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Police Science Notes

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POLICE SCIENCE NOTES

Announcement

It is with much pleasure that we announce two recent appointments to the Editorial Board of the *Journal of Criminal Law and Criminology*: Captain John I. Howe of the Chicago Police Department, and Chief O. W. Wilson, Professor of Police Administration at the University of California. As a result of these appointments, the *American Journal of Police Science*, as well as the *Journal of Criminal Law and Criminology*, will have the benefit of valuable advice and assistance from two well-informed and experienced members of the police profession.

TECHNICAL ABSTRACTS

M. Edwin O'Neill

The Examination of Bones—In the examination of various objects and materials in criminal investigation the laboratory technician seldom approaches the spectacular feats of the scientific investigators of fiction. This is more often the result not of the lack of ability of the expert but of the scarcity of "sign posts" within the exhibits themselves. Occasionally, however, the objects submitted for examination may be of such a nature that, in the hands of a skilled observer, may lead to deductions which rival those of Sherlock Holmes.

A case of this kind is described in the October-December issue of the *Police Journal* (England) in an article entitled "Studies in Identification. No. 4." The article is concerned with the identification of bones and is written by Dr. Sydney Smith, of the Department of Forensic Medicine of the University of Edinburgh.¹

In the course of cleaning out a certain village well, three separate bones were found. The police took possession of the bones and submitted them to the author for examination. The bones were from a human pelvis, comprising left and right hip bones and sacrum. In the examination of these bones, besides the usual observations as to sex and body-build a number of unusual anatomical characteristics were noted. In addition, injuries of the right hip bone were present and an irregularly shaped lead slug was found embedded in the bone.

From the examination of the exhibits the following report was submitted: "The bones are from the same body, and have formed a pelvis of a young woman of small stature and light build. She was twenty-three or twenty-four years of age and possibly had had one or more pregnancies. She had been lame on the left side since infancy or early childhood. She was injured by the discharge of a shot-gun loaded with irregularly-shaped

¹ Smith, S., "Studies in Identification. No. 4," the *Police Journal*, 12 (4) 403-408, (1939).

and possibly home-made slugs. The shot was fired from in front of the woman, at a range of some yards. If the woman was in an erect position at the time, the direction of the shot was from before backwards, slightly from left to right and slightly upwards. The shot must have penetrated the abdomen and injured the viscera. Death occurred about seven to ten days after the shooting, and was probably due to septic peritonitis. The whole occurrence is not more recent than three months ago, and may be considerably more remote."

The approximate age was determined by the evidence of a recent union of the epiphyses along the crests of the ilia and the absence of a union of secondary centers along the margins of the pubic rami. The possibility of a previous pregnancy was suggested by the presence of a well-developed pre-auricular sulcus, although the author does not represent this as an infallible sign. That the subject had been lame was indicated by the asymmetry of the hip bones, a result of the greater weight of the body being carried on the right side for a long period of time and comparative disuse of the left leg. The time of death following the shooting was estimated by the extent of erosion of the bone in one of the injuries.

The facts disclosed by this examination were later found to be correct in all essentials, and were useful not only in establishing an identification but in apprehending the murderer.

LEGAL DECISIONS

Fred E. Inbau

Automobile Accident Investigation—Determination of Speed from Skid Marks—In the recent case of *State v. Lingman*, 91 Pac. (2d) 457 (Utah, 1939), involving a manslaughter prosecution, a professor of mechanical engineering was permitted to render opinion testimony (in answer to a hypothetical question) regarding the speed of the defendant's car at the time of his collision with the victim's automobile—a determination based upon the skid marks of the victim's car which had been struck sideways and at right angles to the path of the defendant's automobile. Upon appeal from a conviction, the defendant alleged as error the trial court's ruling in accepting expert testimony of this nature. Among the points raised by the defendant was one to the effect that since the witness had conducted no experiments in automobile collisions but was only familiar with the "law of impacts" generally, he was therefore not qualified to testify as to this particular type of impact. The appellate court held this objection to be invalid since the witness had testified that "the laws of impacts" were applicable to automobiles as well as to other "bodies." Another error was alleged on the ground that certain facts were omitted in the hypothetical question which should have been included in it. The defendant alleged that it was essential to include in the question the speed movement of the victim's car as it travelled in its right angle direction to the path of the defendant's car, the movement of the defendant's car after the collision, the amount of tread of tire on the struck car, the varying types of surfaces over which the struck car was launched, the varying elevation of the surface traversed, the inflation of the tires, and

the composition of the road. In answer to this the appellate court stated that as pointed out by the witness the differences in inflation and wear of tires, the speed of the victim's car, the makes of cars, and the movement of the defendant's car after the collision, were immaterial. "While it would seem to be a fact of common experience," stated the court, "that a broad tread on a tire (deflated tire) would present more resistance to push than would a narrow tread, such matters went only to the credibility and not to the admissibility of the testimony. They were matters for cross examination and argument to the jury. The witness admitted that the type of surface which the struck car traversed would have much to do with the resistance to push. The witness assumed the coefficient of friction to be 0.6 and 'assumed the coefficient would be the same all the way along.' This coefficient was taken from a table of a mechanical engineer's handbook recently issued by the Iowa State College and 'prepared from actual experiments.' We cannot say that the probability of its accuracy was not sufficiently established by the showing made to permit its figures to serve as a part of the expert's formula. . . . This manual gave the fractional resistance for different roadways as ranging from 0.62 up to 0.8, and on asphalt roadways and gravel roadways from 0.65 to 0.8. The witness testified that he took a fraction 'lower than any of these, so as to make any allowance for any difference in the roadway in this case.' . . . The formula was certainly of probative value in determining the speed with which defendant's car struck the other car."

In view of the fact that the decision in this case was reversed for other reasons, the foregoing comments constitute mere *dicta*. Nevertheless, the decision may be of interest to traffic experts.

Tests for Alcoholic Intoxication—Self-Incrimination—In a recent Iowa decision, *State v. Norkrid*, 286 N. W. 412 (1939), the defendant, who was convicted of operating a motor vehicle while in an intoxicated condition, alleged as error on appeal that the results of blood and urine tests should not have been admitted because such tests constituted a violation of his privilege against self-incrimination. The appellate court held, however, that it was unable to discover evidence of any compulsion and therefore sustained the conviction without any further discussion of the self-incrimination charge. Regarding the general subject of the legal aspects of tests for alcoholic intoxication, readers of this Journal are referred to an excellent publication which appeared in the Iowa Law Review for January, 1939: "The Medico-Legal Aspects of the Blood Test to Determine Intoxication," by Mason Ladd and Robert B. Gibson. Also, as to the specific points of this case, see Vol. 28, No. 2 (July-August, 1937) of the Journal of Criminal Law and Criminology.

POLICE SCIENCE BOOK REVIEWS

Edited by *Paul V. Trovillo*

Forensic Medicine. (Sixth Edition.) By *Sydney Smith*. (Regius Professor of Forensic Medicine, University of Edinburgh), including a

section on American medico-legal procedure by Alan R. Moritz (Professor of Legal Medicine, Harvard University School of Medicine). Little, Brown and Co. (Boston, 1939.) pp. xxiii—654, with 169 illustrations. \$7.50.

To this reviewer it seems that the writer of any textbook has an obligation to his prospective readers which we may outline as follows:

(1) He may be expected to familiarize himself with all the literature in the specialized field covered by his text. It is not sufficient merely to survey the literature of his own country or his own language.

(2) He should go over the literature critically, selecting those papers representing the most extensive and scientifically controlled observations and discarding the multiplicity of articles which are grossly unscientific or which merely echo the more carefully drawn conclusions of previous reports. This selected material should then be epitomized and accurate references given to the original papers so that a student who cares to go more thoroughly into the subject may have ready access to the original and more detailed information.

Unless a writer can conscientiously undertake such an obligation, he ought not add one more volume to a literature which is already badly cluttered up with carelessly written or misleading books and papers. The scientific literature, and especially medical literature, is particularly in need of protection from such mediocrity. In reply to this contention for more rigorous standards for textbooks, it may be suggested that if such high standards were adhered to, few textbooks would be written—to which one might answer that medical science might be the better off. A moratorium on useless texts and journal articles would serve the double purpose of saving the reader's eyesight and conserving our forest resources.

Sydney Smith's "Forensic Medicine," in its sixth revision, measured by standards set by comparable books in the field, is one of the best books on the subject in the English language. Indeed, the fact that it has already gone through six editions in the fourteen years since its introduction is eloquent evidence of its value to English speaking peoples. (The date of the book is slightly misleading, for this volume, except for Professor Moritz's brief comment on pages xvii-xxiii, is identical with the 1938 English edition which was published in London by the J. & A. Churchill Co.)

Since the fourth edition [which this reviewer discussed in this Journal (26 (2): 325-326 (1935)], Professor Smith has made a number of revisions in his text. Thirteen new illustrations have been introduced. Several pages dealing with the noteworthy Ruxton case and the importance of dental roentgenograms have been added to the chapter on Identification. About two pages on blood grouping and the leuco-malachite green test have been added to the chapter on Blood Stains, and the chapter on Abortion expanded by about two pages. Eight pages are devoted to a résumé of the British Pharmacy and Poisons Act of 1933, and two pages of new material on the general treatment of poisoning have been added to the chapter on Toxicology. A total of about six pages has been added to the sections on alcoholism, snake bite, and poisoning by amidopyrine,

benzol, dinitrophenol, avertin and aspirin. About one-sixth of Appendix I, concerning the Systematic Examination of the Viscera for Poisons, has been re-written and enlarged. Appendix IV (one page), discussing the Preparation of Hair Impressions, is new. The remainder of the book is essentially the same as the fourth edition (1934).

So far as the American reader is concerned, one wonders if these additions are of sufficient importance to warrant the issuing of a new edition.

For the American reader, Professor Moritz's preface on "Legal Medicine in the United States" is somewhat disappointing. Instead of pointing out the important differences between British procedure and established practice in this country, he devotes his brief space to a discussion of the functioning of the Coroner and the Medical Examiner systems in this country, and to a brief review of our laws concerning autopsies and medical testimony.

The criticisms of this reviewer, both favorable and adverse, remain much the same as in the fourth edition. From the physical standpoint, the book is well printed on good paper with easily readable type and excellent illustrations. However, the majority of the book appears to have been based largely upon the author's wide and varied experience in medicolegal investigations. Evidence of the provinciality of which textbook writers are all too frequently guilty, is manifested here. For example, five-sixths of the references cited by the author are to books or journals printed in the English language; the bulk of these are from British sources. French, German, and other non-English literature is meagerly dealt with, which fact might suggest that either the author was unfamiliar with continental literature in his field or considered it to be of only minor importance. One is amazed to find it possible at this time to write a forensic medicine text and make only one reference (and that incorrectly) to the numerous excellent researches published in the *Deutsche Zeitschrift für die gesamte gerichtliche Medizin*, a journal which for the past seventeen years has been most outstanding in the field.

In giving references to original sources, the author almost invariably fails to cite the page of the reference. As a result one is frequently compelled to leaf through an entire issue (or even an entire volume) of a scientific journal in search of the original citation. For example, on page 337 a reference is given (without the name of the author) to a paper published in the October, 1924 issue of *Zeitschr. für Geburtshilfe und Gynaekologie*. In such a case, the reader would be forced to leaf through the entire month's publication in search of the paper cited. Such poor cooperation on the part of a textbook writer is deplorable. Of a total of some 225 references, at least 46 are actually in error in some respect, apart from the vagueness mentioned above, and strangely enough, 39 of these errors also occurred in the fourth edition of the text. These suggest careless preparation of the manuscript, not only of this but also of previous editions.

The sections on identification of human remains and on the elucidation of the causes of violent deaths are particularly well written. In spite

of the highly technical nature of such subjects, the author provides a concise, yet reasonably thorough summary in language which a non-medical reader will have little difficulty in understanding. The chapters dealing with Legal Procedure in England and Scotland and with the British Pharmacy and Poisons Act will have little interest for the American reader.

The last third of the book is devoted to a discussion of the various poisons. While these are considered largely from the medical viewpoint, the chemical procedures employed in isolating poisons from tissues and body fluids are outlined. These methods are concerned chiefly with the *qualitative* detection of poisons. Since the publication of the fourth edition, many quantitative methods have been added to the book, but the reader is still left uninformed as to the techniques for determining the quantity of such important poisons as hydrocyanic acid and the cyanides, chloral hydrate, methyl alcohol, carbolic acid, fluorides, lead, or nicotine. In view of these omissions, it is difficult to justify the space given to the detection of such weakly toxic substances as aspirin, phenacetin, antipyrine, acetanilide and the salts of zinc, aluminum, copper and bismuth.

It is to be hoped that in future editions of this text, the worth-while researches of other workers in the field (particularly on the European continent) will be incorporated with the varied and extensive experiences of the author, so as to provide a more complete and scholarly exposition of the subject. For British and American authors, the high standard of excellence set by Hofmann-Haberda's "Lehrbuch der gerichtlichen Medizin" serves as a mark to be striven toward.

In spite of these adverse criticisms, this remains one of the best books on the subject in the English language. Its clear and non-technical presentation makes it of value not only to physicians and medical students, but also to attorneys and other non-medical readers.

C. W. Muehlberger

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Crime Is a Business. By *John C. R. MacDonald*. (Inspector, Oakland, California, Police Department) Stanford University Press (Stanford University, California, 1939). Pp. 263. \$3.00.

"Crime Is a Business" completely exposes almost every type of confidence game and racket. Thoroughly explained are such crimes as those involving money making machines, missing heirs, penny matching, short changes, and many others. The book contains descriptions of ninety-three types of bunco—Italian, Negro, Filipino, major American buncos, store rackets, fake oil wells, fake mines, etc. Each nationality customarily employs its own peculiar methods, Negroes using "drop the pigeon," Italians using the "charity game." A careful study of the text would save police recruits a great deal of work in the field when they have a case involving confidence games and rackets. It is a textbook for every police school and is especially adapted for student police who look forward to working as detectives. Students will find themselves

taken step by step through the ramifications of each operation of the crime. They will watch the "build up" and understand the psychology of the confidence men as they work on their victims. Readers of this book should have no difficulty later in recognizing the various confidence men when they are in action, the type of crime committed, or what type of criminal to search for when complaints of victims are received. The book also contains a vocabulary of bunco lingo. The author has certainly made a supreme effort to embody in one volume a detailed description of almost every confidence game and racket known to American Police.

Inspector MacDonald is a college graduate and has been a member of the Oakland Police Department for twenty-one years and head of its bunco detail for fourteen years. His accounts here may surprise many people when they learn that many professional men, reputable business men, and even bankers are often the victims. He tells us that swindling is nothing more nor less than high-pressure salesmanship. But throughout these rackets which he describes we find that the victim is always thinking he can "outsmart" the other fellow and that he is not very particular whether the business is crooked or not.

We are inclined to think that if there is a moral to be derived from this book it should be: "You can't cheat an honest man."

John I. Howe

Captain, Chicago Police Department

Medical Jurisprudence and Toxicology. By *William D. McNally, A.B., M.D.* (Asst. Prof. of Medicine and Lecturer in Toxicology, Rush Medical College, University of Chicago). W. B. Saunders Co. (Philadelphia, 1939). Pp. 386. \$3.75.

This volume of 386 pages represents an attempt to cover the essentials of the field of toxicology. Naturally, to cover this field as briefly as it has been treated in this volume appears to defeat the purpose of the book as stated in the preface, namely, to furnish medical, pharmaceutical and dental students with the essentials of toxicology. One must assume that these students have but a very rudimentary knowledge of poisons and their effects, and consequently the subject should be treated critically to serve the required need. The literature on toxicology is so extensive that it is impossible to cover the subject adequately in any volume of moderate size.

The numerous mistakes and typographical errors in the subject matter and in the references cited would make it extremely difficult for the initiate in the field to select the right from the wrong or to locate the source material. It is regrettable that the author and the publisher did not exercise greater care in correcting the final manuscript before it was published. In table 4, page 71, the columns "Groups of children" and "Exclusive" require radical revision to be acceptable. The character of these errors indicates that they are not of typographical origin. Contrary to the statement made by the author, *A* children are possible from *O x A* parents and also from *A x B* parents because the *B* parent may be a

heterozygous *OB* individual. Also, *AB* children are possible from *A* x *B* or *A* x *AB* parents.

The treatment and antidotes suggested for the poisons in Table 8, page 93, will not meet with general agreement. It is implied that the cyanosis in aniline poisoning is due entirely to anoxia. For the barbital group, it is implied that strychnine, coffee, and coramine are as effective as metrazol and picrotoxin, whereas clinical experience as well as animal experimentation indicate definitely that in deep barbiturate depression the first three mentioned drugs are of little value.

Artificial respiration and the use of a pulmotor are suggested for cyanide poisoning with intravenous injection of methylene blue. Artificial respiration is of little value if the system is unable to utilize the oxygen. It is generally agreed that, as antidotes, sodium nitrite and sodium thiosulfate are far superior to methylene blue.

The paragraph on the detection of fluorine (p. 130) is very vague, inaccurate, and the recommended tests lack specificity. The author's reference to "the gas" does not indicate whether fluorine, hydrofluoric acid, fluosilicic acid or silicon tetrafluoride is meant. Silver nitrate gives a precipitate with chlorides, bromides and iodides, but not with fluorides. The starch iodide test, as well as the bleaching action on litmus paper, lacks specificity because other agents will give the same tests.

On page 201, whisky (alcohol) is referred to as a stimulant to be used as an antidote for carbon monoxide poisoning, and on page 346, it is referred to in a similar manner for the treatment of snake bite, whereas medical scientists are generally agreed that alcohol is not a stimulant but must be considered solely as a depressant.

In the discussion of the benzene series (p. 295 *et seq.*), no difference is made between benzene (benzol) and benzine, two materials with distinctly different chemical and toxicological properties. Some of the references cited refer to benzine.

The errors in this book are so numerous as to render it practically useless. Under no circumstances can the book be considered a safe manual on toxicology for the beginner.

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