

BOOK REVIEW

Thomas A. Kubic,¹ M.S., J.D., Ph.D.

Review of: *Criminalistics: An Introduction to Forensic Science, 9th edition*

REFERENCE: Saferstein R. *Criminalistics: an introduction to forensic science*, 9th ed. Upper Saddle River, NJ: Pearson, Prentice Hall, 2007, 641 pp. plus two CDs.

What first strikes one while perusing the ninth edition of this well-established and widely adopted teaching text is the number of format improvements that have been made. The four-color printing of almost all the graphics make the text visually attractive and interesting to the reader. The margin highlights of important concepts, although not a new addition, are well done and help to focus the reader. I also found the full color Chapter Openers valuable and a good addition, and I feel will peak the student's interest in the materials that follow. They should lead the student, especially the nonforensic science major, to be more receptive to some of the more challenging technical material that follows.

Also useful are the updated case studies that follow several of the chapters and focus the reader on the practical application of the scientific and technical discussions that precede them. Additional resources are also available through the publisher's Web sites that are prominently noted in the margins as "Web Extras." The CDs contain additional information that can be used by the class instructor or reviewed by the interested student. An extensive range of topics are covered in the text, including: Crime Scenes and the nature of Physical Evidence, Chemical Analysis, Microscopy, Fingerprints, Transfer Evidence (such as Hair, Fibers and Paint), Classic Serology and DNA, Documents, Firearms and Tool Marks, as well as dosage form Drug Identification, along with Toxicology and Drug Recognition. In this digital age, the addition of the chapter on Computer Forensics is welcomed and meshes well with the prior chapter on Forensic Science on the internet.

In the Preface the author states the aim of the book is "to make the subject of forensic science comprehensible to a wide variety of readers who are or plan to be aligned with the forensic science profession, as well as those who are curious about the subject's underpinnings."

The author and his publisher have succeeded in reaching their goals, as well as producing an attractive, easy-to-read and understandable text. The best audiences for this book are beginning college students who plan to major in forensic science, non science majors who have an interest in this subject, and advanced high school students who have excelled in their chemistry, biology and physics classes.

Being an chemist, criminalist, and forensic scientist for over 30 years, I would be remiss in my duties as a reviewer if I did not

offer several constructive comments that would improve this already fine book.

In a number of photomicrographs the captions note a magnification ($\times 500$) but it is not clear if this refers to the magnification of the image on the original film, or of the printed photograph. Microscopy journals prefer a bar be included in the photo along with an image of its nonmagnified length. This eliminates any confusion when the printed image is enlarged or reduced. Although the color schematic representations of scientific instruments are generally simple but well done, some could be updated such as Figures 6-5 and 6-17 where a prism is shown as the dispersive element in the monochromator. It would be better to replace it with a diffraction grating, especially as it is mentioned in the text.

In Figures 11-10 the caption indicates that extraneous peaks were removed from the GC-MS pattern. This is not a totally accurate explanation of how the peaks were removed from the pattern in question through the consideration of their ion make up. To state that the GC-MS does this is too simplified and may be misleading. I would not use the description of a diffraction grating's manufacture and mode of operation as indicated in the footnote on page 148. Most gratings that operate as dispersing elements do so by refraction and a holographic process manufactures the great majority of modern gratings. Figure 6-10 is misleading, especially when viewed with the film patterns in 6-11. The former illustration would lead one to believe that each reflection from successive planes would result in additional lines on the film. In reality it is the constructive combination of reflections from all the planes shown into one intense wave that creates an individual line on the film as shown in the latter figure, or as a peak in a diffractogram or a spot in other X-ray diffraction techniques. Although most of the spectra indicate scale values for the Y-axis, the absorbance spectra in Figure 9-11 and the Percent transmission in Figure 8-17 would benefit from the inclusion of scales on the axes.

In the chapter on arson and explosion investigation the author uses the term "accelerant residue(s)." Most fire debris analysts in the field today avoid the term "accelerant," as that denotes the reason/purpose the material identified by the criminalist or chemist (for example gasoline) was present at the scene. The analyst from his instrumental data cannot properly deduce this. The favored term today is "ignitable liquid" or "ignitable liquid residue."

None of these flaws is major and even considered collectively do not diminish the over all high quality of this volume. All in all, this is a publication that I have no reservation in recommending and am happy to have it on my bookshelf.

¹Science Department, John Jay College of Criminal Justice and the Graduate Center, City University of New York, New York, NY.