine if the clothing of the assailant, standing close to the window, would have been sprayed with glass fragments. To answer the question, a series of experiments were conducted using the indicated weapon and a pane of glass in a frame similar to the window in question. Flash photographs taken of the experiments in a darkened room showed a cone of glass fragments extending approximately 55 cm in the direction of the shooter. The majority of these fragments, however, traveled up to 1 m and some of the larger pieces went as far as 1.5 m

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(appr. 5 ft). These findings would indicate that the outer clothing of a person firing a weapon under these circumstances would receive a number of small glass fragments which would become imbedded in the fabric.

A simple but effective arrangement was used for the flash exposures. The circuit of an electronic flash unit—aimed at the near side of the glass—was hooked to the target which consisted of two sheets of tin insulated from each other by several layers of paper and held together with clothespins. The flash unit was triggered at the instant the bullet penetrated both pieces of metal. Proper timing for illuminating the flying glass particles was achieved by changing the distance between the window pane and the contact plate. (JB)

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Homosexuality and its Influence on Crime—M. Fernet, *International Criminal Police Review*, 124: 14-20 (January 1960). Reviews the several ways in which homosexuality produces crime, such as enticing children to participate, providing victims for robbery, blackmail, and homicide, and generally affronting the decency of the community. The author deplors the relaxed attitude with which this behavior is met in many places. (JDN)

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Testimony Considered in the Light of Forensic Psychology—Rui Carrington da Costa, *International Criminal Police Review*, 124: 3-13 (January 1960). The historical changes in the manner in which court testimony has been received are discussed. It is pointed out that even much of the testimony currently received in court is likely to be in error to some extent. Several suggestions are included by which testimony might be tested as to validity and extent. (JDN)

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Death by Medical Fraud—Kurt Ulonska, *Kriminalistik*, 13(3): 113-5 (1959). An old practice of "curing by bleeding" resulted in death of the patient. Small punctures of the skin developed into a general infection. Despite the knowledge that the victim was unconscious for two days prior to admission to a hospital and in spite of an autopsy, this death was reported as "natural". Only when an employer notified the police did an investigation begin. (JDN)

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Gas-Liquid Chromatography of Whiskies—Robert B. Carroll and Lawrence C. O'Brien.

Paper delivered at the American Chemical Society meeting, Boston, Massachusetts, April 8, 1959. It is shown that different alcoholic beverages can be analyzed both quantitatively and qualitatively with specimens as low as ten microliters by means of Gas-Liquid Chromatography. Only commercially legal specimens are discussed. (JDN)

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Instrumental, Chemical, and Psychological Aids in the Interrogation of Witnesses—Joseph L. Kubis, *Bulletin of Criminal Investigation, New York State Police*, 25(1): 1-6 (1960). *Journal of Social Issues*, 13(2). Article emphasizes the witness who is sincere, though unreliable. It is suggested that the "lie-detector" could be used to verify the beliefs of the witness and that hypnosis and narcoanalysis might remove self-protection inhibitions to the point where the subject will reconstruct some phase of the act under investigation. The author points out the need for research using all techniques in succession or simultaneously on the same subjects in order to evaluate each in a given circumstance. (JDN)

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Psychological Causes of Traffic Accidents—D. v. Klebelsberg, *Kriminalistik*, 13(4): 144-8 (1959). The author expressed the belief that traffic accidents are more often the result of personality problems than errors of vision, reaction time, or coordination. (JDN)

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Crimes in the Mountain—Edgar Witzmann, *Kriminalistik*, 13(9): 371-4 (September 1959). Increased recreation and travel in mountainous regions has resulted in a rising number of deaths for various reasons. Where parties of skiers or climbers are killed, the incident should be investigated for possible negligence on the part of the guide or ski instructor. The mountains afford easy hiding for criminals who can prey on lone travelers. After a robbery or assault, the victim might be pushed over a precipice to simulate an accident. The site of plunge and the path to the body should be examined for lost articles and signs of struggle. The absence of valuables might suggest robbery. An autopsy should be performed with the purpose of establishing whether injuries were post or ante mortem. Where two persons are involved with one surviving, that is, husband and wife, business partners, etc., a background investigation should be made. (JDN)

Western Field .22 Cal. Pistol—W. E. Kirwan, *Bulletin, Bureau of Criminal Investigation, New York State Police*, 24(2): 10-12 (1959). Montgomery Ward Company has announced a new .22 caliber automatic pistol, Western Field Model 5. Rifling, 6 lands and grooves, left twist. Land width, 0.605" (from tests), groove width, 0.286" (from tests). Serial number on right side of frame. (JDN)

**The Psycho-Dynamics of Suicide**—Dwight M. Palmer, *Journal of Forensic Sciences*, 5(1): 39-47 (January 1960). The planning and execution of an act of suicide is a complex matter and is seldom the direct reaction to some particular external stress. There is much yet to be learned about the nature of the causal motivations in self-destruction.

The author summarized his interesting discussion:

1. Suicide, although actually a major medical problem, is very poorly understood in terms of its causations.

2. The act of self-destruction, or the attempt to carry out the act, does not rest on the same causal factors in all persons. Suicides represent a collection of abnormal or disruptive life-plan patterns, rather than a single entity.

3. Although there is over-lapping, it is necessary to separate those who attempt suicide as a social gesture—a call for help from their fellows, from those who make genuine attempts and who usually succeed in their goal of death.

4. Mechanisms in suicide may be studied from both sociological and psychological approaches and these two viewpoints should usually converge to common grounds.

5. Sociologically, suicidal persons are deprived and isolated subjects.

6. Psychologically, some individuals wish to kill themselves in order to destroy other persons incorporated within their own personality structure, or because of a lack of self-esteem. Some subjects wish to be destroyed on the basis of guilt, while still others may wish to escape from pain into pleasure, be it phantasy or not.

7. Younger persons make more attempts, but are less successful. They are likely to be impulsive and to show but little planning. Older persons are more fixed in their purpose because of their apathy toward life and because of the

channelling effect of organic brain disease. Therefore, their attempts are likely to be more successful.

8. Persons whose sociological settings and thought content are approximate to those of the persons described, and individuals who utter threats, write notes, or make gestures and attempts pertaining to self-destruction, are all to be taken seriously as potential suicides. (WEK)

**The Investigation of Suicide Notes**—James V. P. Conway, *Journal of Forensic Sciences*, 5(1): 48-71 (January 1960). The data in this illustrated report have been derived from a questionnaire survey of some twenty-five document examiners in public and private practice throughout the United States and Canada, informal discussions with a number of document examiners and coroners' offices, personal analysis of some hundred suicide notes of various classes, and a review of deemed pertinent literature sources.

The author concludes that the need for increased consciousness of suicide note identification is believed to be evident on the part of law enforcement agencies, coroners, and medical examiners. Additionally, it seems patent that document examiners, particularly those employed by public agencies, should maintain continuing research into the various classes of suicide notes and should endeavor to increase their availability and utility to the officials charged with legal determinations in suicide cases. (WEK)

**Toxicologic Studies in Suicide Investigation**—Arthur J. McBay, *Journal of Forensic Sciences*, 5(1): 72-83 (January 1960). Although the cause of death is generally easily established, the manner is sometimes much more difficult to determine. It is through the cooperative investigations of the pathologist, toxicologist, criminalist, the police, and others that the manner is usually decided.

The results of the toxicologist's investigation frequently aid in distinguishing between suicidal and accidental poisoning. His recognition of the responsible agent, and subsequent determination of the quantity of toxic agent may not only prove that the death was due to poisoning but may also suggest suicidal intent.

A recent prescription survey, which has been partially summarized, has been used as a guide to

some drugs usually available to the person determined to commit suicide. Fortunately, most of the newer drugs are not too toxic, but they constitute interferences in the search for the toxic material. The possible presence of these new drugs in the body completely removes any pretense of the blind toxicological search for the "elimination of poisoning" as a cause of death. The toxicology of some of the newer drugs and recent developments in the toxicology of some of the older drugs and chemicals have been reviewed. Also included are methods for analyzing medicinals and procedures for the collection, preservation, and evaluation of toxicological evidence. Five pertinent case studies are used to illustrate some of the problems. (WEK)

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**Analysis of Human and Monkey Serum Utilizing the Ouchterlony Technic**—Julie Ann Gempel, Alvar A. Werder, and Perry Morgan, *Journal of Forensic Sciences*, 5(1): 110-20 (January 1960). Establishment that a blood stain is human and not animal in origin is of extreme importance in medicolegal examination.

1. Human and monkey sera were differentiated serologically using the Ouchterlony plate technic. Studies with absorbed antisera and the reaction of partial coalescence served as criteria for differentiation.

2. Fractions of human plasma provided evidence for speculation on the identity of four lines of the reaction pattern. (WEK)

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**A Study of Handwritings by Twins and Other Persons of Multiple Births**—Mary S. Beacom, *Journal of Forensic Sciences*, 5(1): 121-31 (January 1960). A study of the similarity of handwritings of twins was motivated by the possible contention that counsel for a defendant would allege that questioned handwriting was done by the twin of the defendant. The author summarizes the result of this study:

Data from the study of writings from triplets, quadruplets, and the Dionne quintuplets presented much the same picture. Copies of the results of these studies, including only one group from each, are herewith provided.

In the field of definitive letters, the results are of special interest, since in each case these groups were educated in the same schools and were taught by the same teachers and yet showed distinctive letter designs. Writers cannot be

pigeonholed even if they are identical twins, taught by the same teachers.

This study of the basic differences observed in the writings of groups of persons from multiple births gives a new understanding of them as individuals. The respect for the dignity of each person is the inalienable right of every one. Handwriting is more than a set of samples, it is an "Open Sesame" that reveals perceptive abilities, physical controls, rhythms, and feelings for design. However, we should not let ourselves be carried away in the study of these differences to the extension of fortune telling extremes. Twisted letters do not indicate twisted personalities. (WEK)

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**Blood Drop Patterns**—Conrad Rizer, *Police*, 4(3): 18-19 (January 1960). The angle at which a drop of blood strikes a surface can be significant evidence in many cases of criminal investigation. The purpose of this study was to find, through statistical analysis, how accurately the angle at which a drop of blood strikes a surface can be determined from measurements along the major and minor diameters of its pattern on that surface.

The method for determining the striking angle of a blood drop which is outlined in the article could readily be used in practice. All that is required besides the drop pattern or its photograph is a measure similar to the one described in the article, a wide-angle magnifier or reading glass, the use of two equations, and a table of sine functions. (WEK)

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**Qualifications and Training Standards for Polygraph Examiners**—Because many errors in the employment of the polygraph technique can be attributed to its utilization by untrained, unskilled, and unqualified examiners, and because there exists a cogent need for universally accepted standards in the area of polygraph examiner qualifications and training standards, the American Academy of Polygraph Examiners appointed a committee headed by Professor Richard L. Holcomb, Institute of Public Affairs, State University of Iowa, for the purpose of establishing minimal requirements. Following a two year study, the committee's recommendations were unanimously approved by the membership at the Academy's Sixth Annual Meeting in Washington, D. C., on September 12, 1959:

I. Who is qualified to train?

A. Professional examiners whose major