

BOOK REVIEW

Peter Alexander,¹ Ph.D.

Review of: *Crashes and Collapses*

REFERENCE: Bohan TL. *Crashes and collapses*. New York, NY: Facts on File, Inc., 2009, 313 pp.

Dr. Thomas Bohan is in an excellent position to write this interesting book because he is both a physicist and an attorney who has spent decades working in the forensics area. Dr. Bohan defines forensic engineering science as “applying the knowledge and skills of engineering and its allied sciences such as physics and chemistry to questions that may end up in a court of law.” It is not necessary to be versed in physics and engineering in order to read and understand this book, because Dr. Bohan explains these concepts in easy to comprehend terms. The book is an ideal primer for teachers, aspiring forensic scientists and engineers, as well as members of the general public who are interested in an overview of the accident reconstruction area of forensics. The book should also prove valuable to attorneys and judges who wish to improve their grasp of forensic concepts that they are likely to be having to deal with.

The book begins with a brief history, explaining how forensics and the legal system evolved from early times to the present. The first half of the text deals with the subject of motor vehicle accident reconstruction which involves deducing what did and did not happen in an accident based on the data left at the accident scene and the statements of any witnesses who may have been present. Dr. Bohan provides interesting examples illustrating the importance of comprehensive evidence collection by first responders at the accident scene and how some of the evidence may disappear or be degraded over time. This loss of evidence becomes particularly

important as the accident reconstructionist is often called upon to begin his or her investigation long after the accident took place. The book describes how skid and scuff marks at the accident scene are an important source of data. Human factors, such as a driver’s perception/reaction time are addressed. The role of electric lamp filaments and the vehicle’s black box are explained. The equations underlying accident reconstruction are described and explained.

The second half of the book describes an interesting collection of forensic cases dealing with not only automobile accidents but also with accidents not involving automobiles. The author presents the facts in the cases and then poses the question of how to explain the outcomes. The first case details a double homicide which the perpetrator attempted to mask as a motor vehicle accident. The attempt was successful for a number of years until forensic principles were applied. The second case details an investigation of a subway train striking and injuring a person standing on the train tracks. In this case, conspicuity and a time–distance analysis played important roles in the forensic investigation. A third case describes the mysterious collision between an oil tanker, approaching Portland harbor in Maine, and an underwater ledge. A fourth case entails a fatality resulting from the collapse of a crane. The mechanism leading to the fatal result is artfully deduced. Lastly, the story of a scaffolding collapse, resulting in a fatality, unfolds like a detective story.

Most experts in the accident reconstruction field will not be familiar with the cases cited by Dr. Bohan. Thus, this book provides interesting reading even for experts.

¹Senior Physicist and Forensic Scientist at Raymond Smith & Associates, Parker, CO.