Journal of Criminal Law and Criminology

Volume 39 | Issue 1 Article 20

1948

Police Science Book Reviews

POLICE SCIENCE BOOK REVIEWS

Edited by
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TEXTILE MICROSCOPY IN GERMANY. Textile Series—Report No. 13. Released by The Office of Technical Services, U. S. Department of Commerce. Publisher, Textile Research Institute, New York, 1947. Pp. 147. $3.50.

"Prepared from original data compiled by the staffs of the Zellwolle-Lehrspinnerei, Denkendorf, and the Microscopic Laboratory and Development Branch, Office of The Quartermaster General by OQMG Textile Team Technical Intelligence Investigators. Released for public information by The Office of Technical Services U. S. Department of Commerce."

This excellent volume will be of particular value to the microscopist who is concerned with the study and identification of fibers. The text is a fine reference source, and the reviewer is reminded of several other German publications in the field of chemical microscopy, all of which are notable for their complete treatment of a specific problem. This current offering compares favorably with prewar publications; however, the quality of the reproductions may have suffered slightly in assembling the report.

Textile microscopists may be familiar with the work of H. Remuth and the publications of Zellwolle-Lehrspinnerei at Denkendorf and I. G. Farbenindustrie at Hoechst. However, this work will undoubtedly open new fields to many scientific crime detection experts.

The Table of Contents lists the following: The Microscopy Laboratory of I. G. Farbenindustrie at Hoechst, by Werner von Bergen. Application of Phase-Contrast Microscopy to Textile Fiber Research, by H. Reumuth. Bibliography of Publications on Microscopy Since 1938, by H. Reumuth. Atlas of Textile Fibers, by H. Reumuth, of the Microscopy Laboratory, I. G. Farben, Hoechst. Photomicrographs from Special Fiber Investigations Conducted at I. G. Farben, Hoechst. Atlas of Textile Fibers Compiled at Zellwolle Lehrspinnerei, Denkendorf. Tests of German Fibers. Appendix: Electron Micrographs from Laboratories in United States and Holland.

Chapter I contains a description of the I. G. Farben microscopy laboratory, and the second chapter is a reprint of an article from the Textile Research Journal.

Chapter 4 contains 79 photomicrographs of textiles and fibers, many of which can be used for reference and comparison purposes. The majority of the sections are longitudinal.

The following chapter contains a collection of 25 photomicrographs (longitudinal and cross sectional) at 750 diameters and x-ray diffraction patterns of the fibers examined. These illustrations are supplemented with a detailed description of the physical and chemical properties of the textile fibers. All of this work was conducted by the Application Laboratory, I. G. Farben at Hoechst.

The sixth section is an atlas of Textile Fibers Compiled at the Zellwolle Lehrspinneres of Denkendorf. It consists of 82 photomicrographs

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(longitudinal sections in zinc chloride iodine and cross sections at 300X) of virtually all known textile fibers plus a description of certain physical properties.

The results of tests conducted by E. I. du Pont on some of the foreign and comparable American fibers are recorded in 60 photomicrographs and descriptive tables.

The volume is concluded with comments and illustrations of electron micrographs made in Holland and the United States.

Thus, Report No. 13, in the Textile Series as released by The Office of Technical Services, U. S. Department of Commerce, becomes a welcome addition to the library of the forensic microscopist. Undoubtedly much information of a similarly valuable nature in other legal science fields has been uncovered by the government authorities charged with this responsibility, and it is hoped that such data which may be of value to the police technician will eventually find its way into the literature.

RALPH F. TURNER

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FORENSIC MEDICINE. *Keith Simpson, M.D.*, 1st edition. The Williams and Wilkins Co., Baltimore, 1947. Pp. 335. $4.50.

The following introductory remarks by the author indicate the purpose for which the book was written: "This short textbook is designed to provide a brief and essentially practical guide—from an English school—to current teaching of forensic medicine. The doctor in practice and the barrister at the criminal bar, will, it is hoped, find it a reliable guide to their contacts in practice with the law and medicine respectively."

The 319 pages of text are divided among 29 chapters devoted to the following: Signs of Death; Changes after Death; Identification; Blood Stains; Types of Injuries and Wounds; Fire-Arms; Asphyxia; Regional Injury; The Ultimate Effects of Injury; Natural Disease and Trauma; Infanticide; Abortion; Sexual Offences; Legal Procedure; The Medico-Legal Autopsy; Medical Ethics; Medico-Legal Aspects of Insanity.

Twelve chapters having a total of 74 pages concern toxicology and are captioned as follows: Laws Regulating Sale of Poisons; General Facts About Poisons; Corrosive Poisons; Irritant Poisons; Hypnotic and Narcotic Poisons; Deliriant Poisons; Convulsant Poisons; Paralytic Poisons; Abortifacient Drugs; Gaseous and Volatile Poisons (two chapters).

The development of the subjects indicated by the various chapter headings correspond to what one would expect in a course of between 12-18 lectures intended for undergraduate medical students or physicians whose contacts with medico-legal problems are casual and infrequent. The extreme brevity with which many important matters are discussed, together with the omission of references to the literature, impair the usefulness of the volume to medical examiners, coroners, physicians, and others whose responsibilities are such as to require comprehensive knowledge of the matters under discussion. It is apparent that the author has had wide experience, and the sections dealing with elementary ballistics, fire-arm wounds, physical agents in the causation of asphyxia, blunt injuries, the crush syndrome, and sudden death from natural causes have

many excellent features and are worthy of study. The book is well written and illustrated.

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THE SYSTEMATIC IDENTIFICATION OF ORGANIC COMPOUNDS, 3rd Ed. By *Professors Ralph L. Shriner and Reynold C. Fuson.* John Wiley & Sons, Inc., New York, New York, 1948. 22 figures, 46 tables, pp. ix, 370. $4.00.

The third edition of this book was written in the simple manner of a laboratory manual as were the previous editions. This is of great value to an analyst with little or no previous experience in the identification of organic compounds. Not only are the various essential physical and chemical findings discussed in great detail, but illustrations, procedures, and experiments are amply distributed to clarify each point. This simplicity is not only of benefit to the student but also to the advanced organic analyst. Organic analysis at best is a long drawn out, tedious, procedure, and any simplicity and organization are an aid in both speed and reliability.

Shriner and Fuson's book is recognized as an authority in this field of analysis. Their breakdown of chapters is clear and simple.

I. "Introduction."

II. "The Identification of Unknowns," sets forth certain steps to follow with particular reference to detailed procedures. It is a general survey of the content of the book.

III. "Preliminary Examination" discusses physical state, color, odor, and the ignition test.

IV. "Determination of Physical Constants"; melting point, freezing point, boiling point, specific gravity, index of refraction, optical rotation, molecular weight are discussed, with methods for calibration and correction factors, and with useful tables. Instruments are illustrated and methods described.

V. "Qualitative Analysis for the Elements"; the fusion produced with sodium, as the title implies.

VI. "The Solubility Classes"; techniques are discussed and the various standard solvents (water, ether, sodium bicarbonate, sodium hydroxide, hydrochloric, sulfuric, and phosphoric acids are used to help determine the degree of solubility as a guide to group the numerous organic compounds. These groups indicate strong acids, weak acids, basic compounds, neutral compounds, etc. Tables and illustrations and exercises discuss the various difficulties, such as partial solubility or borderlines between solubility classes. This chapter has been much simplified.

VII. "Application of Classification Tests"; classification tests as to characteristic functional groups always follow the determination of the physical constants and solubility and behavior on ignition.

Careful organization is evident in the preparation of this chapter. The various solubility groups are separately grouped and individual classification tests recommended. The classification tests are fully described in detail in experiment form. These are listed in alphabetical order for easy reference.

VIII. "Preparation of Derivatives"; the derivatives are grouped in alphabetical order for the class of compounds for which they are used. The exact method and procedure technique are discussed in detail. Choice

of solvent for recrystallization of purified derivatives is given in each case.

IX. "Table of Derivatives"; this chapter gives the boiling point and melting point of the common organic compounds as such, and in combination with organic reactants to form solid derivatives. These tables will usually suffice for the common organic compounds without having to refer to other reference books such as Beilstein.

X and XI. "Separation of Mixtures" and "The Interpretation of Experimental Data."

The index at the end of the book is particularly useful. Each compound is itemized; the boiling point is given parentheses and the melting point brackets; other numbers indicate page references.

This book is a standard text and reference, and is essential in any analytical laboratory.

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PHOTOGRAPHIC EVIDENCE—SUPPLEMENT. By *Charles C. Scott.* Vernon Law Book Company, Kansas City, Missouri, 1947. Pp. 136. $4.00.

The Supplement to Photographic Evidence appears five years after the publication of the original work. (See review Journal Criminal Law & Criminology, Vol. 33, No. 3, p. 285.)

Part I deals with the preparation of Photographic Evidence and brings the original work up to date with a discussion of coated lenses, synchronized shutters, high speed flash equipment, electron micrographs, stereoscopic radiography, and other recent advances.

Part II, on the presentation of Photographic Evidence contains recent citations and quotations from court decisions.

As with the first work, the Supplement is well illustrated. Sections are numbered to correspond with those in the original text. Thus the reader may select a section in the first volume, refer to the same section number in the Supplement and ascertain whether or not additional information has been published. New material in the Supplement is indicated as such. A Table of Cases and Supplemental Index completes the volume.

The Supplement does not have a stiff binding, but is designed to be inserted in a pocket on the back cover of the original text.

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FINGERPRINTS, PALMS AND SOLES. By *Harold Cummins, Ph. D., and Charles Midlo, M. D.* The Blakiston Company, Philadelphia, 1943. Pp. 309. $4.00.

This authoritative reference work on dermatoglyphics is the much needed volume which serves to bridge the rather wide gap that has existed between the fingerprint identification expert and the biological scientist.

Dactyloscopy has become an empirical art, and many identification experts have failed to appreciate, or even realize that the epiderinal ridge patterns with which they busy themselves every day have a broad and fundamental significance to the anatomist, anthropologist, geneticist, and physician.

Drs. Cummins and Midlo, both professors of Microscopic Anatomy at Tulane University, have prepared a text which treats in great detail der-

matoglyphics, its morphological principles, and its relation to bodily symmetry.

No attempt has been made to describe methods of routine identification and classification; however, an excellent history of dactyloscopy is presented.

References are made to the researches of Wilder and Wilder, Whipple, Poll, Ford Mairs, and Rife. The text is well illustrated with diagrams and photographs, some of the latter being from original work by Wilder and Wilder.

The book is divided into three parts. Orientation, Methodology and Description, and Biology. Part one covers the history and general considerations of dermatoglyphics. The second section contains a description of various ways to record fingerprint patterns and to discuss the fundamentals of pattern construction as they occur on fingers, palms, soles, and toes. Each discussion includes, among other points, tracing and formulation of main lines, formulation of main lines, formulation of configurational areas, methods of analysis, and statistical trends.

The third and largest section deals with biological aspects. One chapter is devoted to the elements of fingerprint identification and is followed by chapters on comparative dermatoglyphics, embryology, symmetry, inheritance, twin diagnosis, questioned paternity, racial variation, and constitution.

The excellent bibliography of 361 references is divided according to the chapter headings of the text, thus making for easy reference on each subject. Binding, paper quality, and printing are exceptionally good.

The work is highly recommended for advanced identification students, biologists, and all others who wish to extend their store of information on dactaloscopy and dermatoglyphics, beyond the rudiments of routine identification. This reviewer has always been impressed by the singular lack of mention of the book during the course of trials involving fingerprint identification. Mastery of its contents would certainly increase the armamentorium of the expert.

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