

## BOOK REVIEW

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### Review of : *Statistics and the Evaluation of Evidence for Forensic Scientists, 2nd Ed.*

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**REFERENCE:** Aitken C, Taroni F. *Statistics and the evaluation of evidence for forensic scientists*. 2nd ed., John Wiley and Sons, Chichester, England, ISBN 0-470-84367-5.

This book is the second edition of the highly successful book initially authored by Colin Aitken, Professor of Statistics at Edinburgh University. This second edition brings into the authorship team Franco Taroni, one of the highly respected graduates from Pierre Margot's school at Luassane and now deservedly Professor at that same school. Dr Aitken has a long and highly respected career as a forensic commentator.

A second edition must depart from the first or there is little reason to write it. So what have Drs Aitken and Taroni given us? The book is 450 pages of text set in 14 Chapters.

The first three chapters deal with fundamental, but valuable material: uncertainty, variation and the evaluation of evidence. The remaining chapters are based on the practical application of statistical methodology, or in two instances evidence types.

The two evidence chapters feature DNA and fibres. The methodological chapters lead into these well. Particularly well presented were the Collins and Sally Clark cases, the fibers and the Bayesian network chapters. In this review we feature the fibers chapter since it may be one of the highlights of this book that sets it apart from other offerings.

The topic of interpretation of fiber evidence has been covered in a number of textbooks. However, it is fair to say that, before this contribution, there was still a significant gap in this area compared with other types of forensic evidence such as glass or DNA, especially with respect to Bayesian modeling.

The fiber chapter is well written and comprehensive. It builds upon previous work published by a number of authors, in particular

the chapter of Forensic Examination of Fibres (Robertson J, Grieve M, editors.) written by Champod & Taroni. From there, it expands to a number of areas that are considered to be at the forefront of the discipline, for example Bayesian networks.

Throughout the chapter, the mathematical developments are well presented and placed into contexts that are very relevant to forensic practitioners. In particular, several variations of the 'person suspected of sitting in a car' scenario are used as examples to introduce and discuss a number of important concepts.

Some sections contain pertinent reminders of crucial issues such as what constitutes a relevant population and the need to consider mismatching material as well as matching material. Other sections are really at the cutting-edge. Examples of the latter include sections dealing with cross-transfer and pre-assessment in fiber scenarios. Some of the material is challenging from a philosophical viewpoint. Our preferred example of the latter is the paragraph mentioning that a cross-transfer does not necessarily increase the strength of the evidence. This quote is fully backed up by the mathematics as well as by relevant literature. It reminds everyone that it is dangerous to accept generalized statements when dealing with the interpretation of forensic evidence, in particular fiber evidence.

This chapter is a significant addition to the literature dealing with the statistical evaluation of fiber evidence. This is the most comprehensive text on the topic. For this reason, it constitutes a highly recommended reading.

The whole book will serve as an invaluable text for University and lab based students and should be required reading in all training courses. It is a significant update and indeed expansion in breadth over the first edition.

In finishing, we congratulate Drs. Aitken and Taroni on their scholarly and valuable contribution to the field.

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