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## Police Science Technical Abstracts and Notes

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## POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

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**Analysis of Auto Thefts by Means of Keinzle Route Recorders.**—Fritz Jahn, *Kriminalistik*, 9 (11): 415-18 (November, 1955). A truck equipped with a route recorder was stolen, and the cargo removed at a secret place. Upon recovery of the vehicle, the route record was studied with respect to a local map. Records of velocity, stops, and elapsed time permitted the successful location of goods and thieves. (JDN)

**The Frankfort Mobile Unit.**—Anon., *Kriminalistik*, 9 (11): 422-4 (November, 1955). The mobile unit of the Frankfort Police Homicide Commission is described. Facilities for communication and evidence processing are contained in two rooms. Work space includes a sink so that some simple chemical tests may be performed. Numerous cabinets contain the instruments and tools thought necessary to a rigorous crime scene search. (JDN)

**The Conversion of Codeine to Morphine in Man.**—The fact that morphine has been isolated in human urine is no longer conclusive proof that the individual has taken morphine. The possible conversion of codeine to morphine was suggested by Wolff in 1938 but could not be confirmed by Oberst in 1940 nor again in 1941. Nevertheless, Bernheim in 1944 showed

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that when codeine was incubated with normal rat liver this produced a morphine-like compound. This work has been repeated and confirmed by:

**Biologic Liberation of Morphine from Codeine in Rat.**—T. K. Adler and F. H. Shaw, *Journal Pharm. and Exp. Therap.* 104: 1 (1952). These authors isolated and identified this morphine-like compound described by Bernheim and established this to be morphine. Method of identity included U. V. absorption spectroscopy and comparing maxima and minimum absorption curves with known morphine; melting points, mixed melting points, derivatives with 2,4 dinitro chlorobenzene; needle crystal structure, and x-ray diffraction. These were all identical when compared with known morphine.

**The in Vivo Liberation of Morphine from Codeine in Man.**—G. I. Mannerling, A. C. Dixon, E. M. Baker, T. Asami; *Ibid.* 111: 142 (1954). This paper further expands these findings in man. Method for identification is described.

**The Metabolic Fate of Codeine in Man.**—T. K. Adler, J. M. Fujimoto, E. L. Way, and E. M. Baker; *Ibid.* 114: 251 (1955). This paper gives further proof of the liberation of morphine from codeine in man. Method for quantitation is described. (SK)

**New Fingerprint Method Gives Underworld the Jitters.**—Philip L. Lorraine, *The Nongqai*, 721-723 (July, 1955). The ninhydrin method of developing latent fingerprints is discussed. The article relates several cases in Sweden in which this method was used and the favorable results. The reaction of ninhydrin on the

amino-acids in perspiration results in pink patterns. The method is simple. Spray the paper or document with a 0.2% solution of ninhydrin in acetone and bake in an oven at 80° Centigrade for three minutes. At this time if any latents are present they will become visible as pink patterns. As the process matures, the patterns become more intense and should reach maximum legibility a day or two after the treatment. The author failed to state whether a restoration method had been developed when ninhydrin was used. (TWP)

**Texas Law Enforcement Foundation.**—A new organization with a new approach to law enforcement has been formed in Texas. Headed by five directors who are businessmen, the Texas Law Enforcement Foundation is aimed at improving law enforcement through citizen participation rather than through any attempt to direct the efforts of existing agencies. By enlisting the support of good citizens for good law enforcement, the foundation hopes to carry out a 10 point program for better law enforcement throughout the state.

Objectives include a four-year college course in criminology in a Texas university; a working library for officers and students on the local level; publication of a monthly information bulletin for all law enforcement officials and interested citizens; a study of salary and other personnel problems of Texas law enforcement officials; public education to the great cost of crime; allotment of funds for officer training schools; and annual recognition of outstanding law enforcement officers.

Already the Foundation has enlisted the support of local officials by appointing a Law Enforcement Advisory Council made up of the presidents of 15 statewide peace officer associations. Progress is being made in securing and equipping a *Crimemobile* with the latest criminal detection devices as exhibits, and this vehicle should be visiting cities and towns all over the state by February 1. Committees to carry out the original purposes of the state organization are also being formed.

The Foundation is the result of a study of statewide enforcement problems by Attorney General John Ben Shepperd's Citizens Ad-

visory Committee, which urged that an agency be set up encouraging more citizen participation. (John Ben Shepperd, Attorney General).

**The Identification of Paint and Lacquer Particles by Microscopic Means.**—A. Fietz, *Kriminalistik*, 8 (1/2): 8-10 (January, 1954). Paint is examined for gross characteristics, solubility in various solvents with further study of the crystals produced on evaporation. Microscopic study is made of very small, thin specimens of paint for inclusions. Microsublimation study of whole paint or residue of fractional extraction and crystallization is also recommended. (JDN)

**Analytical Contributions to the Detection and Estimation of Spontaneously Oxidizable Oil in Fire Residues.**—W. Katte and W. Specht, *Kriminalistik*, 8 (10): 93-100 (October, 1954). A study of spontaneous combustion of oils and fats with respect to the age of the oil, the ratio and nature of the supporting organic matter, the chemical composition of the oil, the drier, and the absorption spectra of the oil. (JDN)

**The Separation of Pharmaceuticals in Sweat and Their Detection in Clothing.**—E. Weing and G. Schmidt, *Kriminalistik*, 8 (3): 1-4 (March, 1954). Traces of toxic materials were found in cloth which had absorbed perspiration of the wearer over a few days. The fabric was extracted with 1% ammonium hydroxide heated to 80° and then thoroughly washed with water. It was then soaked overnight in 70% alcohol made acid with tartaric acid and then washed several times with alcohol. The washings and extracts are combined, concentrated, and defatted with petroleum ether. Acid ether, acid chloroform, alkaline chloroform, and ethyl acetate made alkaline with bicarbonate are used to separate the toxic substances. Either chromatography or crystallographic methods are used for identification. Barbiturates, pyridon, quinine, and others were detected. Opiates in therapeutic quantities could not be detected. This method is suggested where all toxic material may have been consumed by the body before

death or where exhumation may be contemplated. (JDN)

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Determination of Pistol 08 by Means of the Cartridge Case.—R. Pelz, *Kriminalistik*, 9 (11): 428-9 (November, 1955). A triangular mark at the mouth of the fired cartridge case is described as the important feature for the determination of the Pistol "08". (JDN)

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A Method for the Detection of Cosmetic Hair Coloring on a Single Hair.—S. Berg and G. Schaidt, *Kriminalistik*, 8 (4): 23 (April, 1954). Organically tinted hair may be detected by placing a drop of 20% KOH in a watch glass suspended over a white surface. The hair is placed so that only half is moistened by the solution. After five minutes a minute quantity of sodium hyposulfite is added. After ten minutes, a dyed hair will appear a different color where the solution has reacted than the unreacted area. Naturally pigmented hair shows no change. Bleached hair is not disclosed by this method. (JDN)

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Probability Proof Through Textile Fibers.—Max Frei, *Kriminalistik*, 8 (3): 5-8 (March, 1954). Frei suggests that the probability factors for fibers reported by Kirk, et al., can be extended by spot test and capillary analysis of the dyes in matching fibers. (JDN)

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Securing the Fire Scene.—Harold Brannan, *News Letter, International Association of Arson Investigators*, 6 (2): 6-21 (October-December, 1955). A general discussion of the

value of crime scene preservation and investigation. (JDN)

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The Role of the Pathologist in Arson Investigation.—H. D. Jones, *News Letter, International Association of Arson Investigators*, 6 (2): 33-51 (October-December, 1955). A discussion of the pathology surrounding burned bodies. (JDN)

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Science In Law Enforcement Institute.—Western Reserve University announces its third annual Institute on Science in Law Enforcement for the week of June 18-23. The course will cover such things as scientific aids for law enforcement officers, investigation of crime scenes, interrogation, and surveillances. Attendance will be by invitation only, and instruction will be handled in small groups of five students each. Complete information is available from Oliver C. Schroeder, Jr., Director, Law-Medicine Center, Western Reserve University. (OH)

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Police-Community Relations—An institute on police-community relations was held during the week of May 13-18, 1956, at Michigan State University, East Lansing, Michigan, under the sponsorship of the School of Police Administration and Public Safety. This institute which touched upon various social problems of the community with which police activities would come in contact was based upon the assumption that public and private service agencies have a moral as well as civic responsibility to exert every effort to further the common good. (OH)

### From Our Readers

EDITOR'S NOTE: It is the policy of this Journal to serve as an open forum for the discussion of matters pertinent to Police Science, and consequently, we will from time to time publish letters from our readers which contain pertinent comments on published papers.

Persons writing for publication have certain responsibilities to their readers. Among these responsibilities are thorough research on the subject, including its historical background, accuracy in presentation, and consistent reasoning about the facts presented.

The recent article by Benjamin Burack which appeared in the 1955 September-

October issue of the *Journal of Criminal Law, Criminology and Police Science*, entitled "A Critical Analysis of the Theory, Method, and Limitations of the 'Lie Detector,'" fails to meet these responsibilities. I do not know Mr. Burack, nor do I know where he received his training in polygraph technique, I assume that he must have been exposed in some degree

to the polygraph method of interrogation, otherwise he would not have attempted to write an article of this type. Nevertheless, his article contains both factual inaccuracies and unwarranted conclusions.

In the fifth paragraph of the article, Mr. Burack says: "For example, breathing can be observed visually, pulse can be felt by touching the wrist *veins*, etc." In spite of Mr. Burack's Ph.D., he has some strange notions concerning physiology. In all normal individuals, pulsation occurs not in the veins but in the arteries.

In the third paragraph on page 422, Mr. Burack writes: "A professional association of polygraph experts would be a good step toward setting up minimum standards. The International Society for the Detection of Deception, founded in 1945, has not established such standards. The recently formed American Academy of Polygraph Examiners (September, 1954) offers much promise by requiring a college degree or equivalent, as well as demonstrated competence and integrity or an active research interest."

On this subject, Mr. Burack evidently did not take time to ascertain facts before writing his article. It was some time ago that the name "International Society for the Detection of Deception" was changed to the Academy for Scientific Interrogation, and at the time the American Academy of Polygraph Examiners held its first meeting in Washington, D. C., in September of 1954, the Academy for Scientific Interrogation had already established definite and responsible standards for the certification of polygraph experts. It is my opinion that there are few polygraph examiners in the field today who could successfully pass the certification examination as given by the Academy for Scientific Interrogation. The Academy has rejected several of its own members for such certification.

I would like to quote the purposes of the Certification Committee as they appear in the Constitution and By-Laws of the Academy for Scientific Interrogation.

"First: To elevate the standards and advance the cause of polygraph technique.

"Second: To determine the competence

of practitioners professing to be specialists in the detection of deception.

"Third: To arrange, control, and conduct examinations to test the qualifications of voluntary candidates appearing before the Committee for certification as specialists in the field of polygraph technique.

"Fourth: to grant and issue certificates of qualification as specialists in the field of deception detection to candidates successful in demonstrating their proficiency.

"Fifth: to serve the public, enforcement agencies, business and industry, and governmental agencies or departments by preparing lists of specialists certified by the Committee.

"These activities proceed from the Constitution of the Academy for Scientific Interrogation, and the Incorporation papers thereof, in which it is stated that the purpose of the Academy shall be 'To establish and maintain a standard of professional qualifications.'"

The certification procedure established by the Academy for Scientific Interrogation provides for and requires standards of excellence comparable to those of other scientific professions and far beyond those contemplated by Mr. Burack in his article.

In closing his discussion, Mr. Burack makes several recommendations. One is:

"That the newly established American Academy of Polygraph Examiners maintain adequate educational and training standards, and that only members of the academy be used by courts for the purpose of administering polygraph tests."

Yet Mr. Burack has stated elsewhere in his article that "There appear to be no agreed-upon minimum standards of intelligence, education, and training" for basic qualifications for an examiner. He further states that the American Academy of Polygraph Examiners "offers much promise"; yet at the end of his article he seems ready to equate promise with proved performance, and he recommends that "only members of the American Academy of Polygraph Examiners be used by courts for

the purpose of administering polygraph tests." This recommendation seems clearly unjustified both from the facts Mr. Burack presents in his article and from the facts which he omits—the existence of another competent professional organization in this field, the Academy for Scientific Interrogation.

Mr. Burack's final recommendation is:

"That the term 'lie detector' and all variations of it not be used whenever possible and that the following terms be substituted: 'polygraph,' 'polygraph test,' 'polygraph study,' etc."

In spite of this recommendation, the term "lie detector" is used not only in the title of Mr. Burack's article but throughout the article itself. The Academy for Scientific Interrogation went on record several years ago abolishing the use of the word "lie detector" by its members. Mr. Burack appears to be as unaware of this fact as he is of the name, the standards, and the entire record of that organization.

C. B. HANSCOM

President, Academy for Scientific Interrogation

Dr. Burack was given the opportunity to reply to Mr. Hanscom's letter, and it is quoted in full below.—EDITOR.

I appreciate the opportunity to reply to the complaint of the American Academy of Scientific Interrogation (hereinafter referred to as A.S.I.) and will comment briefly on the relevant points consecutively as they appear. The several instances of snide remarks and innuendo, however, detract from the dignity of the complainant's argument and, instead, seem to reveal an emotional and personal attack.

1. I wrote, not as a person with "training in polygraph technique," but as an experimental psychologist attempting the difficult job of synthesizing the four fields of psychology, physiology, criminology, and law, in relation to a specific tool.

2. I regret the error of writing "veins" for

"arteries." However, not only is the matter irrelevant to my criticisms of polygraph practices, but the complainant has used this one error to generalize immediately upon my Ph.D. and my knowledge of physiology. Surely the complainant does not jump to conclusions of "guilty" or "innocent" that quickly in his polygraph work!

3. Parenthetically, I did not italicize "veins" (nor "only", in a later place). There is, of course, a literary device by which a complainant can indicate that the italics are his own, and not the original author's.

4. If the members of the A.S.I. (with which I am not familiar) are as qualified as they claim to be, this fact will soon become known and I (and others) would certainly recommend that the courts use only members of either of the two academies. Recommending such *constricted* use should not, however, be interpreted as *endorsement*. Until *either* academy demonstrates the high level of polygraph interpretation urged in my article, I will not *endorse* an academy *as a whole*. In the meantime, I do recommend and endorse qualified individual polygraph examiners who use only the disguised questions test.

5. The term "lie detector" was used always in quotation marks, to refer to the *so-called* lie detector. The quotation marks replaced the italicized modifier. Although the A.S.I. deserves credit for not using the term, I frankly confess having had some qualms about recommending against its use. I said "whenever possible" because "polygraph" would be incorrect for single-channel machines.

Finally, I want to emphasize that the crux of my critical analysis is an argument in favor of the disguised questions test and against the undisguised questions test. In my opinion, the choice between these two tests will determine the future success and public acceptance of the polygraph.

BENJAMIN BURACK