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Police Science Technical Notes and Abstracts

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POLICE SCIENCE TECHNICAL NOTES AND ABSTRACTS

Joseph D. Nicol*

Electronic Speedometer—A portable speedometer has been developed by the Automatic Signal Division, Eastern Industries, Inc., East Norwalk, Conn., using microwave radio frequency radiation. It is equipped to determine the speed of a vehicle, and either indicate it on a visual indicator or record the speed on a chart recorder. The instrument is accurate to within 2 percent of the true speed. Its greatest usefulness is in engineering safe speeds with test vehicles. (Contributed by Robert A. Davis, San Francisco Police Department.)

Determination of Formic Acid by a Colorimetric Micromethod—The quantity of formic acid in blood may be determined according to a colorimetric method described by W. M. Grant in the *Analytical Chemistry*, 19: 206-7 (March, 1947). The formic acid is separated by acid treatment and low temperature vacuum distillation. The reaction of formic acid with mercuric chloride is detected by a chromogenic agent consisting of 10 gms. of phosphotungstic acid and 130 gms. of phosphomolybdic acid diluted to 400 ml. of solution to which 50 ml. of concentrated hydrochloric acid and 50 ml. of 85% phosphoric acid are added. After treatment with this reagent saturated sodium carbonate solution is added. The resulting blue color is measured and compared against standards prepared from sodium formate. As low as 5 to 30 micrograms per ml. can be determined with an accuracy of 1 microgram.

Traffic Accidents in California—The Annual Statistical Report for 1947 by Edgar E. Lampton, Director of the Department of Motor Vehicles, State of California, shows a trend in automobile accidents which as kept abreast of the increase in population. Exceeding this trend rate are the accidents, both pedestrian and motor vehicle, due to or involving individuals either under the influence of liquor or who "had-been-drinking." There is also an increase in hit-and-run cases and cases involving youthful drivers.

Analysis of Thermite—Type Incendiary Mixtures—C. E. Danner and J. Goldenson suggest the use of selective solvents as a rapid method of analysis of flare and thermite mixtures. Three extractions separate the material as follows: (1) chloroform separates sulfur and oil (wax), (2) water removes nitrates, chlorates, perchlorates, (3) dilute sodium hydroxide removes aluminum and residues remain such as iron oxide scale and silica. A mechanical separation of magnetic materials can be effected with a magnet. Particle size may be determined by sieving and analyzing each portion. This material is reported in the September, 1947, *Industrial and Engineering Chemistry, Analytical Edition*, 19: 627-30.

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All-Glass Syringe Pipette—J. T. Stock and M. A. Fill describe a simple method of making micro pipettes in the August, 1947, issue of *Metallurgia*, 36: 225-6. Small bore tubing is drawn to a capillary tip and a plunger ground to fit from a piece of glass rod. Since glass is used throughout, corrosive liquids may be dispensed. Micro reagent bottles are also described.

Radio in Burglaries—Robert A. Davis of the San Francisco Police reports two instances of the use of walkie-talkies as communication between confederates in illegal activities. Wider use of such a device is to be anticipated. If such wide use should prevail, it is possible that panoramic receivers may be required as a combatting aid in patrol cars. This is another example of the use of war-born material in criminal activities.

Scientific Evidence, Inc.—The formation of a nation wide group of highly qualified identification experts and investigators into a consulting organization, Scientific Evidence, Inc., has recently been announced. Each member, a specialist in certain phases of criminal investigation or scientific laboratory methods, is available for coordinated study of a problem. While the services of this organization are available for all types of legal investigations, the group forms an agency which can be consulted by either prosecution or defense in criminal cases. Thus the equivalent services of a scientific police laboratory and field investigation unit are available to all for inquiry into any particular problem. The scope of services can be better appreciated by a survey of the key personnel of this organization: Raymond C. Schindler, Director of the Schindler Bureau of Investigation, New York City; Clark Sellers, Examiner of Questioned Documents, Los Angeles; Leonarde Keeler, Lie Detection Specialist, Chicago; Dr. Le Moyne Snyder, Medico-Legal Expert, Lansing, Michigan; and William W. Harper, Forensic Physicist, Pasadena, California. Other equally well qualified persons supplement the staff. Homer Cummings, Washington, D. C., is serving as general counsel for the group. Additional information on the scope of services can be obtained from Scientific Evidence, Inc., 458 S. Spring St., Los Angeles, 13, California.—O. H.

Contributions—Many unpublished methods and techniques are in use today which would be of definite interest and help to other workers in the field of scientific crime detection. The Technical Note Section has made available some of these methods and plans to continue this program by the publication of technical notes on these procedures which do not warrant as extensive and lengthy treatment as is required of a leading article. Proper credit will be given in each instance to the person submitting notes of this nature. Contributions should be brief and should be forwarded directly to Joseph D. Nicol, Technical Notes Editor, Chicago Police Scientific Crime Detection Laboratory, 1121 S. State St., Chicago 5, Illinois.