

BOOK REVIEW

Wilkaan Fong,¹ B.S.

A Review of Criminal Investigation, A Method for Reconstructing the Past

REFERENCE: Osterburg, J. W., and Ward, R. H., *Criminal Investigation, A Method for Reconstructing the Past*, Anderson Publishing Co., Cincinnati, OH.

The book stirs a mix of sensations on first encounter. Its size is daunting: thick, wide, voluminous—a tome. Its title attracts attention, provokes thought. The outlined body location cover illustration is grim, haunting. If you know the forensic sciences, read its principal works, you know this publication is a momentous event. James W. Osterburg, educator, past president of our AAFS, author of two forensic science texts, is senior coauthor. One of his texts, *Introduction to Criminalistics*, has been read and remembered by generations of criminalists since it was published in 1949. Coauthor Richard H. Ward's credentials include authorship on criminal investigation, notably terrorism, and police corruption.

Their backgrounds complement each other and engender high expectations. Those expectations were met. This is an excellent textbook. It promises to become the definitive work on criminal investigation.

The book is for the criminal justice student and the police detective. The potential audience is far greater. A partial listing of others must include public prosecutors, public defenders, criminal defense attorneys, forensic scientists, investigators and inspectors for the military services and governmental departments, arson investigators, fish and game wardens, investigative reporters, mystery story writers, and private detectives.

Quantitative and subjective attributes help establish the book's character. Its 875 pages of text are organized into seven principal parts, which subdivide into 26 chapters. Five appendices, an index and biographical sketches of the two authors complete the work. The Table of Contents requires 12 pages of single-spaced title listings. Chapters end with cited literature references and court decisions (291), and recommended supplemental readings (272). The text is well illustrated through figures (89) and tables (16). The figures consist of diagrams, drawings, photographs, sketches, and a chart. Especially noteworthy is the use of a graphic designer for some of the drawings. Anecdotal accounts, tightly drawn, illustrating conceptual points abound. The presentation style is pleasing. Each of the seven parts is color coded and prologued. The typeface is easily read. Boldface titles identify major subject categories. Page border space for reader annotation, if desired, is provided. The text prose is smooth and clear. Typographical errors and misspellings are virtually nonexistent. I found the usage of s/he throughout the text distracting. The book, despite its large size, lies flat when opened.

¹Consulting Criminalist, 1335 Glen Eyrie Avenue, San Jose, CA 95125.

The wide scope of the book is best appreciated when the variety of subjects is known. They are given here as: Chapters 1, 2, and 3, Investigation: Background and Overview; Chapters 4 and 5, Physical Evidence (122 pages); Chapter 6, People as Sources of Information; Chapters 7, 8, 9, and 10, How to Seek and Obtain Information: People and Records; Chapter 11, Surveillance; Chapter 12, Eyewitness Identification, Chapters 13 and 14, Interrogation; Chapter 15, Strategy and Practice; Chapters 16, 17, 18 and 19, Managing Investigations and Presenting Evidence; and, successively, Chapters 20–26, Homicide (122 pages including a treatment of gunshot wounds), Robbery, Rape and Other Sex Crimes, Burglary, Arson, Terrorism, and Enterprise Crime.

Few persons, if any, can adequately review the wide scope of subjects covered. Recognizing this, principal comments will be limited to the area of forensic sciences, generally, and, more specifically, criminalistics.

Chapter 2 discusses methods of inquiry for reconstructing the past. It contains points reflecting the conceptual essence of the book. Cited here are the similarities of the historian's and criminal investigator's work; the scientific method as a way of thinking not being limited to scientists; many term definitions important to know if one seeks to improve reasoning ability; the need to identify the problem; the need for education promoting general interests as contrasted with narrow vocational interest. Additional commentary is given under the sub-headings: Evidence and Proof, Investigation—Art or Science?, Problem Identification, Luck or Creativity, The Prepared Mind, Investigative Mind Set.

Chapter 4 on physical evidence is surely the work of coauthor Osterburg. Here dealt with is criminalistics—how criminalists develop and interpret, how they think, what they look for, how they apply fundamental concepts. Here are discussed the roles of other forensic investigators: the forensic pathologist, the forensic serologist, the forensic toxicologist, the forensic odontologist, and the forensic psychiatrist. Unaccountably not mentioned are the forensic document examiner and forensic engineer. Of course, here also, are the common clue materials: fingerprints, firearms, blood, semen, documents, glass, and other trace evidence.

Those who value the new in forensic science will find in Chapter 4 “state of the art” technology: DNA for semen and blood characterization; laser radiation and cyanoacrylate fuming for developing latent fingerprints; automated fingerprint identification systems (AFIS) for scanning file records prints in a computer for possible matches of a latent print; neutron activation analysis, scanning electron microscopy/energy dispersive x-ray analysis for finding gunshot residue particles. Strict attention to clarity and accuracy is exemplified in the description of DNA technology, a difficult subject.

Subsequent chapters cover additional new technology for usage by the criminal investigator: computers for information management, psychoprofiling for determining the personality type of the perpetrator, psychological autopsy for considering the likelihood of accident or suicide and compu-sketch for witness description of a perpetrator. Not so new technologies discussed for the criminal investigator are lie detection (polygraph, voice stress).

The wide variety of subjects is covered with varying degrees of comprehensiveness. Exceptional in length, but deserved, is the section on fingerprints. On the other hand, the reference to blood proceeds from presumptive tests to blood group(s) then to DNA without mentioning variant enzyme and blood protein systems. Hair is given short shrift. Anecdotal accounts, employed with effectiveness throughout, do not include the internationally publicized Wayne Williams serial murder case as an illustration of the value of fiber evidence. Mention is made of NAA for GSR detection but no effort is given towards drawing a comparison of this method against the more recent SEM/EDX and AA methods.

Errors noted were rare and usually those of omission and/or emphasis . . . matters of

opinion. One error is that found in Chapter 4, p. 125 under the subject heading Trigger Pull. There it is said that "For a .38 caliber revolver, hair trigger pull would be 2.5 pounds to 3.5 pounds with the hammer uncocked, that is, double action." These numbers are erroneously low.

The authors candidly describe a veritable cornucopia of available instrumental products and approaches. The number covered and their complexities permit little waffling on their merits. Also, science is their basis and science is recognized as a process and not a fixed body of conclusions. The attitude apparently adopted by the authors is: if it has a good basis, likely to help, can't hurt, it's worth doing. And so it belongs in this book. Admonitions are rare. A worthwhile one is noted concerning premature expectations regarding DNA.

Frequent reference in the book is made to the criminalist. The reader may wonder, who is this criminalist who knows so much?

The discussion of forensic science and criminalistics at the beginning of Chapter 4 is only marginally helpful in answering this question. It lists under the heading of criminalistics various subdivisions of technology. To mention a few: wet chemistry, questioned documents, photography, firearms, and toolmark. Serology is listed under forensic medicine although it is later stated that it is increasingly found under criminalistics. From the discussion and the text context throughout one gathers that a photographer is a criminalist, so is a firearms and toolmarks examiner, so is a voice-spectroscopist, so is a serologist, and so on, and so on.

The traditional view of a criminalist is that espoused by Dr. Paul L. Kirk who is mentioned in the text (p. 64) as "one of the few major figures in criminalistics." Dr. Kirk held that a criminalist was the generalist practitioner of the art of individualization; the corollary to the art of identification, which distinguished the criminalist as unique among scientists. Thus a criminalist was said to be capable of applying scientific expertise over a wide range of evidence forms, notably: firearms and toolmarks, patterned evidence such as fingerprints and footwear imprints, drugs and narcotics, common varieties of trace evidence, for example, hairs, fibers, blood, semen, paint, glass. Doing blood alcohol determinations, photography, crime scene searches was part of the job.

Today, many forensic science laboratory workers carry the title of criminalist. Few are Kirkian criminalists. Those who are will usually be found in California and they are becoming extinct. Today's crime laboratory workers are mostly practitioners of narrow specialties of the branch of forensic science referred to in this text as criminalistics. Practicing a narrow forensic specialty does not a criminalist make! It is my view that a person whose duties are principally those of a serologist, as an example, in a criminalistics setting should be referred to as a forensic serologist, not a criminalist.

In Chapter 4 a careful discussion of the terms identification, identity and individualization is given. *Identification* is used in the sense of a classification process to place an entity into a "predefined, limited or restricted class." Given is an example: "The powdered substance in Case 123 contains heroin." The term *identity* is reserved for usage where an entity, by the classification process, has been extended to a "class of one." Identity, through further discussion, is synonymous with *individualization*. Sorting this all out one can see the sense of what is said. However, these fine points are rarely sorted out for those who read reports. Clarity is helped if there is recognized the two different questions being addressed. The one being, *what is it?* and the other being, *what is its source?* In the process of answering these questions a complex of classification steps and degrees of proof exist. *Identity* is the ultimate aim of addressing both questions. *Identity* as to its nature in the one, and *identity* as to its source, the other.

Osterburg deals briefly in Chapter 5 with the subject of crime scene photography. He mentions the need of a "camera with bellows extension, sturdy tripod, suitable focal length lenses and illumination." He advises relegating the crime scene photography

function to a “trained police evidence technician.” Appendix 2 at the end of the book gives a further treatment of crime scene photography.

The contributors of this appendix, Fox and Cunningham, choose to omit photographic principles and methodological procedures in operating cameras. Outside the scope is the explanation.

Regrettably, under this proviso, also omitted are conditions to be met for critical closeup photography off patterned evidence such as a shoeprint.

It can be agreed that the function of crime scene photography is best left to a specialist. However, the observation can be made that despite the proliferation of police science training programs, presumably covering technical photography, few police evidence technicians understand and apply the technicalities for obtaining a 1:1 or near 1:1 reproduction on the film plane implicit in the critical conditions alluded to here.

Fox and Cunningham undoubtedly know the conditions referred to and agree on their importance for obtaining the required fine detail for a successful comparison. I just wish that they had covered them in definite detail in their otherwise excellent contribution.

Appendix 1 treats the subject matter of evidence submission. It supplements a thorough treatment on collection and preservation of physical evidence in Chapter 5. The FBI prepared appendix is formatted columnar and is aimed at criminal investigators sending evidence to the FBI Laboratory. For this purpose it is adequate. So, too, it is for the purposes of the criminal investigator served by a local laboratory.

One can't help but wonder what does the hapless investigator do if he finds the evidence specimen is not one of the 47 named? The “by the numbers” instructions treat the investigator as an unthinking dolt unable to comprehend a treatment relying on basic concepts. The redundancy of the entries in the columnar presentation is disturbing.

Unmentioned is the need for assigning a case number/item designation to each specimen. Also unmentioned is the requirement that the specimen source be part of the identifying information. Where a thing is found is critical information and belongs on the tag or label as surely as date, name and initials. Omission of this from widely disseminated suggestions is confounding.

A further FBI Laboratory suggestion is that a written request letter be attached. Request justification accompanied by an overview is not urged. The approach invites needless examinations. Worse yet, important examinations can be left undone through faulty definition of the problems of proof. These are the disadvantages of a mail order laboratory service.

Locally served criminal investigators have the advantage of being able to directly discuss their case with the criminalist. It is distressing to find that this advantage is being given up by some local laboratories who accept messenger delivered evidence across the counter by a member of the clerical staff.

The section titled “The Body as the Focus of the Investigation” in Chapter 20, Homicide, serves to inform the police detective of the wide variety of information available through examination of the body of a deceased by a forensic pathologist. The treatment is comprehensive.

A few minor deficiencies are here noted.

Many photographs are included, especially of gunshot wounds. The illustrative value of some of these is impaired through faulty reproduction of the included scale, for example, Fig. 20.5A, p. 540. Also, the title of this figure lacks information regarding whether or not the shotgun contact wound involved overlying clothing and the gauge of the shotgun. Information lack regarding weapon caliber/cartridge impaired the value of the powder tattooing illustration (Fig. 20.6, p. 542). The photograph looks like it shows a caliber .22 wound with ball powder. The usage of the term “closed” in the title of a photograph showing a contact wound (Fig. 20.7, p. 543) is redundant and possibly confusing. One could wonder was “close” meant? Title information was lacking in the

illustration of multiple incised wounds only 4 or 5 being stab wounds (Fig. 20.11C, p. 551). An indication as to which were stab wounds and whether deep or shallow would have been helpful.

Puzzling is the usage of the term *contact wound* to describe not only “when a small weapon is fired while in contact with the skin” but also when “up to a distance of two or three inches from the body, or a large caliber weapon (or rifle) is fired up to a distance of six inches from the body.” It would seem logical that the term *contact* should be reserved for actual muzzle contact with the skin.

Chapter 22 titled “Rape and Other Sexual Crimes” is short (21 pages) but contains a wealth of useful information for police investigators, medical personnel, and forensic science laboratory workers. Its subsection *Physical Evidence* is comprehensive. Gratifyingly present was the recommendation for taking a vaginal aspirate from the victim in addition to a vaginal swab. Such a practice, commonplace in previous times, has been discontinued in many jurisdictions where exclusive reliance is now placed on swabs.

There is more to this book. Much, much more. Equal in quality and of more direct interest to the non-forensic science criminal justice person are the chapters on surveillance, eyewitness identification, interrogation, terrorism and enterprise crime.

When you read this book you sense the authors’ dedication to scholarship and craft. Excellence was their standard, not adequacy. Excellence they achieved. It was done through intense hard work—surely grueling at times—taking place over untold years.

Buy it, read it, ponder it, place it alongside other forensic science or criminal justice books you value. There it will stand ever ready as a source of organized authoritative information.