

Correspondence

Commentary on: Houck MM. Review of: principles and practice of criminalistics. *J Forensic Sci* 2001;46(5):1263–1264.

Sir:

G.K. Chesterton once wrote “one sees great things from the valley and only small things from the peak” (1). These words provide new meaning to the dichotomy between generalist and specialist views within the field of forensic science. This was made quite apparent to me having recently read the criticisms in a book review by Houck (published in the *JFS*, Vol. 46, No. 5, pg. 1263–1264) of the contribution to the profession of forensic science as introduced in *Principles and Practice of Criminalistics—The Profession of Forensic Science* by Keith Inman and Nora Rudin.

It is evident after reading his less-than-complementary review of Inman and Rudin’s work that Houck has, in the main, missed the point of this book. Further, his comments unwittingly exemplify the present day specialist who sits at the peak of a mountain without the benefit of climbing from its base. A climb from the valley provides a broad picture of where forensic evidence fits within the broad spectrum of physical evidence possibilities. Appreciation of this spectrum is gained only through general practical experience and/or study in many of the forensic science disciplines.

I say this with confidence having been fortunate enough to begin my career in the field of criminalistics at a time when the generalist approach was a way of life. I then evolved with the profession toward my present day specialization. It is only because of my formal educational and training that I obtained while earning my degree in forensic science, combined with my practical generalist background obtained during the last 24 years in the field, that I can appreciate the depth in which I practice my more restricted areas of current specialization. I am not alone in this view. The late Parker Bell, who was both a criminalist and criminal defense attorney, stated in an article written on the topic of crime scene reconstruction, “One criticism that may be made of criminalists today—particularly in laboratories where criminalists specialize—is that they forget the goal of the system they serve” . . . “It is the role of the criminalist to aid the trier of fact by giving it information about the physical evidence. Because the trier of fact is concerned with the ultimate issue of what happened, the information given by the criminalist which most closely answers this question is of most value” (2).

With this in mind, I am disappointed with the lack of apparent understanding of the field of Criminalistics as evidenced by Mr. Houck’s criticisms of Inman and Rudin’s contribution. This work is not a practical text on how to conduct specific tasks in the practice of the Forensic Science profession, but rather a foundational walk through the very basis for why the discipline stands apart from traditional science. It is to date the most thorough discussion of how “big picture” thinking should be conducted in the profession of Forensic Science. It has great value on two levels:

On one level, it provides introductory reading for students wishing to pursue a career in the forensic science field or for scientists outside of the forensic arena wishing to shift to the practice of Criminalistics. It lays out a boiler plate of well developed considerations essential to the Forensic approach to problem solving from a scientific point of view in the Judicial system. This text would be ideal for preparing the student’s foundational “mindset” of Forensic Science.

On a second and more significant level, this book has its greatest utility as an excellent review of the practice of criminalistics that only the experienced forensic science practitioner will benefit from by being taken through a series of mental gymnastics in dissecting, and therefore more thoroughly understanding, their own practice. The authors have managed to capture under one cover a comprehensive review and thoughtful study of what it is the practicing Criminalist must consider when conducting all aspects of casework. It also better prepares the practicing criminalist to 1) face the current issues in the field such as the challenges of Daubert, 2) understand what it is we are doing and 3), be more effective in expressing the underpinnings of their discipline in a court of law.

Houck’s suggestion that “a subtle generalist/criminalist mentality” will sour the book for much of the discipline demonstrates his lack of depth in the utility of having practical experience/understanding in a broad range of forensic science disciplines when interpreting evidence within the context of a global approach so necessary to big picture thinking. To suggest in his review that “science has progressed, specialized (for the better, in general) and fractionated; forensic science must, perforce, follow suit” is a demonstration of the systemic attitude harbored by those who have no clue of the value of applying a deep generalist background of experience/understanding to an area of forensic science specialization.

Further, his pointing the blame “on those who train us” that we might “forget our roots” is the end result of losing touch with the importance of a practical generalist background. To point the blame on others for not teaching the specialist these principles is not a worthy excuse. Nor is force of circumstance as suggested in this statement. I have spent most of my career teaching others in the field, both formally and informally, to approach specialization from a generalist point of view. There is nothing more rewarding than to have experienced forensic scientists approach me to acknowledge their appreciation for introducing this fundamental approach to all forensic disciplines. In my opinion it is the responsibility of all forensic scientists to keep up to date on not only their area(s) of specialty, but to continually seek out knowledge and training that will maximize the application of their specialty within the totality of forensic science. To throw up one’s hands and claim ignorance is not acceptable. It is also our responsibility to both report our findings and then to interpret the significance of those findings relevant to the problem that is being considered in the totality of the case.

In addition, Houck could not have chosen a worse example as reconstruction to argue the benefits of specialization by objecting to the author’s suggestion that “the age of specialization in criminalistics has decreased the number of criminalists that are both competent and willing to undertake a true reconstruction.” Being a very active member of the Association for Crime Scene Reconstruction, I am in total agreement with Inman and Rudin’s observation of this reality. Crime scene reconstruction indeed requires a comprehensive understanding of all forensic science disciplines and encompasses a vast variety of information sources to accomplish the reconstruction goals. Reconstruction is typically left to the most experienced criminalists because of this need. The authors develop a sound footing for this argument in the following paragraphs and I would further confirm, from my own experience with this discipline, the authors’ follow-up statement that “perhaps because of this continually diminishing field of qualified scientists, nonscientific professionals, such as detectives, attorneys and profilers, have ea-

gerly stepped in to fill the void.” Houck’s argument that “no one would argue that a comprehensive understanding of the capabilities of their native discipline is important; a botanist should have an appreciation of zoology, entomology, and even chemistry. But that botanist is not about to march into a chemistry laboratory and rearrange isotactically bonded polymers” is naively irrelevant.

That Houck takes special offense to the author’s discussion of trace evidence such as glass being assigned to a relatively large class, is an overreaction. The key word in the authors’ inference is “relative.” Although the ability of the trace evidence analyst to discriminate has advanced significantly, as pointed out by Houck, relative to those disciplines such as firearm, toolmark, shoeprint, tire track, physical match, and friction skin identification that are capable of individualizing, there is indeed a significant gap. Houck rightfully argues, “glass can be fairly discriminating class evidence.” However, no matter how discriminating glass can be, it is still class evidence—not individualizing evidence. This does not mean the authors of this book suggest that trace evidence is not useful or diminished in some way. Houck’s objections to the authors’ treatment of hair evidence are as equally overreactive for the same reasons.

I am in agreement with Houck’s disappointment that “the authors gloss over one of the most important yet overlooked concepts of the last two decades, subclass characteristics, with a couple of sentences.” I would be the first one to suggest that this important concept be discussed/developed more in any future edition of this book. The authors, in effect, describe this class of evidence but do not specifically identify it as a separate class. However, their development of class characteristics and individualizing characteristics is appropriately discussed in the context of a holistic approach.

Houck’s overall review leads us to the question of whether a specialist reading this book will be able to grasp its underlying message as readily as those having a comprehensive generalist background. Houck suggests in his review of the book that the authors “do not attempt to knit the concepts together into a cohesive whole but rather freely seed the book with short definitions and jargon, leaving the reader to wonder where it all fits.” I returned to the book with these considerations in mind to consider this possibility and again did not struggle with the concepts introduced as suggested by Houck. It occurred to me that the timing of this book was significant in my own career by enunciating a unifying set of principles that has to date only appeared fragmentally in the field. I only fully understood the message by reading the text in its entirety. If read in this manner I would suggest that the book should be understandable to specialists (e.g., scientists who find themselves employed in a forensic science laboratory). It is not a book that can be picked up, glossed through, and set back down. Nor is it a book that will deliver its message by simply reading portions of it. In their preface (p. xi) Inman and Rudin state “the ideas we present here challenge conventional wisdom and will certainly provoke discussion, if not argument, among the forensic community. . . . We look forward to a continuation of this healthy debate and hope this book may provide a point of discussion of some of the important dilemmas facing the practicing criminalist.” In this regard the book is certainly successful.

Houck’s criticism of the authors’ uses of “odd vocabulary words,” “spelling errors,” and insignificant inaccuracies that “distract the reader from the content” are simply an attempt to discredit the true value of this book. I found that the overall message of the book overshadowed these oversights and did not substantially distract me.

Finally, Houck’s disappointment that the authors did not include pathology, anthropology, and toxicology in the text is again missing the point of the authors’ message. The book focuses on the principles and practices of criminalistics, not the principles and practices

of anthropology or the principles and practices of toxicology or the principles and practices of pathology. Inman and Rudin do a good job of developing the principles of criminalistic thinking without having to include every sub-discipline in the general forensic science field.

The forensic sciences encompass a broad range of disciplines directly or loosely connected to resolving questions within the framework of criminal/civil law. The field of Criminalistics is only one discipline distinct from others under the umbrella of forensic science. One may simply refer to the American Academy of Forensic Science’s division of professions when reviewing their organizational chart of directors under the headings of criminalistics, engineering sciences, general, jurisprudence, odontology, pathology/biology, physical anthropology, psychiatry and behavioral science, questioned documents, and toxicology to illustrate this point. Criminalistics is clearly recognized as its own entity. In my opinion, the practice of criminalistic thinking represents the common thread of overall approach that should be used in all disciplines of specialization.

Inman and Rudin could not have more clearly set the theme of the book when stating, “Criminalistics has taken on a life of its own, expanding to encompass a more general philosophy and cognitive framework. It is this forensic way of thinking that will comprise the central theme of this book. Although we discuss many specific examples and practical applications, they find a common root in the cognitive framework we will describe. We do not take credit for inventing this approach; it has clearly evolved with the discipline.” In the end, it takes a certain background to appreciate the utility of Inman and Rudin’s contribution. It is very apparent that Mr. Houck does not have this background for he has, in my opinion, offered the readers of JFS a myopic view of the value of this book.

In light of technical advancements in the field of forensic science and in our zeal to pursue a greater degree of professionalism, we have moved toward increased specialization. As a result, we are steadily increasing the risk of reducing independent and innovative thinking in regards to conducting casework. The generalist is indeed a vanishing breed, and with it, the “big picture thinking” and holistic approaches necessary to provide a comprehensive approach to casework is fading. There is, however, a small but persistent voice among the ranks of current day specialists who understand the need to swing back towards the generalist approach to some degree, before it is too late, and strike a more appropriate balance with the benefits of specialization. The balance is not to have generalists capable of **doing** everything in every forensic specialty, but to have every specialist have an **understanding** of everything relevant to the problem that is being considered. This is, I believe, the philosophy behind the American Board of Criminalistics general knowledge examination. We owe it to ourselves and to our profession to keep this risk of narrowly focused specialization in mind so that we can maintain the Forensic Science field as an applied science within a holistic context rather than do ourselves the disservice of allowing our profession to become lost in the minutia of specialization itself.

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